AIRPORT MASTER PLAN

DRAFT REPORT

SPANISH PEAKS AIRFIELD

WALSENBURG, CO | JULY 2024

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Chapter One

Airport Master Plan Overview

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Chapter 1 –Airport Master Plan Overview

1.1 Introduction

Spanish Peaks Airfield (three letter identifier 4V1) is a general aviation airport located in southeastern Colorado, approximately five miles north of Walsenburg, Colorado in Huerfano County. The airport encompasses approximately 195 acres and is owned and operated by Huerfano County.

The current Airport Layout Plan (ALP) for Spanish Peaks Airfield was completed in 2011. Huerfano County is conducting this Airport Master Plan (AMP) study to comprehensively analyze the short, medium, and long-term development plans for the airport in order to meet current and future aviation demands. This study will be used by the county, state, and federal officials to plan, prioritize and fund the maintenance and development of the airport.

Airport Master Plans are prepared by the operators of individual airports and are usually completed with the assistance of consultants. Spanish Peaks Airfield is completing this master plan with the assistance of Armstrong Consultants, Inc.

1.2 Purpose

The purpose and goal of an airport master plan is to provide the framework needed to guide future airport development that will cost-effectively satisfy local and regional aviation demand, while producing an efficient and economically feasible facility that meets the current Federal Aviation Administration (FAA) design standards. As part of the planning process, consideration will be given to the potential environmental and socioeconomic impacts associated with alternative development concepts as well as the possible means of avoiding, minimizing, or mitigating potential impacts to sensitive resources.

The master plan report describes and depicts the long-term development concepts of the airport. The document also presents the concepts graphically in the ALP drawing set and includes the supporting data and logic on which the concepts are based.

1.3 Objectives

The primary objective of the master plan is to provide guidance to decision makers, airport users and the general public in implementing airport development actions, while remaining in line with both the airports and community's concerns and objectives.

The master plan's recommended development is presented for three planning periods— short-term (5 years), medium-term (10 years), and long-term (20 years). The recommended development program is to satisfy aviation demand and be compatible with the environment, community development, and other transportation modes. The following objectives serve as a guide in the preparation of this study.

Specific objectives of the Spanish Peaks Airfield Master Plan include, but are not limited to:

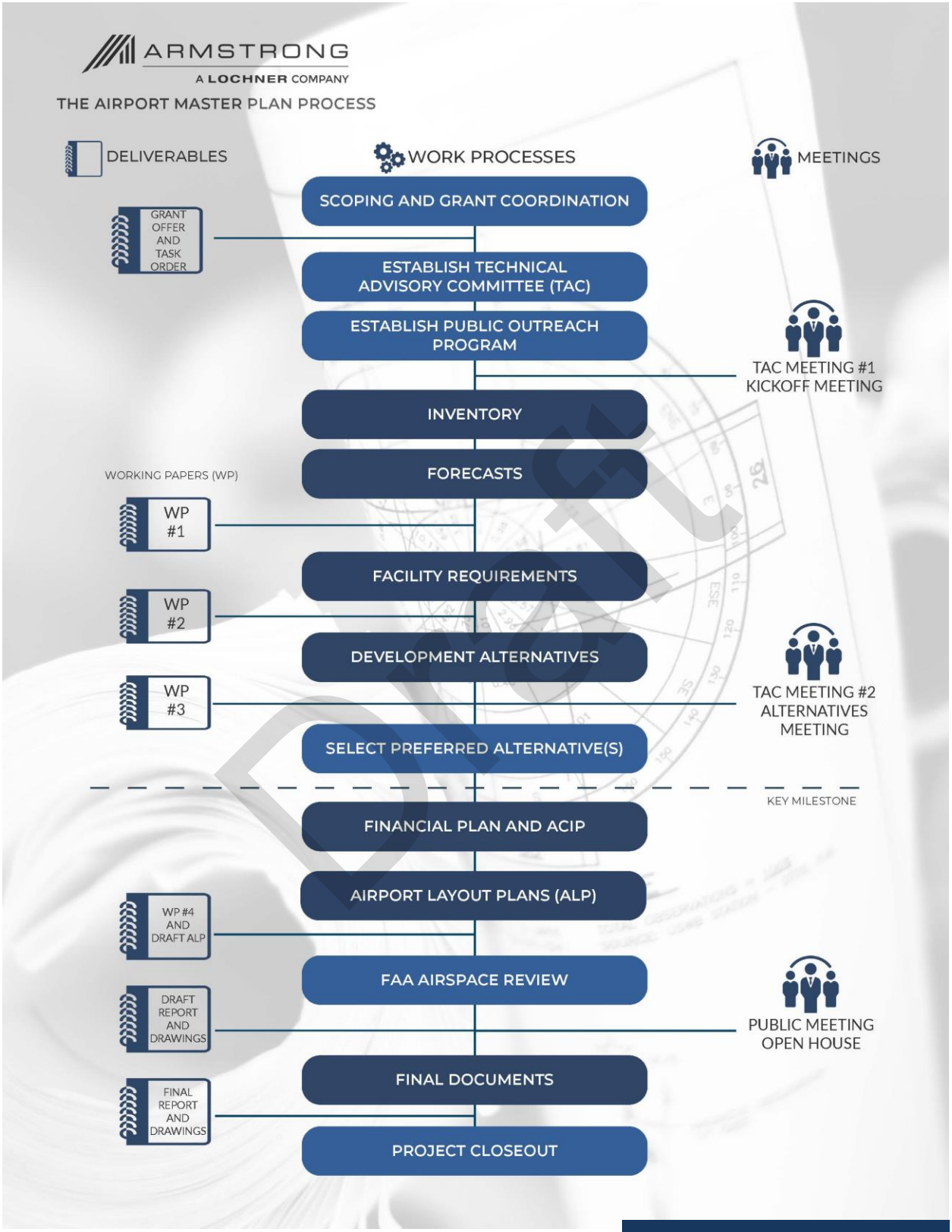
- Clearly identify the present and future roles of the airport;

- Depict design standards for the determined Airport Reference Code (ARC);
- Provide the basis for future federal, state, local government and private investment in the airport;
- Develop realistic, phased development and maintenance plans for the airport;
- Provide an Airport Layout Plan (ALP) in accordance with the current FAA ALP checklist and Standard Operating Procedures (SOPs);
- Identify any future land acquisition requirements;
- Prepare an Environmental Overview for proposed development indicating the nature of alternatives that must be reviewed;
- Develop an achievable financial plan for the airport to support the implementation schedule and operation and maintenance costs; and
- Present for public consideration, a plan which addresses the needs and satisfies local, state and federal regulations.

