CHAPTER FIVE

RECOMMENDED MASTER PLAN CONCEPT

The airport master plan for Payson Municipal Airport (PAN) has progressed through a systematic and logical process with a goal of formulating a recommended 20-year development plan. The process began with an evaluation of existing and future operational demand, which aided in creating an assessment of future facility needs and was used to develop alternative facility plans. Each step in the planning process included the development of draft working papers, which were presented and discussed at planning advisory committee (PAC) meetings and public information workshops and were made available on the project website.

In the previous chapter, several development alternatives were analyzed to explore options for the future growth and development of PAN. The development alternatives have been refined into a single recommended concept for the master plan. This chapter describes – in narrative and graphic form – the recommended direction for the future use and development of PAN.

The recommended concept provides the ability to meet the disparate needs of an array of airport operators. The goal of this plan is to ensure the airport can continue, and even improve, in its role of serving general aviation activities in and around the Town of Payson and the regional area. The plan has been specifically tailored to support existing and future growth in all forms of potential aviation activity as the demand materializes.



The recommended airport development concept, as shown on **Exhibit 5A**, presents a long-term configuration for the airport that preserves and enhances the airport's role while meeting Federal Aviation Administration (FAA) design standards. The phased implementation of the recommended development concept will be presented in Chapter Six. The following sections describe the key details of the recommended master plan concept.

AIRSIDE CONCEPT

The airside plan generally considers improvements related to the runway and taxiway system, as well as navigational aids.

DESIGN STANDARDS

The FAA has established design criteria to define the physical dimensions of runways and taxiways, as well as the imaginary surfaces surrounding them, to enhance the safe operation of aircraft at airports. These design standards also define the separation criteria for the placement of landside facilities.

As discussed previously, the design criteria primarily center on the airport's critical design aircraft. The critical aircraft is the most demanding aircraft (or family of aircraft) that currently conducts or is projected to conduct 500 or more operations (takeoffs and landings) per year at the airport. Factors included in airport design are an aircraft's wingspan, approach speed, tail height, and, in some cases, the instrument approach visibility minimums for each runway. The FAA has established the runway design code (RDC) to relate these design aircraft factors to airfield design standards. The most restrictive RDC is also considered the overall airport reference code (ARC). In the case of PAN, which has only one runway, the RDC for Runway 6-24 also serves as the ARC.

While airfield elements, such as safety areas, must meet design standards associated with the applicable RDC, landside elements can be designed to accommodate specific categories of aircraft. For example, an airside taxiway must meet taxiway object free area (TOFA) standards for all aircraft types using the taxiway, while the taxilane to a T-hangar area only needs to meet width standards for smaller single- and multi-engine piston aircraft expected to utilize the taxilane.

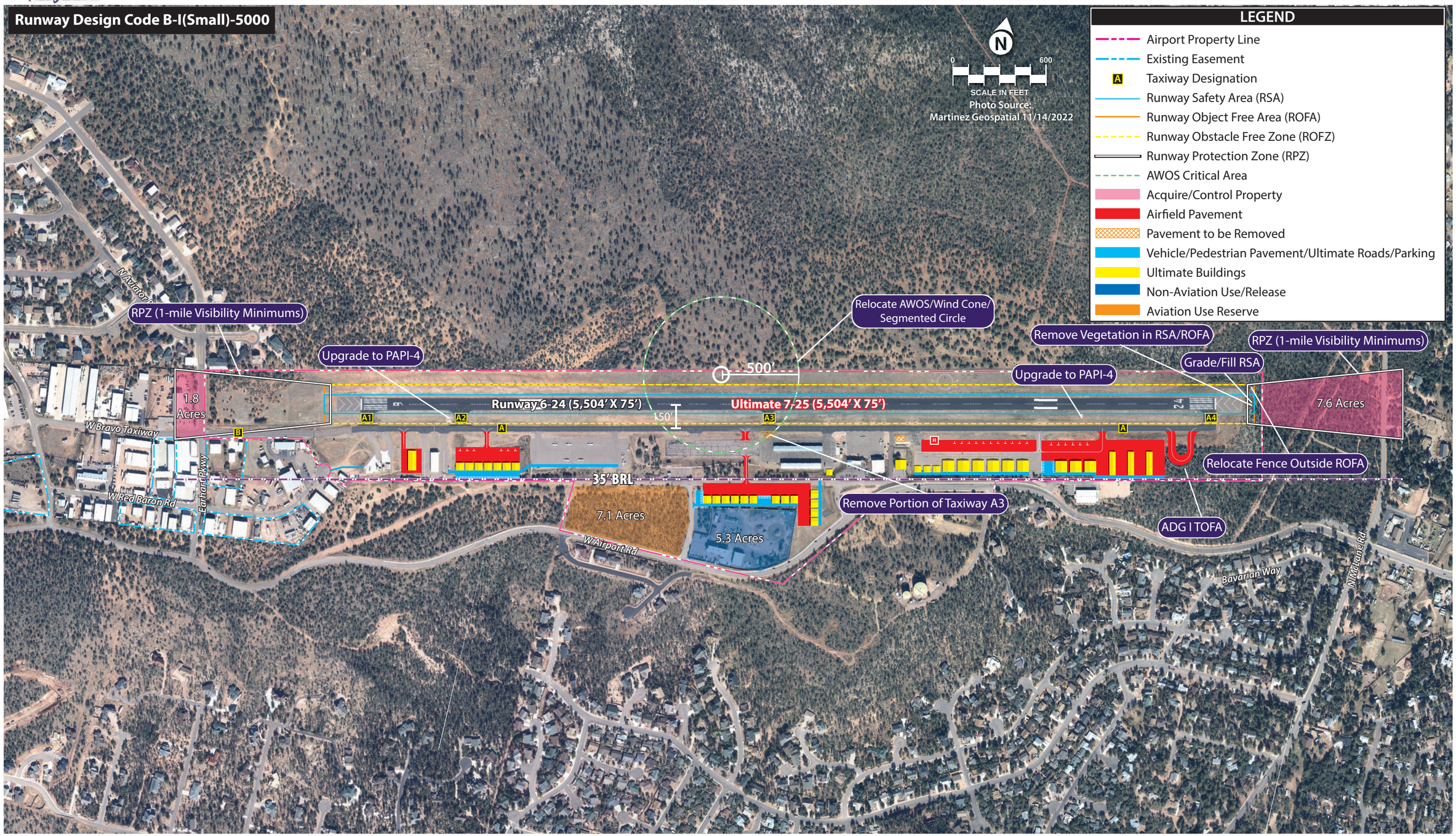
The applicable RDC and critical design aircraft for Runway 6-24 at PAN in the existing and ultimate conditions, as established in Chapter Two, are summarized in **Table 5A**.

Table 5A | Airport and Runway Classifications for Payson Municipal Airport

	Runway 6-24 (Ultimate Runway 7-25) Existing / Ultimate
Airport Reference Code (ARC)	B-I(Small)
Airport Critical Aircraft	B-I(S)-2A
Critical Aircraft (Typ.)	Citation M2
Runway Design Code (RDC)	B-I(S)-5000
Approach Reference Code (APRC)	B/I(S)/4000
Departure Reference Code (DPRC)	B/I(S)
Taxiway Design Group (TDG)	2A*
*Based on the King Air 90/100	

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

Runway Design Code B-I(Small)-5000



*Acreages depicted are approximate

LEGEND

- Airport Property Line
- Existing Easement
- A — Taxiway Designation
- Runway Safety Area (RSA)
- Runway Object Free Area (ROFA)
- Runway Obstacle Free Zone (ROFZ)
- Runway Protection Zone (RPZ)
- AWOS Critical Area
- Acquire/Control Property
- Airfield Pavement
- Pavement to be Removed
- Vehicle/Pedestrian Pavement/Ultimate Roads/Parking
- Ultimate Buildings
- Non-Aviation Use/Release
- Aviation Use Reserve

N

0 400

SCALE IN FEET

Photo Source:
Martinez Geospatial 11/14/2022

Maintain Airport Campground

500′

Expand/Re-mark Echo Ramp

Relocate H1 and Construct Helicopter Parking Area

Expand Facilities for Unleaded Fuel

Runway 6-24 (5,504′ X 75′)

Ultimate 7-25 (5,504′ X 75′)

24

A1 A2 A3 A4

150′

SRE Building

Access Gate

35′ BRL

7.1 Acres

5.3 Acres

5-unit T-hangar

West Ramp

50′ x 50′ Executive Box Hangars

Emergency Vehicle Access Road

West T-hangar Expansion

Relocate Perimeter Fencing

W Airport Rd

South Ramp

50′ x 50′ Executive Box Hangars

45′ x 40′ Executive Box Hangars

4,300 sf Terminal Building

Expanded Echo Ramp

5-unit T-hangars

75′ x 75′ Executive Box Hangars

Bavarian Way

RUNWAY 6-24

Runway Designation | A runway's designation is based on its magnetic headings, which are determined by the magnetic declination for the area. The magnetic declination in the area of PAN is 9° 42′ E ± 0° 6′ W per year. The runway is oriented northeast/southwest with a true heading of 076°/256°. Adjusting for the magnetic declination, the current magnetic heading of the runway is 066°/246°. As a result, Runway 6-24 should be redesignated as Runway 7-25[1] during the next pavement rehabilitation project. Coordination with the FAA should also be undertaken to ensure all publications are updated to reflect the redesignation.

Runway Dimensions | Runway 6-24 is currently 5,504 feet long and 75 feet wide. RDC B-I(Small)-5000 design standards call for a runway width of 60 feet. As such, the FAA may not provide funding assistance for maintaining the additional width that exceeds the design standard. However, the additional width does provide an added safety margin and should be maintained if feasible. At the current dimensions, the runway is capable of safely accommodating most small general aviation aircraft. Business jets can also operate on this runway under moderate loading conditions with shorter trip lengths and during cool to warm temperatures. Longer trips and hot summer days significantly limit business jet capabilities. PAN primarily serves piston aircraft, with turbine and jet aircraft operating less frequently. With operations by both of these more demanding aircraft types expected to increase over the planning period, consideration was given in the previous chapter to the potential for a runway extension; however, given the existing constraints off each end of the runway (i.e., development to the west and terrain challenges to the east), it was determined that an extension to Runway 6-24 would not be feasible and would not garner public support. Additionally, the FAA requires justification – in the form of 500 annual operations by aircraft that require the additional length – before funding opportunities would be considered; therefore, the recommended development concept includes a plan to maintain the runway at its current dimensions through the planning period of this master plan.

Runway Safety Areas | As discussed previously in Chapters Three and Four, the runway safety area (RSA) and runway object free area (ROFA) are of a non-standard condition. As shown on **Exhibit 5A**, the RSA beyond the Runway 24 end is obstructed by vegetation, which is planned to be removed in order to maintain a clear RSA. The gradient of the RSA is also non-standard. The allowable longitudinal grade for the first 200 feet of the RSA is between 0 and 3.0 percent, with any slope being downward from the ends. Beyond the first 200 feet, the maximum allowable negative grade is 5.0 percent. When measuring from the Runway 24 threshold, the first 190 feet of the RSA are within the grade tolerance, but the remaining length (approximately 50 feet) of the RSA exceeds the allowable standard for gradient[2]. The plan calls for earthwork, including grading and filling, to bring the RSA into compliance with the FAA design standards for gradient.