The airport master planning process involves collecting data, forecasting demand, determining facility requirements, studying various alternatives and developing plans and schedules. The flow chart in **Figure 1-1** depicts the steps in the master planning process. This process will take into consideration the needs and concerns of the airport sponsor, airport tenants and users, as well as the general public.

When completed, this airport master planning study will be incorporated into a larger airport planning effort that takes place at a national, state, and local level. On the Federal level, the National Plan of Integrated Airport Systems (NPIAS) is a ten-year airport system plan that FAA continually updates and publishes biannually. This publication lists developments at public use airports that are considered to be of national interest and identifies development needs based on input from airport master plans. To be eligible for Federal financial assistance for airport planning and development, an airport must be included in the NPIAS.

Statewide airport system planning identifies the needs of existing airports and identifies location and characteristics of new airports needed to meet statewide air transportation goals. This planning is performed by state transportation or aviation planning agencies. In Colorado, the state airport planning is performed by the Colorado Department of Transportation, Division of Aeronautics (CDOT). Using Federal and local input, state system plans are coordinated with other transportation planning and comprehensive land use planning.



Source: Armstrong Consultants, Inc.

Figure 1-1 Airport Master Plan Flow Chart

Chapter Two
Inventory of Airport Assets

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Chapter 2 – Inventory of Airport Assets

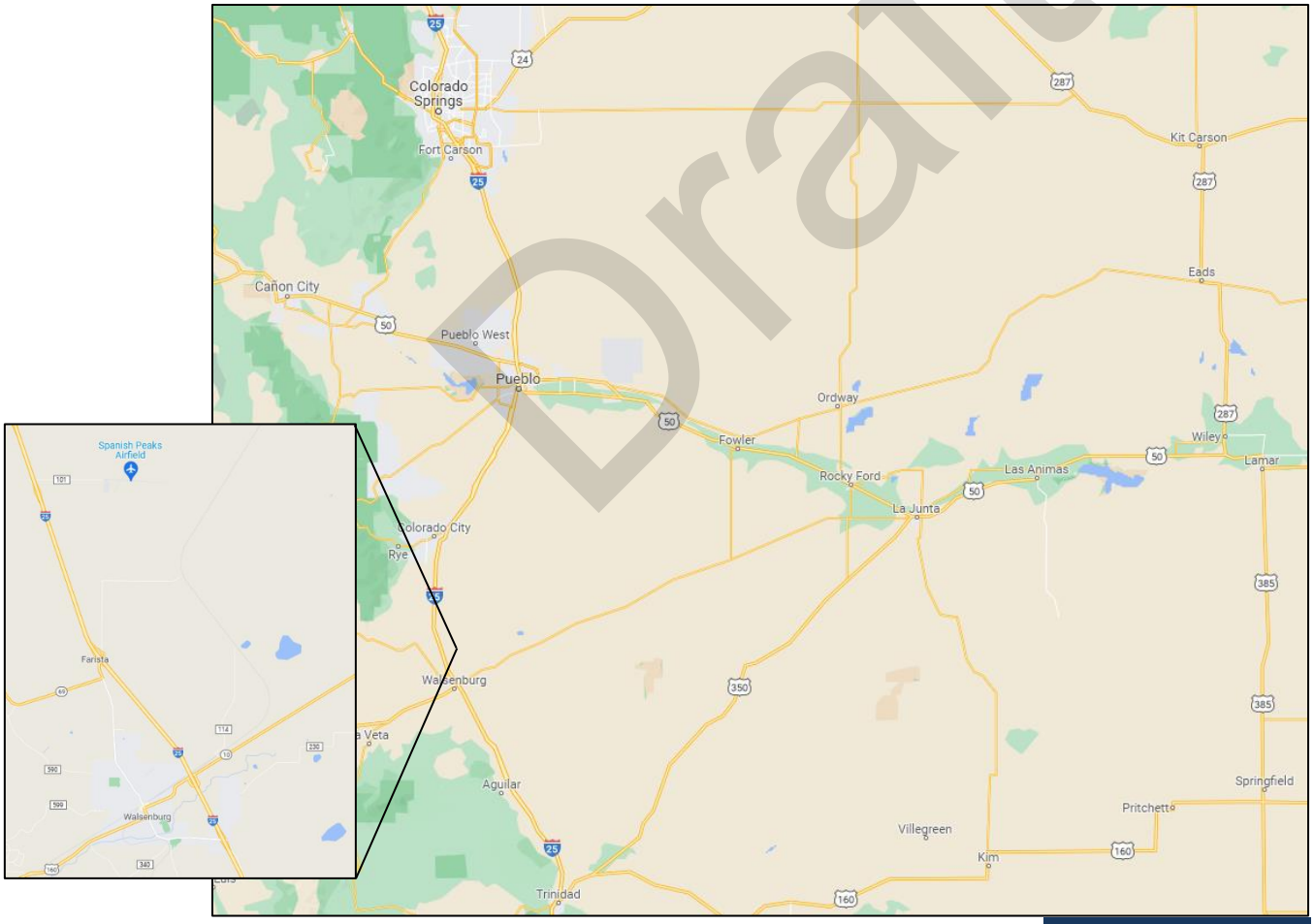
2.1 Introduction to Airport Background and Setting

Airport Background

Spanish Peaks Airfield is a general aviation airport located in southern Colorado, approximately five miles north of Walsenburg, Colorado. The airport is approximately 158 miles south of the state capitol, Denver, Colorado. The airport is owned and operated by Huerfano County. Section 2.2, *Airport Grant History*, provides details on historical improvement projects at the airport.