Like the RSA, the ROFA must also be clear of obstructions but does not have the same grading requirements as the RSA. The ROFA beyond the Runway 24 threshold is obstructed by vegetation, which is planned to

[1] While updating the designation is recommended in this master plan and presented on the recommended development concept, the runway will continue to be referred to as Runway 6-24 to maintain consistency in discussion and eliminate potential confusion.

[2] Refer to Chapter Three, Figure 3A for additional details.

be removed. Previous chapters identified the airport's perimeter fencing as a ROFA obstruction; however, additional analysis has been performed using the new aerial survey/mapping data collected as part of this master plan. FAA design standards for the ROFA indicate that the area should be clear of aboveground objects protruding above the elevation of the nearest point of the RSA. Based on the updated survey data, the perimeter fencing within the ROFA has a top elevation of 5,153 feet mean sea level (MSL), while the end elevation of the runway is 5,160 feet MSL. While this would typically indicate that the perimeter fencing is not an obstruction to the ROFA due to the difference in elevation, the fill that will need to be added to bring the RSA into tolerance for grading could potentially change this. Additionally, based on the new mapping available, the perimeter fence abuts the RSA. As such, it is recommended that the airport sponsor relocate the fence outside the ROFA at the time the RSA is graded. **Figure 5A** depicts these planned modifications.

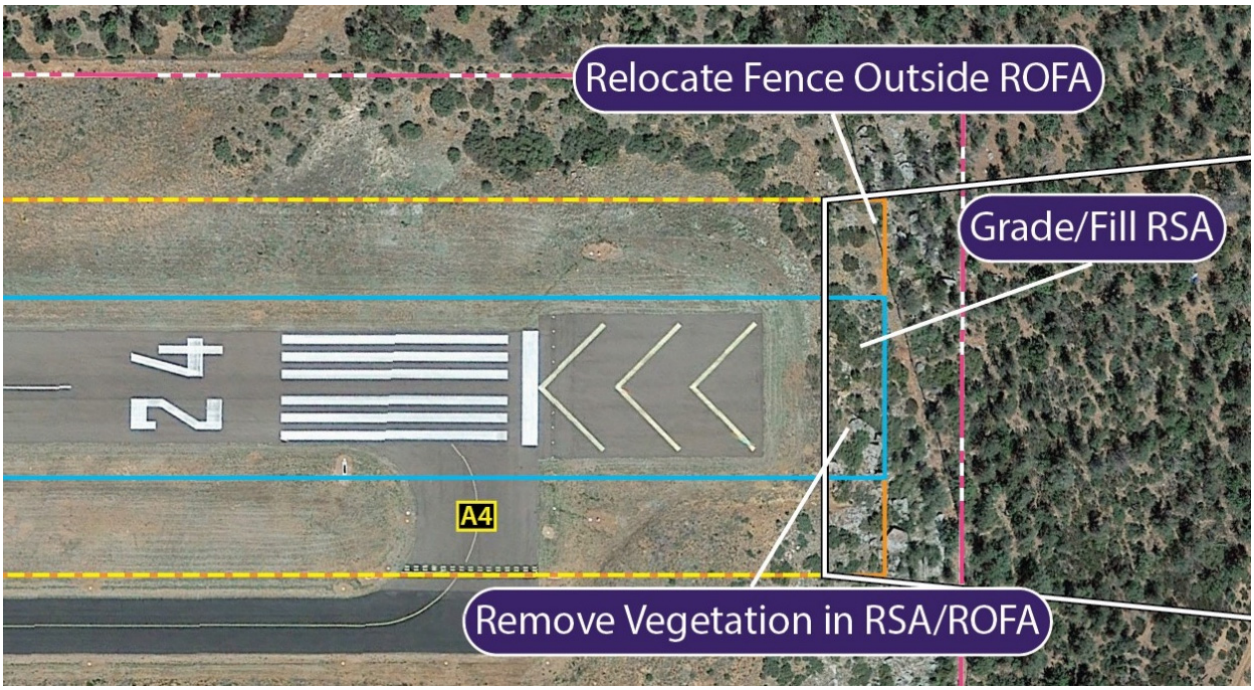


Figure 5A – Non-standard RSA/ROFA Mitigation

The existing and ultimate runway protection zones (RPZ) for both ends of Runway 6-24 extend beyond airport property. On the Runway 6 end, approximately 1.8 acres of the RPZ currently extend beyond the airport's boundary and contain potentially incompatible land uses, including a public road and a portion of a building in the Sky Park Industrial Park. On the Runway 24 end, the RPZ also extends beyond the airport boundary, encompassing approximately 7.6 acres of uncontrolled property and a potentially incompatible land use (McLane Road). As outlined in Chapter Three, the dimensions of an RPZ are based on a runway's RDC, which includes the runway visual range (RVR). It should be noted that if/when a straight-in global positioning system (GPS) instrument approach procedure with visibility minimums not lower than one mile is developed and published for Runway 24, the RPZ dimensions will remain the same. Because the RPZs are not planned to change in size or location, the recommended development concept does not include a plan to remove potentially incompatible land uses (i.e., roads and building);

however, it does depict a plan for the Town of Payson to acquire an avigation easement, at a minimum, over the property contained within the RPZ in order to limit development in these areas and protect the airspace.

Pavement Strength | Runway 6-24 is currently strength-rated at 40,000 pounds for single wheel aircraft (S); 50,000 pounds for dual wheel aircraft (D); and 100,000 pounds for dual tandem wheel aircraft (2D), which is adequate for the aircraft currently operating and projected to operate at the airport. The critical design aircraft (Citation M2) has a maximum takeoff weight (MTOW) of 10,700 pounds or less; therefore, the existing strength rating is sufficient and no plans to strengthen the runway are recommended.

Instrument Approach Procedures | There is currently one published instrument approach at PAN. A circling GPS-A approach is available for daytime use and has visibility minimums down to one mile for aircraft in Categories A and B, two miles for Category C aircraft, and three miles for Category D aircraft. The airport sponsor has requested development of a straight-in GPS approach to Runway 24. While there is no ground equipment associated with this type of approach, nor will it alter the size of the RPZ, it is noted here for planning and documentation purposes.

Visual Approach Aids | Runway 6-24 is currently equipped with two-box precision approach path indicators (PAPI-2) and runway end identification lights (REILs) at both runway ends. The plan includes an upgrade to PAPI-4s at each runway end. The existing REILs are planned to be maintained.

Blast Pads | Each end of Runway 6-24 is equipped with a blast pad measuring 150 feet long by 95 feet wide. The planning standard for blast pads associated with an RDC B-I(Small)-5000 runway is a pavement area measuring 100 feet long by 80 feet wide. While the existing blast pad dimensions exceed the design standard, the recommended development plan maintains the blast pads at their current dimensions with the understanding that the FAA may not participate in funding the additional area when the time arises for pavement maintenance.

TAXIWAY IMPROVEMENTS

Taxiway Design | The entirety of the PAN taxiway system is planned to meet taxiway design group (TDG) 2A standards, which call for a width of 35 feet. All taxiways at PAN are at least 35 feet wide, with the exception of Taxiway A3, which is 30 feet wide. While the critical aircraft falls within TDG 1A, which has a taxiway width standard of 25 feet, the recommended development concept includes a plan for all existing taxiways to maintain their current width for the added safety margin the additional width allows[3]. Certain portions of the landside area that are utilized exclusively by small aircraft, such as the T-hangar areas, should adhere to TDG 1A/1B standards.

[3] It should be noted that the FAA may elect not to participate in funding the additional width associated with TDG 2A versus TDG 1A, which includes the critical aircraft. Prior to taxiway pavement rehabilitation or reconstruction, the Town of Payson should coordinate with the FAA regarding funding availability.

Taxiway A | Taxiway A, the full-length parallel taxiway supporting Runway 6-24, is separated from the runway by 150 feet, centerline to centerline. This meets the existing and ultimate B-I(Small)-5000 design standards for runway to taxiway separation. As such, the plan maintains Taxiway A in its existing location.

Taxiway Geometry Improvements | Previous chapters have discussed the non-standard taxiway geometry issue at PAN, where Taxiway A3 provides direct access from Charlie ramp to Runway 6-24. To eliminate the direct access, the southern portion of Taxiway A3 is planned to be removed and relocated approximately 150 feet west, as shown in **Figure 5B**. New taxiway pavement is planned to be constructed between Bravo ramp and Taxiway A, which will provide access to both Bravo and Charlie ramps. This will also adhere to FAA design standards that call for taxiways leading from an apron to make at least one turn between 75 and 90 degrees prior to reaching the runway threshold.

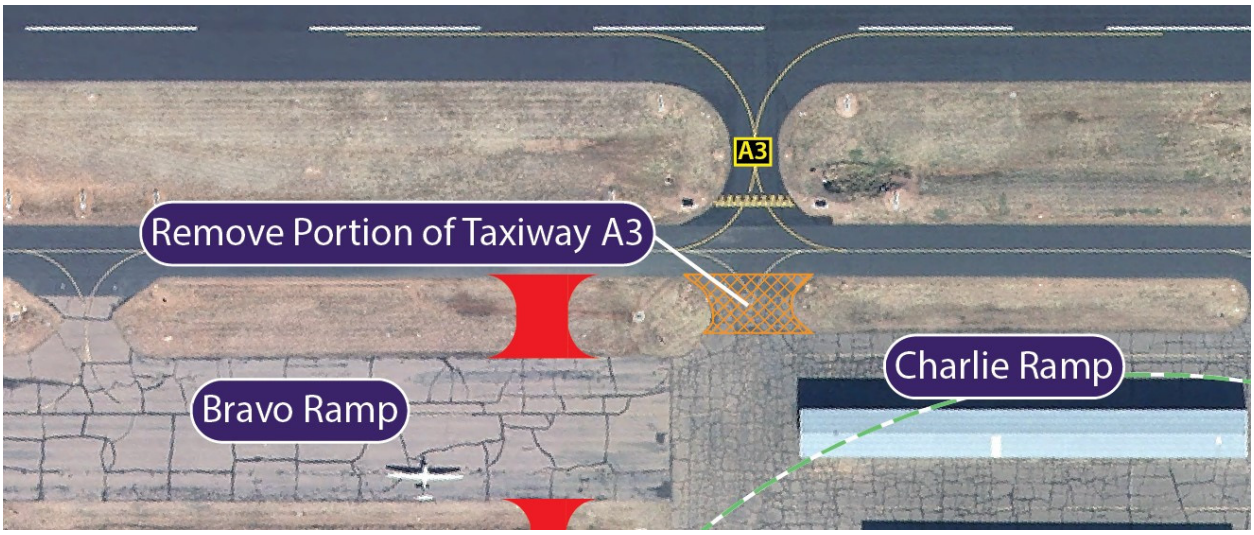


Figure 5B – Taxiway A3 Modification to Eliminate Direct Access

Holding Bay | Holding bays are generally recommended for busy airports that experience 75,000 operations annually, or 20,000 annual itinerant operations. Currently, PAN's total operations are estimated at 34,250 annually, with 22,250 of those itinerant in nature. By the end of the planning period, itinerant operations are expected to increase to 31,800 annually. As such, it is prudent to plan for a holding bay. Holding bays allow pilots to pull off busier taxiways to perform pre-flight checks and engine run-ups, allowing other aircraft to bypass them for departure. Holding bays have specific design and separation standards based on an airport's airplane design group (ADG). The ADG at PAN has previously been identified as ADG I, which calls for a taxiway object free area (TOFA) of 89 feet in width, centered on the taxiway. **Exhibit 5A** illustrates a standard holding bay proposed adjacent to Taxiway A at the Runway 24 end. Runway 24 is the predominantly utilized runway, and a holding bay at the Runway 6 end is not feasible due to the location of existing and planned infrastructure, including the fuel farm and hangar facilities. The holding bay shown on the exhibit is based on the FAA's preferred design, which includes clearly marked entrances/exits with independent parking areas separated by islands. It should be noted that the ultimate holding bay design and placement will be determined during the engineering design phase for this project.

Helipad | The helipad (designated H1) at PAN is currently located between the terminal apron (Delta ramp) and Echo ramp, approximately 50 feet from the Taxiway A centerline. The alternatives evaluated several options for removing the current helipad and constructing a helicopter parking area farther away from Delta ramp, which experiences a significant amount of transient aircraft traffic. The recommended concept includes a plan to remove H1 and construct a new helicopter parking area approximately 200 feet to the east. This change is depicted in **Figure 5C**.

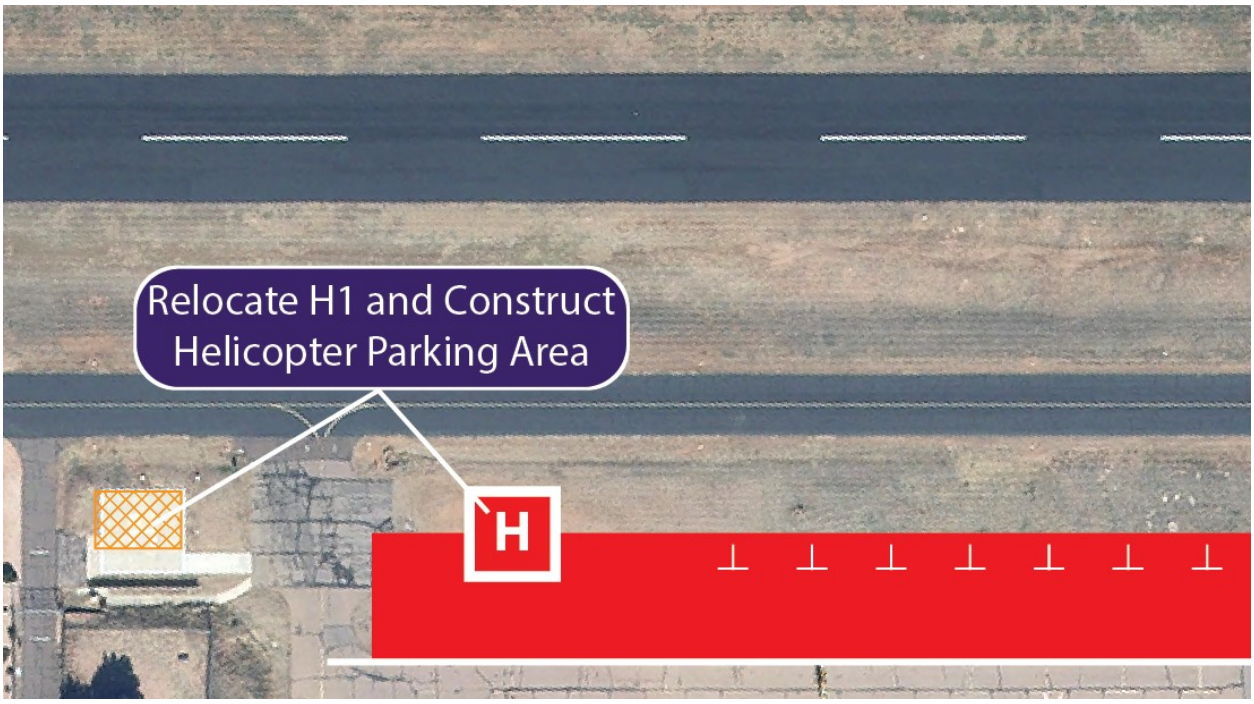


Figure 5C – Planned Relocation of Helicopter Parking Area

OTHER IMPROVEMENTS

Weather Reporting Equipment | PAN has an on-site automated weather observation system (AWOS). The AWOS equipment is currently located south of the airport access road near the Town Yard. Following discussion with airport and Town staff, it has been determined that relocating the AWOS equipment to the north side of the runway would be prudent. This would allow for the current AWOS site to be planned for landside development and further ensures that the equipment sensors remain free from interference. The proposed site for relocation is currently undeveloped U.S. Forest Service (USFS) land. It is recommended that the Town of Payson coordinate with the USFS to determine if an avigation easement is needed to protect the AWOS critical area[4].

[4] Refer to "Weather Reporting Aids" in Chapter Three for a description of the AWOS critical area.

LANDSIDE CONCEPT

The primary goal of landside facility planning is to provide adequate space to meet reasonably anticipated general aviation needs while optimizing operational efficiency and land use. Achieving this goal yields a development scheme that segregates functional uses while maximizing the airport's revenue potential. The key issues to be addressed in the landside areas at PAN are typical of most general aviation airports and include providing an expanded terminal services facility, increasing hangar and apron capacities, and adding amenities to accommodate existing users and attract new users.

All of PAN's existing landside facilities are located south of Runway 6-24, including the airport office, aircraft parking aprons, aircraft storage hangars, and Crosswinds restaurant. The Facility Requirements chapter determined that additional capacity may be needed in each of these areas (excluding the restaurant) by the end of the planning period, and the Alternatives chapter considered several facility layout concepts for the south side of the airport. The preferred development concept for landside facilities at PAN is depicted on the back side of **Exhibit 5A**. The intent of the recommended landside development concept is to illustrate the potential for additional infrastructure on existing airport property. It should be noted that all general aviation-related development, such as new hangar construction, should occur only as dictated by demand. The recommended concept is intended to be used strictly as a guide for PAN staff when considering new developments.

A 35-foot building restriction line (BRL) is included on the main graphic. As discussed in the previous chapter, the BRL serves as a guide – not a standard – for vertical construction on the airport by factoring in safety areas and Code of Federal Regulations (CFR) Part 77 surfaces. It is included on the graphic for reference only and is not intended to be viewed as a limiting factor for future development. When future developments are proposed, the FAA will conduct an airspace analysis to determine what is allowable.

AIRCRAFT STORAGE

There is currently a mix of T-hangars and executive hangars at the airport. The recommended development plan includes development of each of these hangar types to accommodate current demand for aircraft storage and support a projected increase in based aircraft in the future. Some of the proposed hangars could also support a specialized aviation service operator (SASO) or a flight school. The following aircraft storage development areas are planned for the airport's south side:

- **T-hangars** – Four new T-hangars are planned in two areas on the airport. The first is a single five-unit T-hangar immediately west of the existing T-hangar closest to the fuel farm (identified as West T-hangar Expansion on the back side of **Exhibit 5A**). The second area is a new development east of Echo ramp, with access provided via the east gate near Church for the Nations. Three five-unit T-hangars are planned in this area.

- **Executive hangars** – Several areas on the south side of the airport are planned for new executive hangars. Moving from west to east, a new apron supporting seven 50' by 50' executive hangars

is planned just west of Alpha ramp (identified as West Ramp). A second hangar complex is planned south of Bravo ramp, on the opposite side of Airport Access Road. This area, identified as South Ramp, would be accessed via a new taxilane extending from Bravo ramp and over existing Airport Access Road, a portion of which would be closed in order to develop this area. Perimeter fencing is planned to be relocated to secure this area from unauthorized entry. The remaining planned executive hangars are located on the south side of the existing Echo ramp, with three 45' by 40' hangars and six 75' by 75' hangars depicted. Locating hangars in this area would necessitate a re-marking of the taxilane centerline to allow for taxilane object free area (TLOFA) clearance for aircraft taxiing on the ramp. Farther to the east, an expansion to Echo ramp is planned to support three new 75' by 75' hangars.

AIRCRAFT PARKING APRON

PAN currently offers aircraft parking on four aprons – Alpha ramp, Bravo ramp, Delta ramp, and Echo ramp, with a total of 78 marked tiedowns. The Facility Requirements chapter identified a need for additional apron space. As such, the recommended development concept plans for two new aprons along with an expansion of Echo ramp, as shown on **Exhibit 5A**. A new apron, identified as West Ramp, is planned to the west of Alpha ramp, intended to support executive box hangars and a row of tiedowns on the north side of the apron. A second apron (South Ramp) is planned south of existing Bravo ramp. Echo ramp is also planned to be expanded to the east to provide additional marked aircraft parking and to support future hangar development.

TERMINAL BUILDING

PAN does not have a terminal building. An airport operations office, located adjacent to Delta ramp, provides an office space for the airport manager, but limited terminal services. A dedicated terminal building that includes pilot services and amenities, as well as administrative office space, is an important feature of a busy general aviation airport like PAN. The Facility Requirements chapter outlined a need for a building offering approximately 4,300 square feet (sf) by the end of the 20-year planning period. As such, the master plan concept depicts an option for a 4,300-sf terminal building, which is planned on the site of the current observation area. This midfield location is centrally located near the busiest area of the airport (Delta ramp) and would allow public access from the south side via the existing vehicle parking lot associated with the observation area.

VEHICLE ACCESS AND PARKING

Consideration has also been given to separating vehicular traffic from aircraft. Currently, airport users and tenants must drive onto airfield pavements (i.e., ramps and taxiways) to access hangars and other airfield facilities, which is a safety risk. The recommended plan includes new access roads to existing and proposed hangar developments to prevent aircraft and vehicles from using the same pavement. All of these areas are accessible from Airport Road, with controlled access gates and dedicated parking for tenants and airport staff.

EMERGENCY VEHICLE ACCESS ROAD

PAN is home to an air ambulance provider, Native Air, which is located on the west side of the airport near the fuel farm. When ambulances transport patients to the Native Air facility, they drive on Taxiway A to reach the facility. To segregate emergency vehicle traffic from aircraft movements, the recommended concept includes the development of a dedicated access point from the cul-de-sac at the end of Red Baron Road. This access road is intended only for use by emergency vehicles transporting patients to the Native Air facility.