Airport Setting

An airport's location is defined by its Airport Reference Point (ARP), which is the geometric center of the runway system based upon the length of the existing runway. ARPs are calculated based on existing and future runway lengths and locations. The existing ARP at Spanish Peaks Airfield is located at N 37°41'47.775" latitude, W 104°47'5.29" longitude. Spanish Peaks Airfield encompasses approximately 195 acres of land at an elevation of 6,055.7 feet. The location of the airport is depicted in **Figure 2-1**.



Source: Google Maps, 2023

Figure 2-1 Location Map

2.2 Airport Grant History

The Airport Improvement Program (AIP) is the Federal Aviation Administration (FAA) grant program that provides grants to public agencies for the planning and development of public-use airports that are included in the National Plan of Integrated Airport Systems (NPIAS). For small primary, reliever and general aviation airports, AIP grants cover 90 percent of eligible costs, with a five percent match by the state on federal projects and the remaining five percent covered by the sponsor. Eligible projects include improvements related to enhancing airport safety, capacity, security, and environmental analysis. Airports can use AIP funds on most airfield capital improvements or repairs and in some specific situations, for terminals, hangars and equipment. Professional services necessary for eligible projects such as planning, surveying, and design are also eligible; however, aviation demand at the airport must justify the projects. The projects must also meet federal environmental and procurement requirements. **Table 2-1** contains a summary of federal grants issued to Spanish Peaks Airfield under the current Federal Airport Grant Program, known as the Airport Improvement Program (AIP).

Table 2-1 FAA Grant History

Year	Project Description	Entitlement	State Apportionment	Other	Total
2005	Rehabilitate Runway	$150,000	$0		$150,000
2007	Construct Taxiway	$150,000	$0		$150,000
2007	Install Weather Reporting Equipment	$136,325	$0		$136,325
2008	Update Airport Master Plan	$110,081	$0		$110,081
2009	Remove Obstructions	$138,790	$0		$138,790
2010	Remove Obstruction	$27,450	$0		$27,450
2015	Construct Taxiway	$936,195	$0		$936,195
2016	Expand Apron	$152,938	$0		$152,938
2016	Install Airport Beacon	$47,062	$0		$47,062
2017	Rehabilitate Runway	$158,889	$0		$158,889
2017	Rehabilitate Taxiway	$40,750	$0		$40,750
2020	CARES Act Funds	$0	$0	$20,000	$20,000
2021	CRRSA Act Funds	$0	$0	$13,000	$13,000
2021	General ARPA	$0	$0	$32,000	$32,000
	Total	**$2,048,480**	**$0**	**$65,000**	**$2,113,480**

Source: Federal Aviation Administration, Denver Airport District Office, 2023

Table 2-2 contains a list of projects that were funded with Colorado Department of Transportation-Division of Aeronautics (CDOT) State grant funds for the airport. CDOT operates the Colorado Discretionary Aviation Grant Program. These grants are funded through an aviation fuel tax, which is collected by the state.

Table 2-2 CDOT Grant History

Year	Project Description	Total
2010	Part 77 Obstruction Removal & Fuel Facility Relocation	$3,948
2011	Wildlife Fence	$279,000
2012	SRE Purchase – Skid Steer with Attachments	$72,000
2012	Land Acquisition	$310,000
2012	Runway 09/27 Rehabilitation	$1,873,736
2013	Broom Purchase for Existing Plow	$13,500
2013	Jet A Fuel Tank Installation	$108,000
2013	Pavement Maintenance on Apron – Crack Fill and Fog Seal	$22,500
2014	Relocate Overhead Power and County Road 101	$52,856
2014	AWOS Maintenance Contract	$3,500
2014	West Connector Taxiways, Ramp Expansion, and Airport Beacon	$63,121
2014	Tractor with Mower, Front and Rear Blade, Bucket and Blower	$79,200
2014	Overmatch West Connector Taxiways, Ramp Expansion, and Airport Beacon	$201,323
2017	Pavement Maintenance	$12,578
2021	2007 JLG Lift / 2001 Ingersoll Rand Asphalt Roller	$10,650
2021	1989 International 4000 Gallon Deicing Truck	$9,000
	Total	**$3,114,939**

Source: Colorado Department of Transportation, Aeronautics Division, 2023

Airport sponsors agree to certain obligations, or grant assurances, when they accept federal grant funds or federal property transfers for airport purposes. These obligations serve to protect the public's interest in civil aviation and ensure compliance with federal statutes and requirements, including FAA safety standards. As a recipient of AIP funds, Spanish Peaks Airfield and Huerfano County have accepted the contractual obligation to comply with federal grant assurances.

FAA Order 5190.6B, *Airport Compliance Manual*, currently has 39 grant assurances that are accepted by an airport sponsor whenever federal grant funds are used to fund a project. Among other requirements, the grant assurances require the airport sponsor to keep the airport open to the public for at least the useful life of the improvement or while it complies with safety requirements. In most cases, the useful life is considered to be 20 years from the date of acceptance of the grant. Grant assurance agreements associated with land acquisition run in perpetuity.

2.3 Airport Service Level and Role

Airport Service Level

Since 1970, the FAA has classified a subset of the 5,400 public-use airports in the United States as being vital to serving the public needs for air transportation, either directly or indirectly, and therefore may be made eligible for federal funding to maintain their facilities. These airports are categorized within the NPIAS based on the type of aircraft that uses the airport and the type of passenger and cargo operations available. As established by Congress, the level of federal funding is tied to these categories.