ON-AIRPORT CAMPGROUND

The previous chapter considered an alternative in which the on-airport campground facilities were relocated south of Airport Road. The intent behind this alternative was to illustrate the potential in this area for aviation-related development, such as additional hangars; however, following discussion with the PAC and airport and town staff, it was determined that the campground should remain in its current location and remain a private facility for airport users only. The campground has recently undergone improvements, including upgrades to make the sidewalks and restrooms compliant with the Americans with Disabilities Act (ADA).

SNOW REMOVAL EQUIPMENT (SRE) BUILDING

The recommended development concept includes the addition of a building to house snow removal equipment (SRE), based on a recommendation by airport management and the airport's engineer. This 36' by 40' building is planned to be located on the southeast corner of Charlie ramp, where vehicle parking currently exists. As a new parking lot and access road are planned for Charlie ramp, the existing parking area can be repurposed to support the planned SRE building.

FUEL FACILITIES

Fuel storage facilities are located on the southwest side of the airport. There are currently two 12,000-gallong tanks – one for storing Jet A fuel and another for 100LL fuel. As outlined in the Facility Requirements chapter, both tanks are adequately sized, but consideration should be given to the inclusion of a third tank to store unleaded aviation fuel.

RESERVE PROPERTY

Aeronautical Reserve | One area of airport property has been set aside for aeronautical reserve. This 7.1-acre parcel is located south of Airport Road and west of the Town Yard facilities. This area is currently cut off from the airfield by Airport Road; however, it does hold value as a potential aeronautical use and could be developed similar to the planned apron area south of Bravo ramp. As such, the recommended development concept plans to reserve this parcel for future aviation use.

Non-Aeronautical Development/Potential Release | Approximately 5.3 acres of airport property are identified as an area to be released from federal obligation. This area, the Town Yard, is currently being used to store municipal services equipment and vehicles. As discussed in the previous chapter, airport property is subject to Airport Improvement Program (AIP) grant assurances. If a property is intended for non-aeronautical use, the airport sponsor needs to request a release of that property from federal obligations by the FAA. Once a release is granted, the sponsor can then lease the property for non-aviation use. Following discussion with Town of Payson officials, it was determined that the Town Yard should remain in its current location, and the airport sponsor plans to request a release of this property from federal obligations.

AIRPORT RECYCLING, REUSE, AND WASTE REDUCTION

The primary objective of this section is to provide the Town of Payson and its airport administration with recommendations for future improvements and processes that promote sustainable principles in addressing airport operations and aviation demand. Making sustainability a priority in the planning process will aid the airport in identifying ways to reduce its overall environmental impact. As a result of incorporating sustainability issues into the master plan process, the airport can become a more environmentally friendly economic hub.

REGULATORY GUIDELINES

FAA Modernization and Reform Act of 2012 | The *FAA Modernization and Reform Act of 2012* (FMRA), which amended Title 49, United States Code (USC), included several changes to the Airport Improvement Program (AIP). Two of these changes are related to recycling, reuse, and waste reduction at airports.

- Section 132(b) of the FMRA expanded the definition of airport planning to include "developing a plan for recycling and minimizing the generation of airport solid waste, consistent with applicable State and local recycling laws, including the cost of a waste audit."

- Section 133 of the FMRA added a provision requiring an airport that has or plans to prepare a master plan, and which receives AIP funding for an eligible project, to ensure the new or updated master plan addresses issues relating to solid waste recycling at the airport, including:

    - The feasibility of solid waste recycling at the airport;
    - Minimizing the generation of solid waste at the airport;
    - Operation and maintenance requirements;
    - A review of waste management contracts; and
    - The potential for cost savings or the generation of revenue.

State of Arizona Solid Waste Management | The Arizona Department of Environmental Quality (ADEQ) enforces the state's solid waste program.[5] The purpose of the program is to ensure proper management of solid waste. Solid waste includes municipal solid waste typically collected and disposed of in municipal landfills, as well as other nonhazardous waste. Duties assigned to this program include:

- Issuing permits, certifications, and licenses to solid waste facilities;
- Conducting solid waste facility inspections to ensure these facilities are compliant with state and federal regulations;
- Conducting compliance inspections and enforcement actions;
- Investigating complaints; and
- Providing information to the general public on recycling, reuse, and proper management of waste-like materials.

SOLID WASTE

An airport sponsor typically has purview over waste handling services in facilities it owns and operates, such as the passenger terminal building, city-owned hangars, the aircraft rescue and firefighting (ARFF) station, and maintenance facilities. Tenants of airport-owned buildings/hangars or tenants that own their own facilities are typically responsible for coordinating their own waste handling services.

[5] Arizona Department of Environmental Quality (https://www.azdeq.gov/solidwaste)

For airports, waste can generally be divided into eight categories[6]:

- **Municipal Solid Waste** (MSW) is more commonly known as trash or garbage and consists of everyday items that are used and then discarded, such as product packaging.

- **Construction and Demolition Waste** (C&D) is considered non-hazardous trash resulting from land clearing, excavation, demolition, renovation or repair of structures, roads, and utilities. C&D includes concrete, wood, metals, drywall, carpet, plastic, pipe, cardboard, and salvaged building components. C&D is also generally labeled MSW.

- **Green Waste** is a form of MSW yard waste consisting of tree, shrub, and grass clippings; leaves; weeds; small branches; seeds; and pods.

- **Food Waste** includes unconsumed food products or waste generated and discarded during food preparation and is also considered MSW.

- **Deplaned Waste** is waste removed from passenger aircraft. Deplaned waste includes bottles, cans, mixed paper (newspapers, napkins, paper towels), plastic cups, service ware, food waste, and food-soiled paper/packaging.

- **Lavatory Waste** is a special waste that is emptied through a hose and pumped into a lavatory service vehicle. The waste is then transported to a triturator[7] facility for pretreatment prior to discharge in the sanitary sewage system. Chemicals in lavatory waste can present environmental and human health risks if mishandled; therefore, caution must be taken to ensure lavatory waste is not released to the public sanitary sewerage system prior to pretreatment.

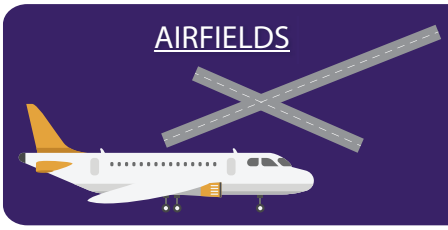
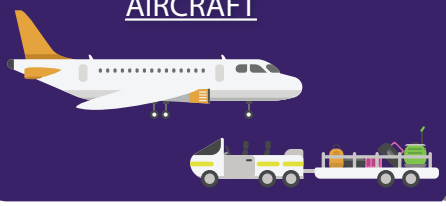
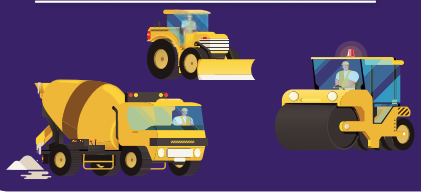
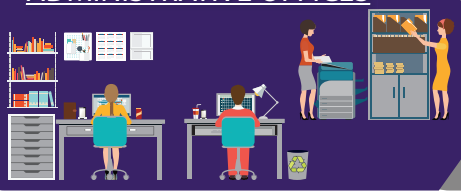
- **Spill Clean and Remediation Wastes** are also special wastes and are generated during cleanup of spills and/or the remediation of contamination from several types of sites on an airport.

- **Hazardous Wastes** are governed by the *Resource Conservation and Recovery Act* (RCRA), as well as the regulations in Title 40 Code of Federal Regulations (CFR) Subtitle C, Parts 260 to 270. The U.S. Environmental Protection Agency (EPA) developed less stringent regulations for certain hazardous waste, known as universal waste, described in 40 CFR Part 237, *The Universal Waste Rule*.

As seen on **Exhibit 5B**, the airport potentially contributes to the waste stream in multiple areas, including the airport operations building, the fixed base operator (FBO) (MPG East), an on-airport restaurant (Crosswinds), hangars, and airport construction projects. To create a comprehensive waste reduction and recycling plan for the airport, all potential inputs must be considered.

[6] *Recycling, Reuse and Waste Reduction at Airports*, FAA (April 24, 2013)
[7] A triturator facility turns lavatory waste into fine particulates for further processing.

AIRPORT WASTE STREAMS

AIRPORT AREA	POTENTIAL INPUTS	POTENTIAL OUTPUTS
AIRFIELDS 	Aircraft Operations	Runway Rubber Green Waste
AIRCRAFT 	Aircraft Ground Support Equipment (GSE)	Vehicle Waste Plastic Wastewater Hazmat
AIRPORT CONSTRUCTION 	Construction Re-Construction Demolition	Reused Concrete Reused Asphalt Vehicle Waste Soils, Building Materials Wood, General Waste
ADMINISTRATIVE OFFICES 	Employees	Food Waste Paper, Plastic Aluminum Cans Trash

Source: Recycling, Reuse, and Waste Reduction at Airports, FAA (April 24, 2013)

EXISTING SERVICES

The Town of Payson contracts monthly solid waste handling services to Waste Management of Arizona. No recycling services are currently offered at the airport.

SOLID WASTE MANAGEMENT SYSTEM

Airports generally utilize either a centralized or a decentralized waste management system. The differences between these two methods are described below and summarized on **Exhibit 5C**.

- **Centralized waste management system** – With a centralized waste management system, the airport provides receptables for the collection of waste, recyclables, or compostable materials and contracts for their removal by a single local provider.[8] The centralized waste management system allows for more participation from airport tenants who may not be incentivized to recycle on their own and can reduce the overall cost of service for all involved. A centralized strategy can be inefficient for some airports, as it requires more effort and oversight on the part of airport management; however, the centralized system is advantageous in that it has fewer working components involved in the overall management of the solid waste and recycling efforts and allows greater control by the city over the type, placement, and maintenance of dumpsters, thereby saving space and eliminating the need for each tenant to have their own containers.