The categories of airports listed in the NPIAS are:

Commercial Service – These are public airports that accommodate scheduled air carrier or air taxi service provided by US and international certificated air carriers. Commercial service airports are either:

Primary – A public-use airport that enplanes more than 10,000 passengers annually, or

Non-primary – A public-use airport that enplanes between 2,500 and 10,000 passengers annually.

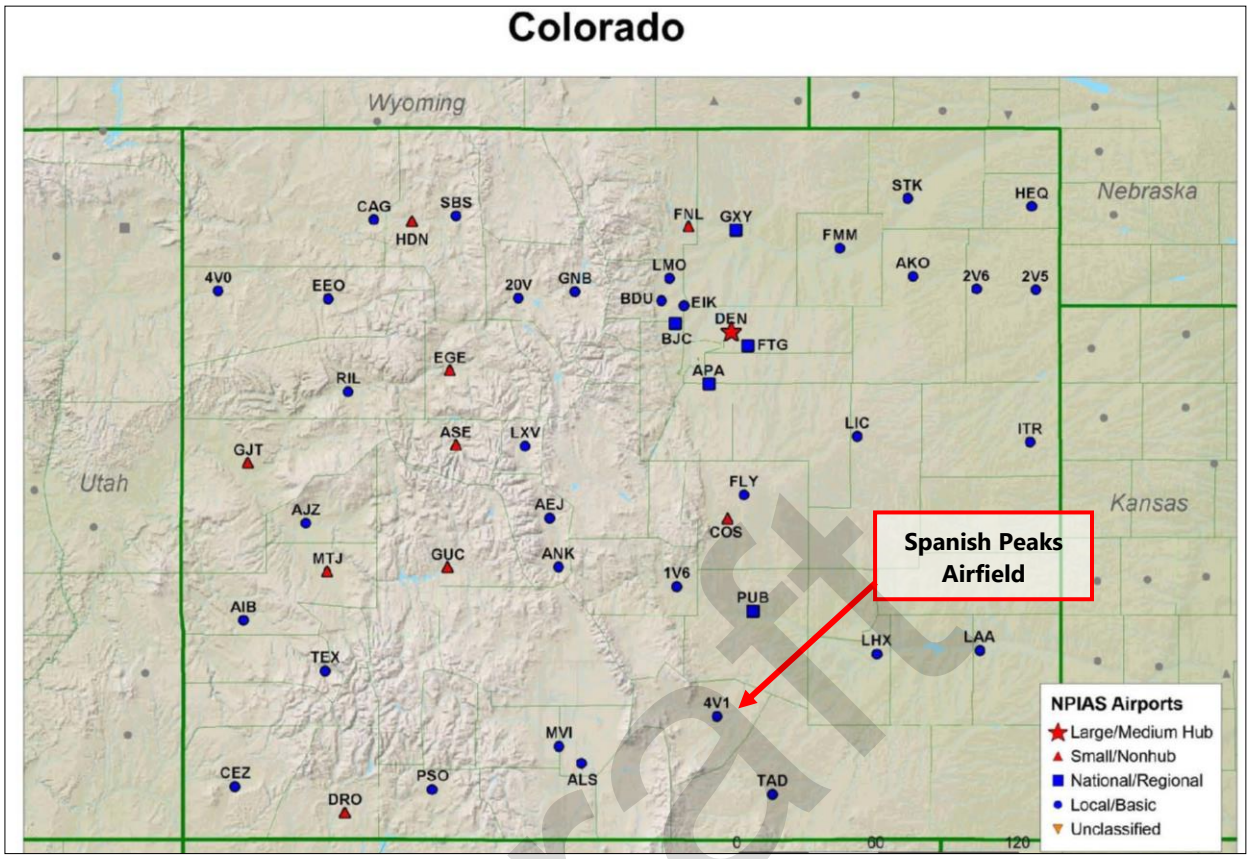
Reliever – This is an airport designated by the FAA as having the function of relieving congestion at a commercial service airport by providing more general aviation access. These airports comprise a special category of general aviation (GA) airports and are generally located within a relatively short distance of primary airports. Privately owned airports may also be identified as reliever airports.

General Aviation – These airports are used almost exclusively by private and business aircraft and private charter services are available. Scheduled air carrier passenger service in larger aircraft does not operate at these airports. Within the general aviation category, there are four subcategories:

- **National** – Serves national and global markets. Very high levels of activity with many jets and multiengine propeller aircraft. These airports average about 200 total based aircraft, including at least 30 jets.
- **Regional** – Serves regional and national markets. High levels of activity with some jets and multiengine propeller aircraft. These airports average about 90 total based aircraft, including at least three jets.
- **Local** – Serves local and regional markets. Moderate levels of activity, with some multiengine propeller aircraft. These airports average about 33 based propeller-driven aircraft and no jets.
- **Basic** – Often serving critical aeronautical functions within local and regional markets. Moderate to low levels of activity, averaging about 10 propeller-driven aircraft and no jets.

There are many GA airports that are not included in the NPIAS. For an airport to be included in the NPIAS, it must have at least 10 based aircraft, be located at least 30 miles away from the nearest NPIAS airport, be a facility identified and used by certain federal agencies (U.S. Forest Service, U.S. Customs and Border Protection, etc.) or serve an operation specified by statute, such as the Essential Air Service (EAS) program.

Spanish Peaks Airfield is categorized in the NPIAS as General Aviation – Local airport. According to FAA records, the airport has 20 based aircraft as of 2022. Aircraft utilizing the airport are predominately single-engine piston, multi-engine piston, and turboprop aircraft. The airport is located approximately 34 miles northwest of Perry Stokes Airport (TAD) in Trinidad, Colorado; 54 miles northeast from San Luis Valley Regional Airport (ALS) in Alamosa, Colorado, and 38 miles southwest of Pueblo Memorial Airport (PUB) in Pueblo, Colorado; Perry Stokes Airport and San Luis Valley Regional Airport is included in the NPIAS as General Aviation – Local with Pueblo Memorial Airport as General Aviation - Regional. **Figure 2-2** depicts Spanish Peaks Airfield's location in relation to other NPIAS airports in the State of Colorado.