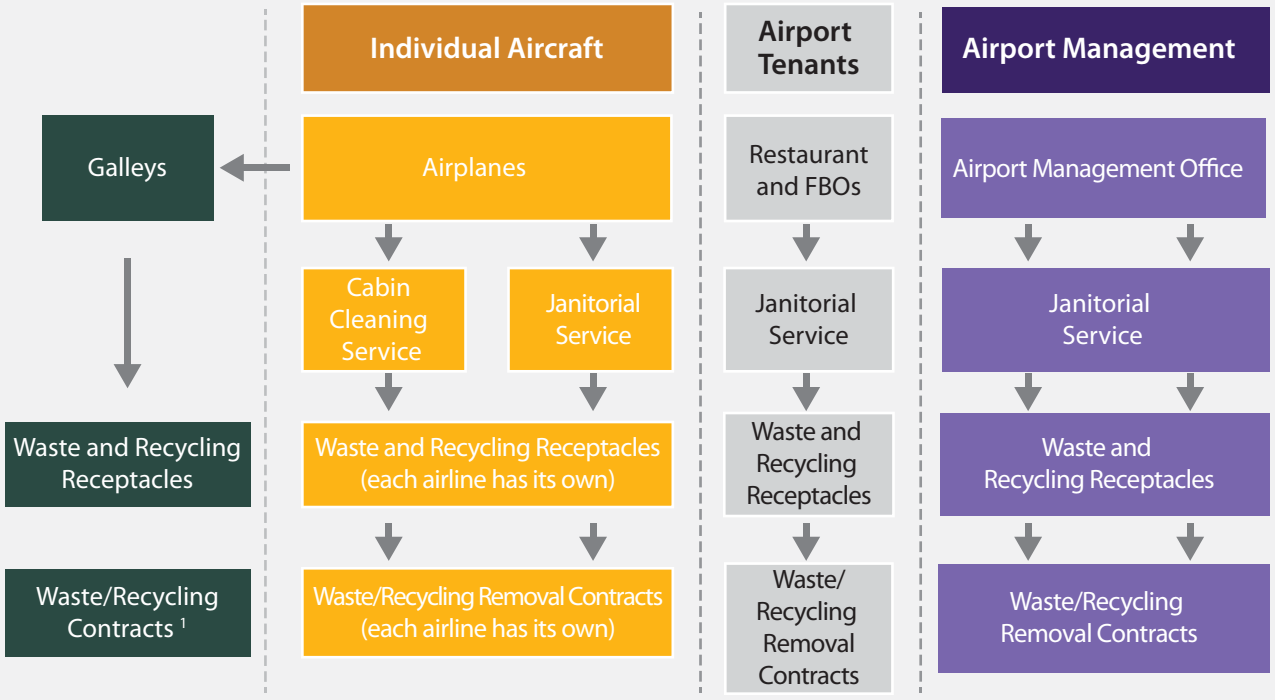
- **Decentralized waste management system** – Under a decentralized waste management system, the airport provides waste containers and contracts for the hauling of waste materials in airport-operated spaces only; however, airport tenants – such as FBOs, retail shops, and others – manage the waste from their leased spaces with separate contracts, billing, and hauling schedules. A decentralized waste management system can increase the number of receptacles on airport property and the number of trips by a waste collection service provider if the collection schedule for a tenant differs from the airport's collection schedule.

GOALS AND RECOMMENDATIONS

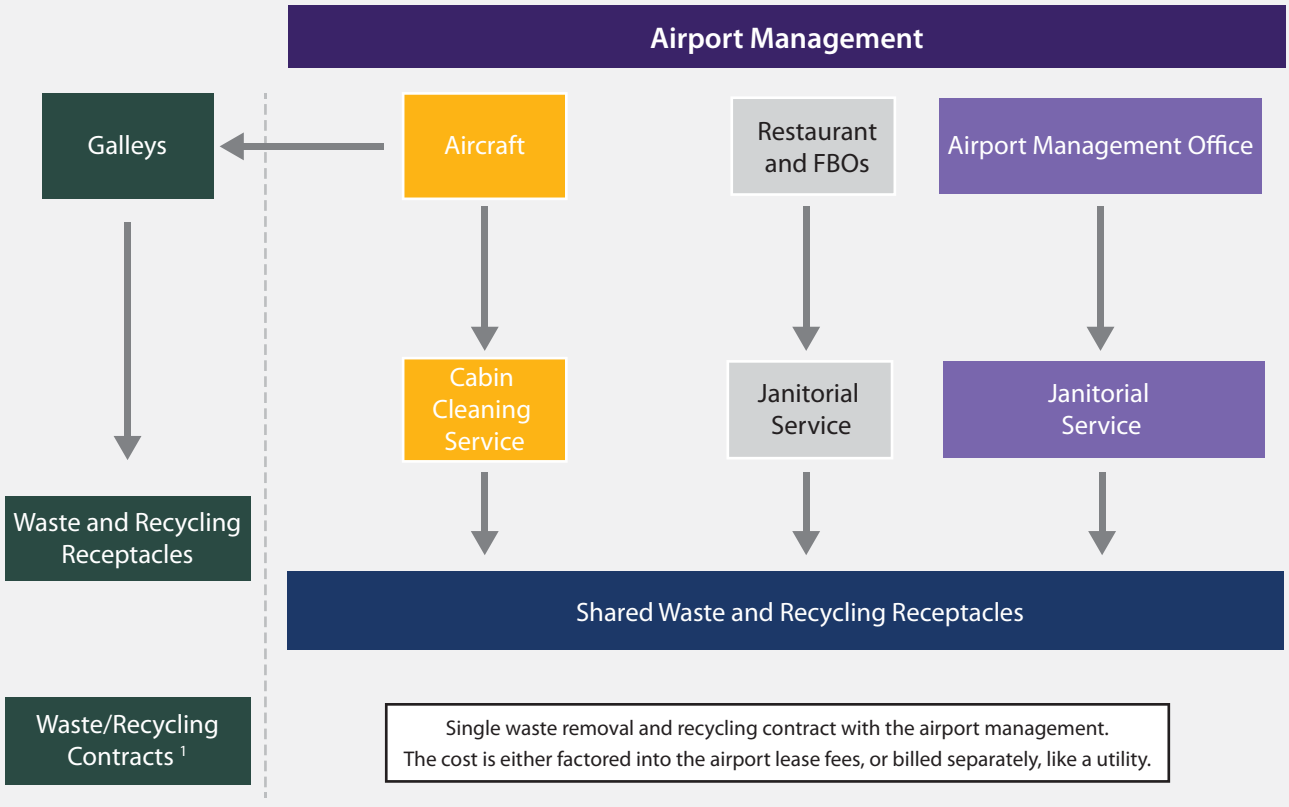
Solid Waste and Recycling Goals | **Table 5B** outlines objectives that could help reduce waste generation and increase recycling efforts at the airport. To increase the effectiveness of tracking progress at the airport, a baseline state of all suggested metrics should be established to provide a comparison over time.

[8] National Academies of Sciences, Engineering, and Medicine Airport Cooperative Research Program, Synthesis 92: *Airport Waste Management and Recycling Practices* (2018).

Components of a Decentralized Airport Waste Management System



Components of a Centralized Airport Waste Management System



[1] Galleys usually manage their own waste even if an airport relies on a centralized system
Source: Natural Resources Defense Council, Trash Landings: How Airlines and Airports Can Clean Up Their Recycling Programs, December 2006.

Table 5B | Waste Management and Recycling Goals

Goals	Objectives
Reduce amount of solid waste generated	Switch to online bill pay to eliminate monthly paper bills.
	Conduct a waste audit to identify the most common types of waste.
	Eliminate (or reduce) the purchase of items that are not recyclable (i.e., Styrofoam, plastic bags).
Reuse of materials or equipment	Reuse grass clippings as mulch.
	Reuse cardboard boxes for storage.
Create a recycling program at PAN	Introduce recycling services in all areas of the airport.
	Encourage waste and recycling tracking and data management.
	Incorporate recycling requirements and/or recommendations into tenant lease agreements.
	Introduce recycling marketing and promotion efforts throughout public areas.
	Require contractors to implement strategies to reduce, reuse, and recycle construction and demolition waste.

Source: Coffman Associates analysis

Recommendations | To maximize waste reduction and increase recycling efforts at the airport, the following recommendations are made[9]. Prior to implementation, an audit should be conducted to determine waste stream specifics and the scope of work necessary to establish an effective recycling strategy at the airport.

- **Create a centralized waste management system at the airport** – PAN currently participates in a decentralized waste management system because airport tenants are responsible for overseeing their own waste management. Airport staff could consider engaging tenants to create a centralized waste management system at the airport to streamline waste management and recycling efforts at PAN.

- **Assign the responsibility of waste management to a dedicated individual or group** – Having one person or a group of people oversee and manage solid waste and recycling at the airport will create efficient and cost-saving solutions to solid waste management. People dedicated to this operational aspect of the airport will be familiar with processes and will help identify areas of improvement and cost-cutting measures.

- **Audit the current waste management system** – The continuation of an effective program requires accurate data on current waste and recycling rates. There are several ways an airport can gain insight into its waste stream, such as requesting weights from the hauler, tracking the volume, or reviewing the bills. Managing the waste system starts with a waste audit, which is an analysis of the types of waste produced and is the most comprehensive and intensive way to assess waste stream composition, opportunities for waste reduction, and capture of recyclables. A waste audit should include the following actions:

[9] These recommendations should be considered for implementation if and when the Town of Payson implements a town-sponsored recycling plan.

  - Examination of records
    - Evaluate waste hauling and disposal records and contracts
    - Evaluate supply and equipment invoices
    - Identify other waste management costs (commodity rebates, container costs, etc.)
    - Track waste from the point of origin
    - Establish a baseline for metrics
  - Facility walkthrough conducted by the airport
    - Assess qualitative waste information to determine major waste components and waste-generating processes
    - Identify the locations on the airport that generate waste
    - Identify what types of waste are generated by the airport to determine what can be reduced, reused, or recycled
    - Understand waste pickup and hauling practices
  - Sort through waste
    - Provides quantitative data on total airport waste generation
    - Allows problem solving design/enhancing the recycling program for the airport

- **Create a tracking and reporting system** – Continuing to track solid waste generated will allow the airport to identify areas where a significant amount of waste is generated and will help the airport estimate annual waste volumes. Understanding the cyclical nature of waste generation will allow the airport to estimate costs and identify areas of improvement.

- **Reduce waste through controlled purchasing practices and the consumption of nonessential products** – The airport can control the amount of waste generated by prioritizing the purchase of items or supplies that are reusable, recyclable, compostable, or made from recycled materials.

- **Create a recycling program at the airport** – To guarantee the airport reduces the amount of waste hauled to the landfill, materials that cannot be reused or avoided should be recycled, if possible. Once a recycling program is in place, the city should review internal procedures to ensure there are no unacceptable items contaminating recycling containers or recyclables thrown in the trash. Clearly marked signage communicating what is and is not accepted, placed near the solid waste and recycling containers, is another significant component of a consistent, effective recycling program.

- **Provide ongoing education for airport employees** – In order to minimize waste within the airport, it is crucial to provide airport employees with information and a thorough education on waste management at both an individual and group level. As part of the onboarding process, new employees should be given the tools needed to achieve a thorough understanding of the airport's solid waste and recycling goals. This education should be tailored to the type of job an individual may hold within the airport; for example, if an individual is employed at a restaurant,

such as Crosswinds, that employee should be given the opportunity to learn about food waste and composting.

- **Incorporate an airport-wide waste reduction strategic plan** – Designing an airport-wide waste reduction strategic plan will create consistency in waste disposal mechanisms, ultimately resulting in the reduction of materials sent to the landfill.

- **Recycle electronic waste (e-waste)** – To guarantee the airport continues to reduce the amount of waste hauled to the landfill, materials that cannot be reused or avoided should be recycled, if possible. Recyclable materials such as paper, aluminum, plastic, electronics, etc. should be sorted from the airport's solid waste. PAN and its tenants should consider creating a standardized program through which electronics can be picked up and sent to Gila County as needed.

ENVIRONMENTAL OVERVIEW

An analysis of potential environmental impacts associated with proposed airport projects is an essential consideration in the airport master plan process. The primary purpose of this discussion is to review the recommended development concept (**Exhibit 5A**) and associated capital improvement program at the airport to determine whether projects identified in the airport master plan could, individually or collectively, significantly impact existing environmental resources. Information contained in this section was obtained from previous studies, official internet websites, and analysis by the consultant.

The *FAA Reauthorization Act of 2018* (Act) changed how the FAA has historically operated with respect to airport oversight. Section 163 of the Act limits the FAA's approval authority over certain projects. Pursuant to Section 163, when a sponsor submits a change to the airport layout plan (ALP) for a project that would not be federally funded, requests a change in land use from aeronautical to non-aeronautical, or requests to dispose of airport-owned land, the FAA must determine if the proposal would be subject to the agency's approval authority. This approval is a two-step process. The FAA exercises its regulatory authority consistent with the Act and separately examines if it has ALP approval authority under both of the following steps. First, the FAA determines if it has ALP approval authority under Section 163 of the Act. The second step is determining how the land was acquired and if land release obligations are required. Projects depicted on the ALP that were approved prior to the Act must be evaluated to determine whether the FAA retains its approval authority.

If the FAA retains approval authority over a project, the project is typically subject to the *National Environmental Policy Act* (NEPA). For projects not categorically excluded under FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, compliance with NEPA is generally satisfied through the preparation of an environmental assessment (EA). In instances where significant environmental impacts are expected, an environmental impact statement (EIS) may be required.

The following portion of the airport master plan is not designed to satisfy the NEPA requirements for a specific development project, but it provides a preliminary review of environmental issues that may need

to be considered in more detail within the environmental review processes. It is important to note that the FAA is ultimately responsible for determining the level of environmental documentation required for airport actions.

The environmental inventory included in the first chapter of this master plan provides baseline information about the airport environs. This section provides an overview of potential impacts to existing resources which could result from implementation of the planned improvements outlined on the recommended development concept.

Table 5C summarizes potential environmental concerns associated with implementation of the recommended development concept for Payson Municipal Airport. Analysis under NEPA includes effects or impacts a proposed action or alternative may have on the human environment (see 40 CFR §1508.1). Effects have recently been defined in the Council on Environmental Quality guidelines as foreseeable environmental effects of the proposed action, reasonably foreseeable adverse environmental effects that cannot be avoided, and a reasonable range of alternatives to the proposed actions.[10]

Table 5C | Summary of Potential Environmental Concerns

AIR QUALITY	
FAA Order 1050.1F, ***Significance Threshold/ Factors to Consider***	***The action would cause pollutant concentrations to exceed one or more of the National Ambient Air Quality Standards (NAAQS), as established by the United States (U.S.) Environmental Protection Agency (EPA) under the Clean Air Act, for any of the time periods analyzed, or to increase the frequency or severity of any such existing violations.***
Potential Environmental Concerns	**Potential Impact.** An increase in operations could occur over the 20+ year planning horizon of the development concept (**Exhibit 5A**) that would likely result in additional emissions. Gila County currently complies with federal NAAQS requirements; therefore, general conformity review per the *Clean Air Act* is not required. According to the most recent FAA *Aviation Emissions and Air Quality Handbook* (2015), an emissions inventory under NEPA may be necessary for any proposed action that would result in a reasonably foreseeable increase in emissions due to plan implementation. For construction emissions, a qualitative or quantitative emissions inventory under NEPA may be required, depending on the type of environmental review needed for projects defined on the development plan concept.
BIOLOGICAL RESOURCES (INCLUDING FISH, WILDLIFE, AND PLANTS)	
FAA Order 1050.1F, ***Significance Threshold/ Factors to Consider***	***The U.S. Fish and Wildlife Service (FWS) or the National Marine Fisheries Service (NMFS) determines that the action would be likely to jeopardize the continued existence of a federally listed threatened or endangered species or would result in the destruction or adverse modification of federally designated critical habitat.*** ***The FAA has not established a significance threshold for non-listed species; however, factors to consider are if an action would have the potential for:*** • ***Long-term or permanent loss of unlisted plant or wildlife species;*** • ***Adverse impacts to special status species or their habitats;*** • ***Substantial loss, reduction, degradation, disturbance, or fragmentation of native species' habitats or populations; or***

[10] *Proposed Rules*, Federal Register, Vol. 88, No. 145 (Monday, July 31, 2023)

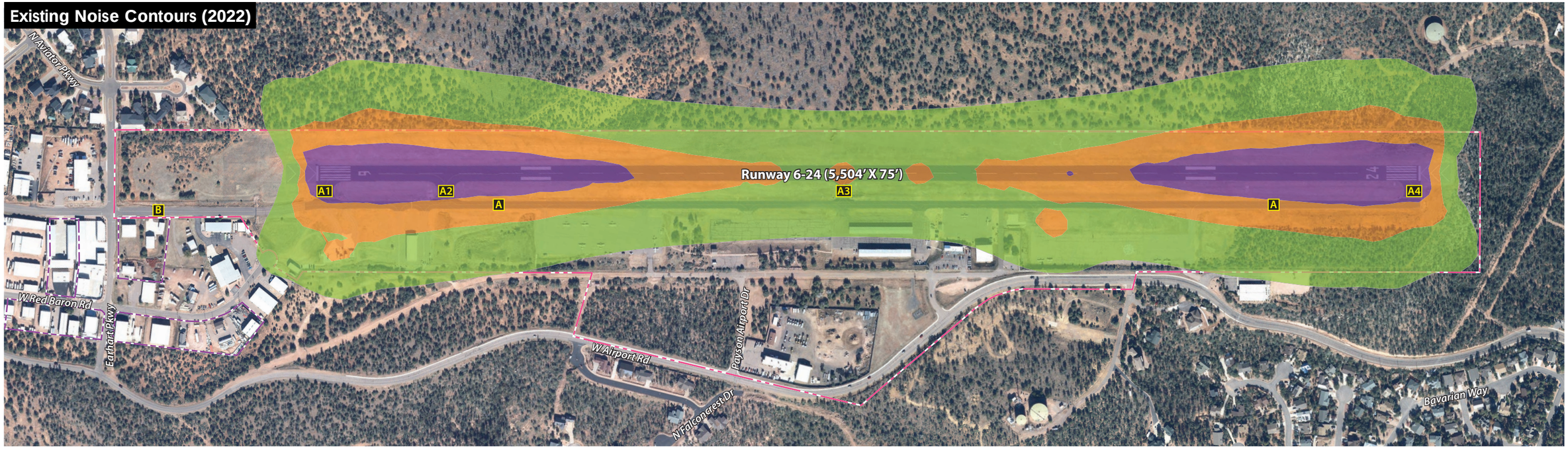
	• ***Adverse impacts on a species' reproductive rates, non-natural mortality, or ability to sustain the minimum population levels required for population maintenance.***
Potential Environmental Concerns	Federally Protected Species **No Impact.** According to the USFWS Information for Planning and Consultation (IPaC) report, there is potential for six experimental population non-essential, candidate, and threated species within the vicinity of the airport: Mexican wolf (mammal, experimental population non-essential), Mexican spotted owl (bird, threatened), yellow-billed cuckoo (bird, threatened), Chiricahua leopard frog (amphibian, threatened), Gila trout (fish, threatened), and monarch butterfly (insect, candidate). There is no suitable habitat for these six species at the airport. Designated Critical Habitat **No Impact.** There are no designated critical habitats within airport boundaries. Non-Listed Species **Potential Impact.** Non-listed species of concern include those protected by the *Migratory Bird Treaty Act* (MBTA) and the *Bald and Golden Eagle Protection Act.* No eagles are expected to use the airport environs, as there are no suitable nesting or foraging habitats (e.g., flowing rivers or lakes containing fish) within the airport property. Bird species protected by the MBTA could be adversely affected if construction occurs during the nesting and breeding seasons (typically April through October). Pre-construction surveys of vegetated areas at the airport are recommended for projects during which ground clearing would occur, unless happening outside the nesting and breeding seasons. Projects proposed in areas that contain vegetation may also be areas of concern.
CLIMATE	
FAA Order 1050.1F, *Significance Threshold/ Factors to Consider*	***The FAA has not established a significance threshold for Climate.*** *Refer to FAA Order 1050.1F, Desk Reference, and/or the most recent FAA Aviation Emissions and Air Quality Handbook for the most up-to-date methodology for examining impacts associated with climate change.*
Potential Environmental Concerns	**Unknown.** An increase in greenhouse gas (GHG) emissions could occur over the 20+ year planning horizon of the airport master plan. A project-specific analysis may be required per FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures,* based on the parameters of the individual projects; however, at this time, the FAA does not have an impact threshold to use to determine significance under NEPA.
COASTAL RESOURCES	
FAA Order 1050.1F, *Significance Threshold/ Factors to Consider*	***The FAA has not established a significance threshold for Coastal Resources. Factors to consider are if an action would have the potential to:*** • ***Be inconsistent with the relevant state coastal zone management plan(s);*** • ***Impact a coastal barrier resources system unit;*** • ***Pose an impact on coral reef ecosystems;*** • ***Cause an unacceptable risk to human safety or property; or*** • ***Cause adverse impacts on the coastal environment that cannot be satisfactorily mitigated.***
Potential Environmental Concerns	**No Impact.** The airport is not located near a coastal zone. The closest National Marine Sanctuary is the Channel Islands National Marine Sanctuary, located 268 miles away from the airport.
***DEPARTMENT OF TRANSPORTATION ACT*, SECTION 4(f)** (NOW CODIFIED IN 49 UNITED STATES CODE [U.S.C.] § 303)	
FAA Order 1050.1F, *Significance Threshold/ Factors to Consider*	***The action involves more than a minimal physical use of a Section 4(f) resource or constitutes a "constructive use" based on an FAA determination that the aviation project would substantially impair the Section 4(f) resource. Resources that are protected by Section 4(f) are publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance; and publicly or privately owned land from a historic site of national, state, or local significance. Substantial impairment occurs when the***