Source: Federal Aviation Administration, 2023

Figure 2-2 NPIAS Airports in Colorado

At the state level, CDOT has recognized the importance of planning as a proactive approach to ensuring aviation continues its role in the statewide transportation system. They created a similar plan to the FAA's NPIAS called the Colorado Aviation System Plan (CASP). The purpose of the CASP is to provide a framework for the integrated planning, operation, and development of Colorado's aviation assets. CDOT Aeronautics is currently updating the CASP. Spanish Peaks Airfield is listed as a GA-Local Airport in the 2020 CASP. GA-Local airports are described in the CASP as having on-site weather reporting and occasionally supporting IFR flight operations. GA-Local airports are the most common classification of airport and link smaller population centers to the national airport system.

The airport primarily serves business, recreational, and medical users locally and in south central/eastern Colorado. Users include the following aircraft types and operations:

2.3.1 Business and Recreational Transportation

This category includes business as well as tourism related activities. The types of aircraft utilized for personal and business transportation include a mix of single-engine, multi-engine, turboprop, and turbo jet aircraft. These users prefer the utility and flexibility offered by general aviation aircraft. This is the most common type of user at the airport.

2.3.2 Air Ambulance Services and Local Health Care Support

Air ambulance aircraft operate at the airport to provide emergency medical transportation for life threatening situations and assists in patient transfers by air from local hospitals to higher level care facilities that are typically located in Denver (approximately 158 miles by road). The air ambulance services provide quick and efficient transportation in emergency situations when time is of the essence. Air ambulance operations are typically conducted by single and multi-engine turbo prop and jet aircraft, or rotorcraft. Spanish Peaks has two emergency medical helicopters that utilize their facility as an emergency transport hub and fuel transport.

2.3.3 Flight Training

Spanish Peaks Airfield is regularly utilized for flight training by CAE, formerly Doss Aviation, out of Pueblo, Colorado. The flight school is responsible for training the U.S. Air Force aviation candidates, a program referred to as Initial Flight Training (IFT). Flight training operations are typically conducted by single-engine propeller driven aircraft.

2.3.4 Military

Military operations are those conducted by U.S. or foreign military aircraft and personnel for the purposes of national security and defense. Almost all military operations are training or proficiency activities. A wide range of aircraft may be used for these operations, including multi-engine piston or turboprop, turbojet, jet, or rotary. There is a substantial military presence and training activities in the region near Huerfano County. Various U.S. Air Force bases are located within both Colorado Springs and Pueblo, which are student training activity in the vicinity of Colorado Springs and Pueblo, Colorado which are 87 miles and 49 miles from Spanish Peaks Airfield, respectively.

2.4 Existing Activity Levels

There are various federal, state, and local sources available for determining existing activity levels at an airport. These include, but are not limited to, FAA Form 5010-1, Airport Master Record, FAA Terminal Area Forecast (TAF), on-site inventory and airport management records.

The FAA Form 5010-1 is the official record maintained by the FAA to document airport physical conditions and other pertinent information. The information is typically collected from the airport sponsor and includes an annual estimate of aircraft activity as well as the number of based aircraft. The accuracy of the information contained in the Form 5010-1 varies directly with the date of its last revision and the reliability of the source of the information. The current FAA 5010-1 Form for Spanish Peaks Airfield indicates 20 based aircraft and 5,000 annual operations. The National Based Aircraft Inventory lists 20 validated based aircraft for Spanish Peaks Airfield.

The FAA TAF is a historical record of aircraft activity and contains forecast projections of based aircraft and annual operations based on information from the Form 5010-1. The TAF is maintained and utilized by the FAA for planning and budgeting purposes. The 20202-2042 TAF data reports 20 based aircraft at the airport and 5,000 annual operations in 2020, with a forecasted 20 based aircraft and 5,000 annual operations by 2042 at the airport. The updated aviation forecast approved by the FAA as part of this master plan study will update the forecast operations and based aircraft numbers in FAA Form 5010-1 and the FAA TAF.

2.5 Airport Service Area

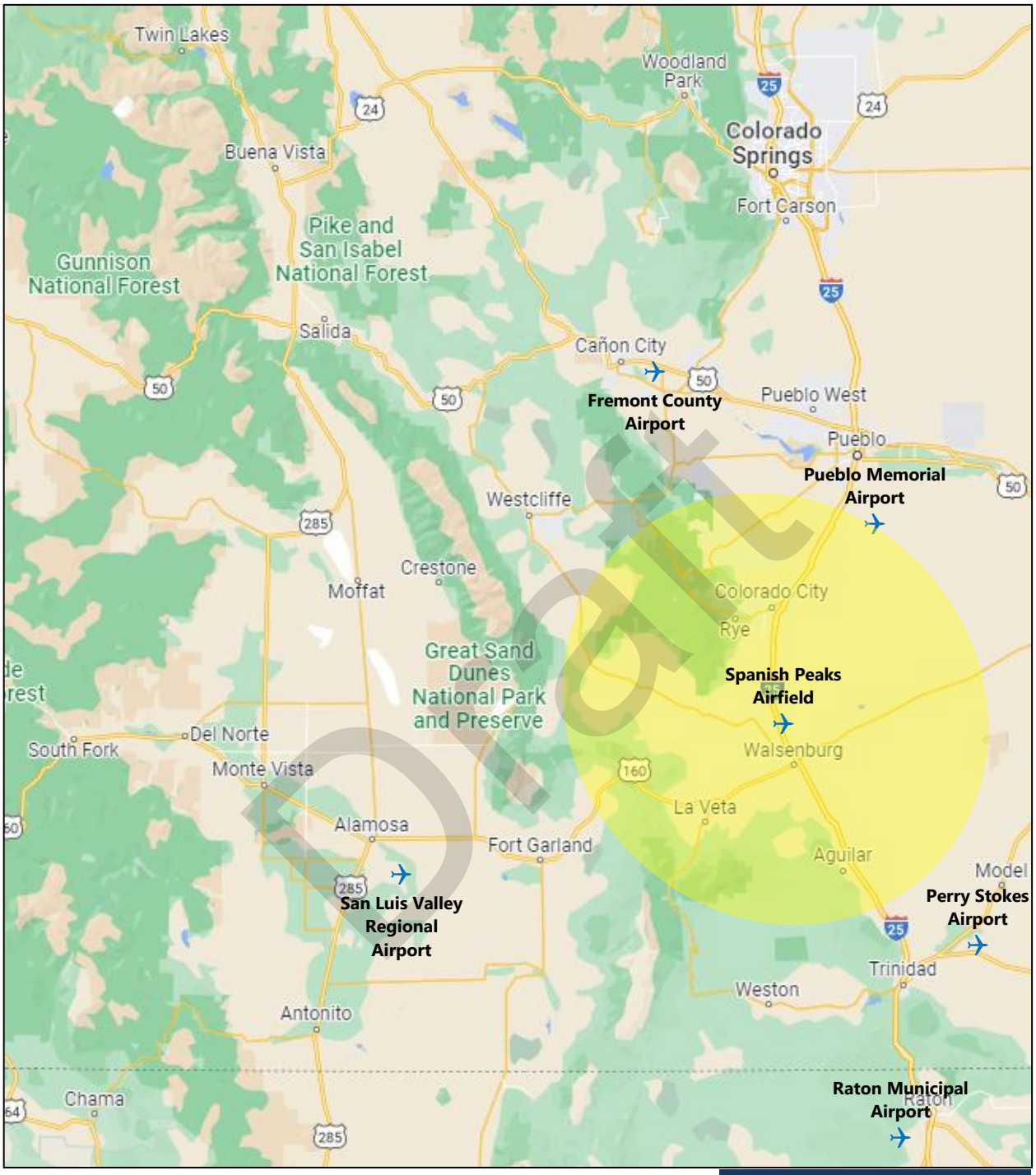
An airport service area is defined by the communities and surrounding areas that are served by the airport facility. Generally, the airport service area includes the area within a thirty-minute drive or twenty-mile radius of the airport. However, the actual service area is dependent upon several factors including surrounding terrain, proximity to its users, quality of ground access and the proximity of the facility to other airports that offer the same or similar services. Generally, aircraft operators will usually operate at the closest airport to their residence, place of business or destination that provides adequate facilities and services to accommodate their aircraft.

The Spanish Peaks Airfield service area generally includes Huerfano County, located in southern Colorado. The City of Walsenburg is the most populated municipality in the county, situated at the intersection of Interstate 25 and U.S. Highway 160.

The factors impacting the service area for Spanish Peaks Airfield include:

- Rehabilitated runway and taxiway in 2017;
- Fuel availability, both Jet-A and 100LL;
- Tiedown parking available;
- Available instrument approach procedures;
- Flight training available with CAE Doss Aviation;
- Local attractions including: Lathrop State Park and the Spanish Peaks, a national landmark.

Figure 2-3 depicts the Spanish Peaks Airfield service area and other airports in the region. Considering the factors discussed above, airports in the vicinity were reviewed. **Table 2-3** provides information on the five closest airports to the airport that provide fuel and other similar services, which are key factors in attracting airport users.



Source: www.google.com/maps, 2023
Note: Airport locations have been approximated

Figure 2-3 Airport Service Area Map

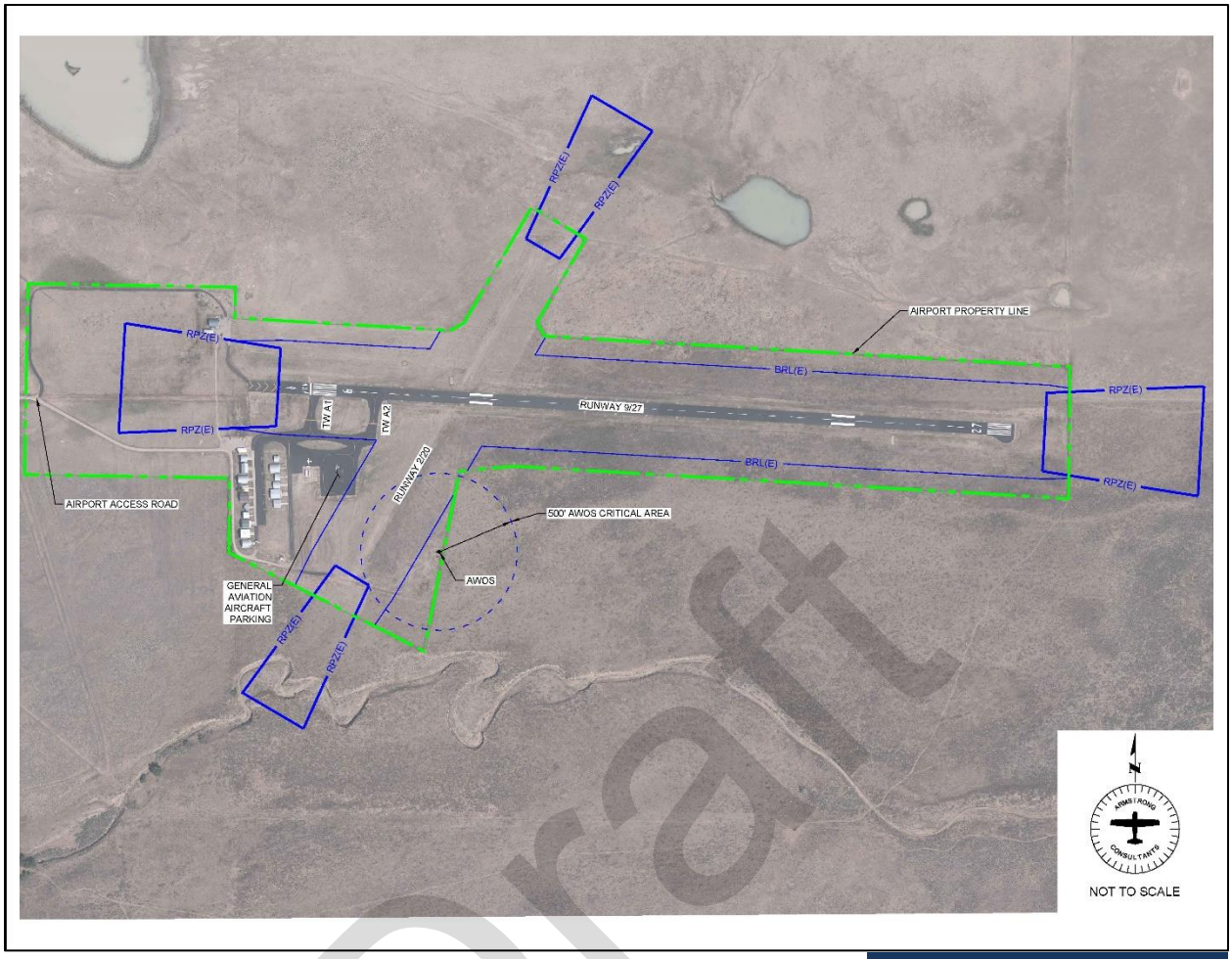
Table 2-3 Airports Near Spanish Peaks Airfield