	activities, features, or attributes of the resource that contribute to its significance or enjoyment are substantially diminished.
Potential Environmental Concerns	**No Impact.** No wilderness areas, waterfowl refuges, public recreational facilities, or National Register of Historic Places (NRHP)-listed resources would be impacted by proposed development at the airport. Furthermore, although the airport contains an on-airport campground, it is not considered a public recreational facility because it is only open to the flying public and is not accessible to the general public; thus, there are no Section 4(f) resources located on airport property. The closest Section 4(f) resource is Rumsey Park, 0.80 miles south of the airport. The northern boundary of the airport abuts the Tonto National Forest; however, this portion of the forest is not considered a Section 4(f) resource, as it does not provide public recreation activities (i.e., hiking trails, campground, etc.). In the future, any airport structures 50 years or older should be evaluated for historic significance prior to alteration or demolition. If determined to be a significant historic resource, such a structure would qualify as a Section 4(f) resource.
FARMLANDS	
FAA Order 1050.1F, ***Significance Threshold/ Factors to Consider***	***The total combined score on Form AD-1006, Farmland Conversion Impact Rating, ranges between 200 and 260. (Form AD-1006 is used by the U.S. Department of Agriculture [USDA] Natural Resources Conservation Service [NRCS] to assess impacts under the Farmland Protection Policy Act [FPPA].)*** ***The FPPA applies when airport activities meet the following conditions:*** • ***Federal funds are involved;*** • ***The action involves the potential for the irreversible conversion of important farmlands to non-agricultural uses. Important farmlands include pastureland, cropland, and forest considered to be prime, unique, or statewide or locally important land; or*** • ***None of the exemptions to the FPPA apply. These exemptions include:*** o ***When land is not considered farmland under the FPPA, such as land that is already developed or irreversibly converted. These instances include when land is designated as an urban area by the U.S. Census Bureau or when the existing footprint includes rights-of-way;*** o ***When land is already committed to urban development;*** o ***When land is committed to water storage;*** o ***The construction of non-farm structures necessary to support farming operations; or*** o ***Construction/land development for national defense purposes.***
Potential Environmental Concerns	**No Impact**. According to the NRCS Web Soil Survey (WSS), the airport is designated as "Not prime farmland"; thus, the FPPA would not apply and coordination with the NRCS is not warranted.
HAZARDOUS MATERIALS, SOLID WASTE, AND POLLUTION PREVENTION	
FAA Order 1050.1F, ***Significance Threshold/ Factors to Consider***	***The FAA has not established a significance threshold for Hazardous Materials, Solid Waste, and Pollution Prevention; however, factors to consider are if an action would have the potential to:*** • ***Violate applicable federal, state, tribal, or local laws or regulations regarding hazardous materials and/or solid waste management;*** • ***Involve a contaminated site;*** • ***Produce an appreciably different quantity or type of hazardous waste;*** • ***Generate an appreciably different quantity or type of solid waste or use a different method of collection or disposal, and/or would exceed local capacity; or***

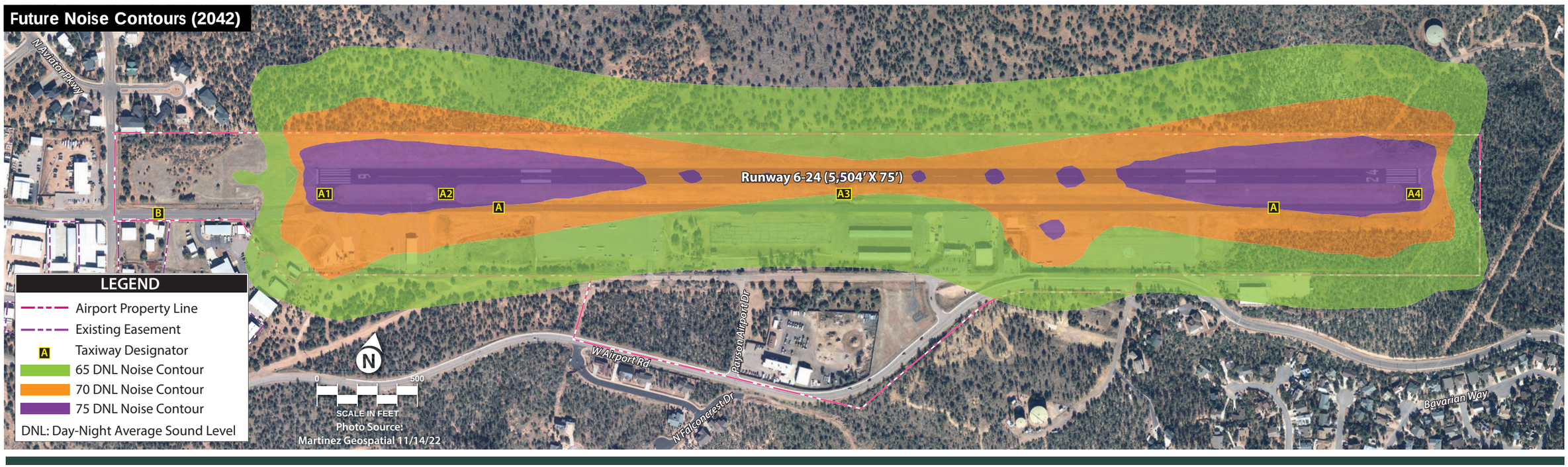
	• ***Adversely affect human health and the environment.***
Potential Environmental Concerns	**No Impact.** No identified brownfields or Superfund sites are located within a one-mile buffer of the airport. Because of the existing regulatory environmental management regarding hazardous materials, waste, and stormwater, no impacts related to ultimate airport development are anticipated. The construction of the planned developments would temporarily increase solid waste. In addition, the construction of the proposed executive box hangars would increase solid waste in the long term; however, no impacts related to solid waste disposal are expected. The closest landfill is Buckhead Mesa Landfill, located more than 10 miles northwest of the airport property boundary. There are several recycling facilities within Payson. See discussion on Surface Water for information on water quality pollution prevention.
HISTORICAL, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES	
FAA Order 1050.1F, ***Significance Threshold/ Factors to Consider***	***The FAA has not established a significance threshold for Historical, Architectural, Archaeological, and Cultural Resources. Factors to consider are if an action would result in a finding of adverse effect through the Section 106 process; however, an adverse effect finding does not automatically trigger the preparation of an EIS (i.e., a significant impact).***
Potential Environmental Concerns	**Potential Impact.** A cultural resources survey was conducted at the airport and found no archaeological sites or historic buildings, districts, or neighborhoods eligible for listing on the NRHP within airport property. If previously undocumented buried cultural resources are identified during ground-disturbing activities for ultimate airport development, all work within 30 meters (100 feet) must immediately cease until a qualified archaeologist has documented the discovery and evaluated its eligibility for the NRHP, as appropriate. Work must not resume in the area without the approval of the FAA.
LAND USE	
FAA Order 1050.1F, ***Significance Threshold/ Factors to Consider***	***The FAA has not established a significance threshold for Land Use. There are also no specific independent factors to consider. The determination that significant impacts exist is normally dependent on the significance of other impacts.***
Potential Environmental Concerns	**Potential Impact**. Proposed airport improvements include the construction of a new terminal building, the construction of new box hangars and T-hangars, the expansion and re-marking of Echo apron, the construction of an emergency access road, the acquisition/implementation of land use controls within the RPZs, the designation of two aviation use reserves, the relocation of existing helicopter parking and construction of a new helicopter parking area, an upgrade of existing PAPI-2s to PAPI-4s along Runway 6-24, and the designation of a non-aviation use area to be released from federal obligations. (See **Exhibit 5A**). The areas to be designated as two aviation reserves are in heavily vegetated areas; if development were to occur in these areas, a preconstruction survey for environmentally sensitive resources may be warranted. Furthermore, if development were to occur in the area identified as a land release, a Phase I Environmental Site Assessment (ESA) would need to be conducted prior to future construction. The closest residential areas are located northwest and adjacent to the airport boundary and across Earhart Parkway to the west of State Route 260. No proposed development is recommended near these residential areas.

	There are also scattered single-family residences south of the airport along Airport Road. The nearest proposed development to this residential area would be the construction of new box hangars; however, this proposed development would be contained on the airport and would not relocate any nearby residential areas.
NATURAL RESOURCES AND ENERGY SUPPLY	
FAA Order 1050.1F, ***Significance Threshold/ Factors to Consider***	***The FAA has not established a significance threshold for Natural Resources and Energy Supply; however, factors to consider are if the action would have the potential to cause demand to exceed available or future supplies of these resources.***
Potential Environmental Concerns	**No Impact.** Planned development projects at the airport could increase demands on energy utilities, water supplies and treatment, and other natural resources during construction; however, significant long-term impacts are not anticipated. Should long-term impacts be a concern, coordination with local service providers is recommended.
NOISE AND NOISE-COMPATIBLE LAND USE	
FAA Order 1050.1F, ***Significance Threshold/ Factors to Consider***	***The action would increase noise by day-night average sound level (DNL) 1.5 decibels (dB) or more for a noise-sensitive area that is exposed to noise at or above the DNL 65 dB noise exposure level – or that will be exposed at or above the DNL 65 dB level due to a DNL 1.5 dB or greater increase – when compared to the no action alternative for the same timeframe.*** ***Another factor to consider is that special consideration should be given to the evaluation of the significance of noise impacts on noise-sensitive areas within Section 4(f) properties where the land use compatibility guidelines in Title 14 Code of Federal Regulations (CFR) Part 150 are not relevant to the value, significance, and enjoyment of the area in question.***
Potential Environmental Concerns	**No Impact. Exhibit 5D** shows existing and anticipated noise contours for the airport. As shown on the exhibit, for existing conditions, the DNL 65 dB noise exposure slightly extends outside the airport on the northern, southeastern, and southwestern side of the airport. In the future condition, the DNL 65 dB noise exposure contour expands around the runways and further extends outside the airport on the northern, southeastern, and southwestern boundaries. As a result of the new noise contour, scattered single-family residences and a church will be located within the DNL 65 dB southeast of the airport. This extension of the 65 dB noise contour outside of airport boundaries is due to the presence of the helicopter parking area located between Delta and Echo ramps. Impacts to noise-sensitive land uses are only identified through NEPA documentation for specific projects or through the voluntary Part 150 process.
SOCIOECONOMICS, ENVIRONMENTAL JUSTICE, AND CHILDREN'S ENVIRONMENTAL HEALTH AND SAFETY RISKS	
Socioeconomics	
FAA Order 1050.1F, ***Significance Threshold/ Factors to Consider***	***The FAA has not established a significance threshold for Socioeconomics; however, factors to consider are if an action would have the potential to:*** • ***Induce substantial economic growth in an area, either directly or indirectly (e.g., through establishing projects in an undeveloped area);*** • ***Disrupt or divide the physical arrangement of an established community;*** • ***Cause extensive relocation when sufficient replacement housing is unavailable;*** • ***Cause extensive relocation of community businesses that would cause severe economic hardship for affected communities;*** • ***Disrupt local traffic patterns and substantially reduce the levels of service of roads serving the airport and its surrounding communities; or*** • ***Produce a substantial change in the community tax base.***
Potential Environmental Concerns	**Potential Impact.** Proposed development would not relocate or disrupt current businesses or residents. No division of existing neighborhoods or housing or businesses relocations would occur due to proposed development on the airport.