Airport Name	Distance (NM)	NPIAS Status	Runway Dimensions	Pavement Type	Instrument Approaches	Fuel Available
Spanish Peaks Airfield Walsenburg, Colorado	N/A	GA	4,715' x 75'	Asphalt	GPS	100LL Jet-A
Perry Stokes Airport Trinidad, Colorado	34	GA	5,500' x 100'	Asphalt	GPS	100LL Jet-A
Pueblo Memorial Airport Pueblo, Colorado	38	CS	10,498' x 150'	Asphalt	GPS /ILS / VOR	100LL Jet-A
Fremont County Airport Penrose, Colorado	46	GA	5,399' x 75'	Asphalt	GPS	100LL Jet-A
San Luis Valley Regional Airport Alamosa, Colorado	54	CS	8,521' x 100'	Asphalt	GPS /ILS / VOR	100LL Jet-A
Raton Municipal Airport Raton, New Mexico	59	GA	7,615' x 75'	Asphalt	GPS	100LL Jet-A

Source: AirNav, 2023

2.6 Existing Airside Facilities at Spanish Peaks Airfield

Airside facilities include the runway, taxiway system, aircraft parking area and any visual or electronic approach navigational aids. Spanish Peaks Airfield is a dual-runway airport that is designated to serve all types of general aviation aircraft. Existing airside facilities are further described within this section and are depicted in **Figure 2-4**.



Source: Armstrong Consultants Inc., 2023

Figure 2-4 Existing Airside Facilities

2.6.1 Runway System

Runways are a defined rectangular surface on an airport, prepared or suitable for the landing or takeoff of aircraft. The runway configuration relates to the number and orientation of runways. The number of runways provided at an airport depends largely on the volume of air traffic and prevailing wind conditions. As aircraft takeoff and land into the wind, the orientation of the runways depends primarily on the direction of the prevailing wind patterns in the area. The size and shape of the area available for development, local land-use requirements, surrounding terrain and airspace restrictions in the vicinity of the airport also will influence runway orientation.

The runway configuration at Spanish Peaks Airfield consists of one paved asphalt runway, Runway 9/27. Runway 9/27 is 4,715 feet long by 75 feet wide and has a published pavement strength of 17,000 pounds single wheel gear (SWG); with a PCN of 5/F/C/Y/T. The published PCI is 84 which is considered satisfactory and visual inspection of the runway pavement indicates that it is in good condition. The runway was rehabilitated in 2017. Both ends of Runway 9/27 are marked with non-precision runway markings and the markings are in fair condition. Runway 9/27 is equipped with medium intensity runway edge lights (MIRLs). Additionally, precision approach path indicators (PAPIs) are located at either end of Runway 9/27.

A secondary, turf/dirt crosswind runway exists at the airport. Runway 2/20 measures 2,238 feet long by 40 feet wide. Runway 2/20 has no markings or navigational aids.

2.6.2 Taxiway System

Taxiways provide aircraft access between an aircraft parking apron and corresponding runways. They are intended to expedite aircraft departures from the runway and thereby increase operational safety and efficiency. The taxiway system at Spanish Peaks Airfield consists of a partial parallel taxiway, Taxiway A. The taxiway is supported by two entrance/exit connectors allowing ingress/egress to the apron and Runway 9/27. Taxiway A has a reported PCI of 91 and is in excellent condition. The taxiway/taxilane system will be discussed in greater detail in Chapter Four, *Facility Requirements.*

2.6.3 Aircraft Parking Apron

The aircraft apron provides an area for aircraft to park. The apron is connected to the runway via taxiways and taxilanes. There is one general aviation aircraft parking apron, with 4 tie-downs for itinerant traffic. An additional apron intended to serve aircraft utilizing the self-serve fuel station. There are 11 additional tie-downs located along the west most taxilane at the airport, bringing the total number of tie-downs to 15. **Table 2-4** provides further details on the aprons at Spanish Peaks Airfield.

Table 2-4 Spanish Peaks Airfield Apron Information

Area Size	Pavement Type	Pavement Condition	Number of Tie-Downs
7,741 S.Y.	Asphalt	Good	4
1,862 S.Y.	Asphalt	Good	NA (Fuel Apron)

Source: Armstrong Consultants, Inc.

2.6.4 Airfield Pavement Conditions

The Pavement Condition Index (PCI) is a numerical index between 0 and 100 and is used to indicate the condition of the pavement. The PCI, as outlined by the Colorado Department of Transportation, is based on a visual survey of the pavement and a numerical value between 0 and 100 defining the pavement condition. Numerical values are grouped into three condition levels - Preventative Maintenance, Major Rehabilitation and Reconstruction.