Existing Noise Contours (2022)



Future Noise Contours (2042)



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	Ultimate airport projects would result in temporary disruption of local traffic patterns during construction or once operational.
Environmental Justice	
FAA Order 1050.1F, ***Significance Threshold/ Factors to Consider***	***The FAA has not established a significance threshold for Environmental Justice; however, factors to consider are if an action would have the potential to lead to a disproportionately high and adverse impact to an environmental justice population (i.e., a low-income or minority population), due to:*** • ***Significant impacts in other environmental impact categories; or*** • ***Impacts on the physical or natural environment that affect an environmental justice population in a way that the FAA determines is unique to and significant to the environmental justice population.***
Potential Environmental Concerns	**No Impact.** Low-income and minority populations have been identified in the vicinity of the airport. The closest residential communities are located northwest in a residential airpark community and adjacent to the airport boundary and across Earhart Parkway to the west of State Route 260. There are also single-family residential communities located within one mile of the airport, south of airport road; however, it is unlikely that implementation of the proposed improvements outlined in the development concept plan would affect these populations in a disproportionate or adverse manner. Executive Order (E.O.) 12898, *Federal Action to Address Environmental Justice in Minority Populations and Low-Income Populations*, and the accompanying Presidential Memorandum, and Order DOT 5610.2, *Environmental Justice*, require the FAA to provide meaningful public involvement for minority and low-income populations, as well as analysis that identifies and addresses potential impacts on these populations that may be disproportionately high and adverse. Environmental justice impacts may be avoided or minimized through early and consistent communication with the public and by allowing ample time for public consideration; therefore, disclosure of ultimate airport development to potentially affected environmental justice populations near the airport as the projects are proposed is crucial. If disproportionately high or adverse impacts are noted, mitigation and enhancement measures and offsetting benefits should be taken into consideration.
Children's Health and Safety Risks	
FAA Order 1050.1F, ***Significance Threshold/ Factors to Consider***	***The FAA has not established a significance threshold for Children's Environmental Health and Safety Risks; however, factors to consider are if an action would have the potential to lead to a disproportionate health or safety risk to children.***
Potential Environmental Concerns	**No Impact**. No disproportionately high or adverse impacts are anticipated to affect children living, playing, or attending school near the airport because of the proposed ultimate development. The airport is an access-controlled facility and children will not be allowed within the fenced portions of the airport without adult supervision. All construction areas should be controlled to prevent unauthorized access.
VISUAL EFFECTS (INCLUDING LIGHT EMISSIONS AND VISUAL RESOURCES/VISUAL CHARACTER)	
Light Emissions	
FAA Order 1050.1F, ***Significance Threshold/ Factors to Consider***	***The FAA has not established a significance threshold for Light Emissions; however, a factor to consider is the degree to which an action would have the potential to:*** • ***Create annoyance or interfere with normal activities due to light emissions; and*** • ***Affect the nature of the visual character of the area due to light emissions, including the importance, uniqueness, and aesthetic value of the affected visual resources.***

Potential Environmental Concerns	**No Impact.** The existing lighting at the airport includes runway/taxiway lighting (medium intensity) and lighting used for navigation (such as a rotating beacon, PAPI-2s, and REILs at both ends of Runway 6-24). Proposed lighting would include replacement of the PAPI-2s with PAPI-4s at each runway end. All new airport lighting will be part of the overall airport environment and is not expected to cause significant lighting impacts on areas outside of the airport property. Night lighting during construction phases within the runway environment is typically directed down to the construction work area to prevent light from spilling outside the airport boundaries. Other ultimate projects are likely to include additional lighting during operation of the airport's new structures and facilities but would not significantly change the amount of lighting seen from outside the airport.
Visual Resources/Visual Character	
FAA Order 1050.1F, ***Significance Threshold/ Factors to Consider***	***The FAA has not established a significance threshold for Visual Resources/Visual Character; however, a factor to consider is the extent to which an action would have the potential to:*** • ***Affect the nature of the visual character of the area, including the importance, uniqueness, and aesthetic value of the affected visual resources;*** • ***Contrast with the visual resources and/or visual character in the study area; and*** • ***Block or obstruct the views of the visual resources, including whether these resources would still be viewable from other locations.***
Potential Environmental Concerns	**No Impact.** Ultimate airport improvements are likely to be similar to what currently exists at the airport and would not change the overall visual character of the airport.
WATER RESOURCES (INCL. WETLANDS, FLOODPLAINS, SURFACE WATERS, GROUNDWATER, AND WILD AND SCENIC RIVERS)	
Wetlands	
FAA Order 1050.1F, ***Significance Threshold/ Factors to Consider***	***The action would:*** ***1. Adversely affect a wetland's function to protect the quality or quantity of municipal water supplies, including surface waters and sole source and other aquifers;*** ***2. Substantially alter the hydrology needed to sustain the affected wetland system's values and functions or those of a wetland to which it is connected;*** ***3. Substantially reduce the affected wetland's ability to retain floodwaters or storm runoff, thereby threatening public health, safety, or welfare (the term welfare includes cultural, recreational, and scientific resources or property important to the public);*** ***4. Adversely affect the maintenance of natural systems supporting wildlife and fish habitat or economically important timber, food, or fiber resources of the affected or surrounding wetlands;*** ***5. Promote the development of secondary activities or services that would cause the circumstances listed above to occur; or*** ***6. Be inconsistent with applicable state wetland strategies.***
Potential Environmental Concerns	**No Impact.** Based on a biological resources evaluation conducted at the airport, no surface water features were identified at the airport. The survey also found no features that would indicate the presence of wetlands at the airport (i.e., no wetland vegetation or wetland hydrology was present at the airport).
Floodplains	
FAA Order 1050.1F, ***Significance Threshold/ Factors to Consider***	***The action would cause notable adverse impacts on natural and beneficial floodplain values. Natural and beneficial floodplain values are defined in Paragraph 4.k of DOT Order 5650.2, Floodplain Management and Protection.***

Potential Environmental Concerns	**No Impact.** A review of the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) panel numbers 04007C0240D and 04007C0239D, effective December 4, 2007, indicates that the airport is in Zone X, an area of minimal flood hazard. The airport is located outside the 100-year and 500-year floodplain. E.O. 14030, *Climate-Related Financial Risk*, was established on May 25, 2021. Section 5(e) of E.O. 14030 reinstates E.O. 13690[1], amends E.O. 11988[2], and mandates that a Federal Flood Risk Management Standard (FFRMS) be created. One of the primary purposes of the FFRMS is to expand the management of floodplains from a base flood evaluation to include a higher vertical elevation (and the corresponding floodplain) to protect against future flood risks for federally funded projects. Under E.O. 13690 and its guidelines, one of several approaches should be used to identify floodplains and their risks to critical or non-critical federally funded actions: • Climate-Informed Science Approach (CISA) – the elevation and flood hazard area (i.e., 100-year floodplain) using data that integrate climate science with an emphasis on possible future effects on critical actions; • Freeboard Value Approach – the elevation and flood hazard area and an additional two or three feet above the base flood elevation, depending on whether the proposed federal action is critical or non-critical; • 500-year Floodplain Approach – all areas subject to the 0.2 percent annual chance flood; or • Other methods resulting from updates to the FFRMS. Since the airport is outside the 500-year floodplain, which is one of the methods for determining federal flood risk, no impacts related to the FFRMS are expected. [1] *Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input* (2015) [2] *Floodplain Management* (May 1977) [3] Critical action is defined in E.O. 13690 and *Guidelines for Implementing E.O. 11988* (2015) as any activity for which even a slight change of flooding is too great; for example, a facility producing and/or storing highly volatile, toxic, or water-reactive materials; structures (such as schools) where occupants may not be sufficiently mobile or have available transport capability given the flood warning lead times available; or essential or irreplaceable resources, utilities, or other functions that could be damaged beyond repair or otherwise made unavailable.
Surface Waters	
FAA Order 1050.1F, ***Significance Threshold/ Factors to Consider***	***The action would:*** ***1. Exceed water quality standards established by federal, state, local, and tribal regulatory agencies; or*** ***2. Contaminate public drinking water supply such that public health may be adversely affected.***
Potential Environmental Concerns	**No Impact.** The airport is in the Upper East Verde River and American Gulch watersheds. There are no impaired waterbodies near the airport. The airport manages its stormwater discharges with a National Pollutant Discharge Elimination System (NPDES) permit issued and regulated by the Arizona Department of Environmental Quality (ADEQ). Improvements to the airport will require a revised permit to be issued addressing operational and structural source controls, treatment best management practices (BMPs), and sediment and erosion control. An NPDES General Construction permit would be required for all projects involving ground disturbance over one acre. FAA Advisory Circular (AC) 150/5370-10G, *Standards for Specifying*

	Construction of Airports, Item P-156, *Temporary Air and Water Pollution, Soil Erosion and Siltation Control*, should also be implemented during construction projects at the airport.
Groundwater	
FAA Order 1050.1F, *Significance Threshold/ Factors to Consider*	***The action would:*** ***1. Exceed groundwater quality standards established by federal, state, local, and tribal regulatory agencies; or*** ***2. Contaminate an aquifer used for public water supply such that public health may be adversely affected.*** ***Factors to consider are when a project would have the potential to:*** • ***Adversely affect natural and beneficial groundwater values to a degree that substantially diminishes or destroys such values;*** • ***Adversely affect groundwater quantities such that the beneficial uses and values of such groundwater are appreciably diminished or can no longer be maintained, and such impairment cannot be avoided or satisfactorily mitigated; or*** • ***Present difficulties based on water quality impacts when obtaining a permit or authorization.***
Potential Environmental Concerns	**No Impact**. The airport property is not located near a sole source aquifer. The Upper Santa Cruz & Avra Basin is the nearest sole source aquifer and is located approximately 96 miles from the airport. Groundwater under the airport has been measured at more than 250 feet below the surface, which would not intersect with any future construction projects.
Wild and Scenic Rivers	
FAA Order 1050.1F, *Significance Threshold/ Factors to Consider*	***The FAA has not established a significance threshold for Wild and Scenic Rivers. Factors to consider are whether an action would have an adverse impact on the values for which a river was designated (or considered for designation) by:*** • ***Destroying or altering a river's free-flowing nature;*** • ***Introducing a visual, audible, or other type of intrusion that is out of character with the river or would alter outstanding features of the river's setting;*** • ***Causing the river's water quality to deteriorate;*** • ***Allowing the transfer or sale of property interests without restrictions needed to protect the river or the river corridor; or*** • ***Any of the above impacts preventing a river on the Nationwide Rivers Inventory (NRI), or a Section 5(d) river that is not included on the NRI, from being included in the Wild and Scenic River System or causing a downgrade in its classification (e.g., from wild to recreational).***
Potential Environmental Concerns	**No Impact.** The nearest designated Wild and Scenic River, the Verde River, is located approximately 30 miles from the airport. The closest river segment on the NRI is a segment of Verde River East, 10 miles from the airport. Projects delineated on the airport layout plan update concept would not have adverse effects on these rivers' outstanding remarkable values (i.e., scenery, recreation, geology, fish, wildlife, and history).

Source: Coffman Associates analysis

SUMMARY

This chapter has been prepared to help the Town of Payson make decisions regarding the future growth and development of PAN by describing narratively and graphically the recommended master plan concept. It details environmental and land use conditions that must be taken into consideration when

implementing the development plan. The plan represents an airfield facility that fulfills aviation needs for the airport while conforming to safety and design standards, to the extent practicable. It also provides a landside complex that can be developed as demand dictates and is subject to further refinement pending comments from the PAC, the Town of Payson, and the public.

Flexibility will be important to future development at the airport because activity may not occur as predicted. The recommended master plan concept provides stakeholders with a general guide which, if followed, can maintain the airport's long-term viability and allow it to continue to provide air transportation service to the region. The next chapter of this master plan will provide a reasonable schedule for undertaking the projects based on safety and demand over the course of the next 20 years.