Table 2-5 depicts the results of the 2020 PCI inspection report for Spanish Peaks Airfield. The specific ratings and recommended corrective actions are listed for each pavement area. Condition levels are shown in the legend of **Figure 2-5.**

Table 2-5 Pavement Condition Indexes

Location	Branch Name	Pavement Condition Index	Recommended Action
Aircraft Parking Apron	A01WS	73	Preventative Maintenance
Aircraft Parking Apron	A02WS-01	67	Major Rehabilitation
Aircraft Parking Apron	A02WS-02	71	Preventative Maintenance
Aircraft Parking Apron	A02WS-03	65	Major Rehabilitation
Aircraft Parking Apron	A02WS-04	92	Preventative Maintenance
Runway 9/27	R09WS	84	Preventative Maintenance
Taxiway A	TAWS	91	Preventative Maintenance
Taxiway B	TBWS	79	Preventative Maintenance

Source: Colorado Department of Transportation, Aeronautics Division, 2020; Retrieved 2023

*Portions of pavements listed may have undergone maintenance or rehabilitation since evaluation in 2020 which may alter current PCI ratings.

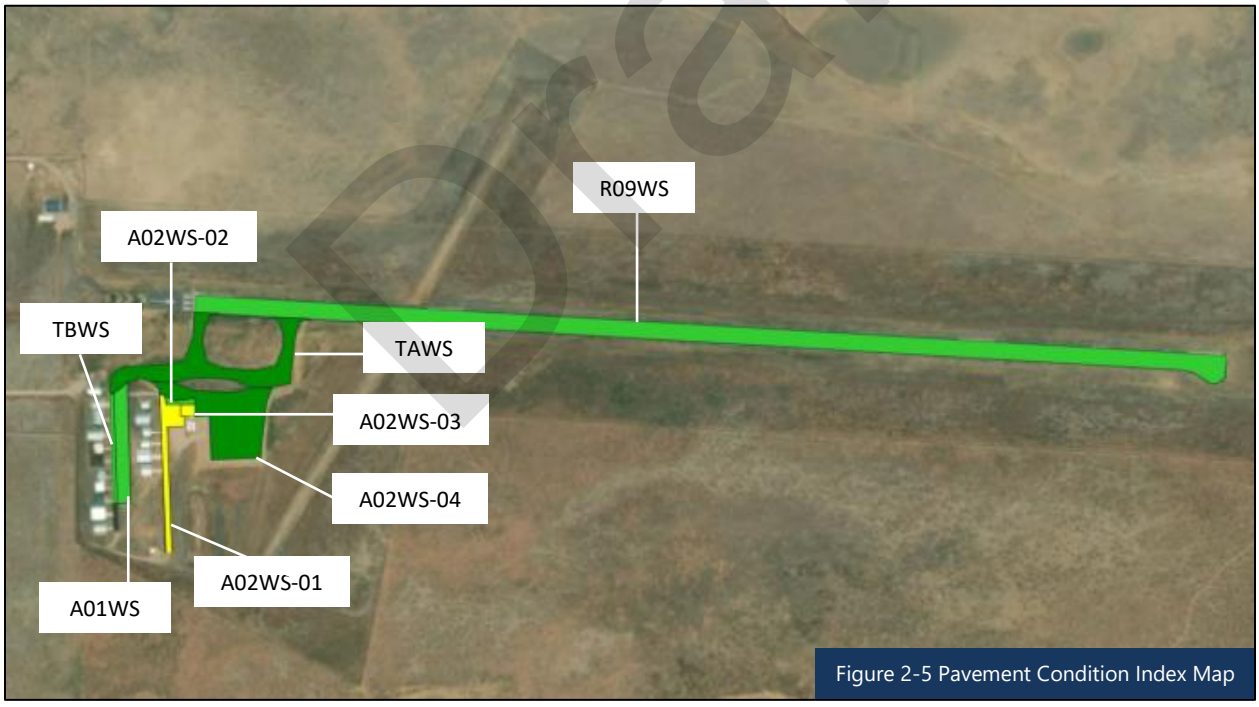


Figure 2-5 Pavement Condition Index Map

Source: Colorado Department of Transportation, Aeronautics Division, 2020; Retrieved 2023

PCI	Repair Type
86-100	Preventive Maintenance
71-85	
56-70	Major Rehabilitation
41-55	
26-40	Reconstruction
11-25	
0-10	

2.6.5 Airfield Lighting and Visual Aids

Airport lighting enhances safety during periods of inclement weather and nighttime operations by providing visual guidance to pilots in the air and on the ground. Examples of various airfield lighting and visual aids can be found in **Figure 2-6**. Several common airfield lighting features of general aviation airports include:

- **Precision Approach Path Indicator (PAPI)** located on the left side of the runway, consists of two or four lights installed in a single row. A PAPI provides visual approach path guidance by emitting a series of white and red lights. These lights can be seen for up to five miles during the day and up to twenty miles at night and provides guidance to the runway touchdown zone.

- **Visual Approach Slope Indicators (VASIs)** is another type of visual approach path guidance that consist of two sets of lights and typically provides less precise visual guidance than a PAPI. One set is located at the start of the runway, while the other is twenty feet down the runway. Each set of lights are designed to appear either white or red, depending on the angle at which the lights are viewed. When an aircraft is on the glide slope, the first set of lights appears white, while the second set appears red. If an aircraft drops below the glide slope both sets appear red and if an aircraft is above the glide slope both sets will indicate white.

- **Approach Lighting Systems (ALS)** are installed at the approach end of a runway and consists of a series of lights that provide the pilot with transition from the aircraft instruments to the visual runway environment. For traditional ground-based NAVAID approaches (e.g., Very High Frequency Omni-Directional Range (VOR), ILS, NDB) and ALS is required for visibility minimums of less than 3/4-mile. Types of ALS include: Approach Lighting System with Sequenced Flashing Lights (ALSF), Simplified Short-Approach Light System with

Sequenced Flashing Lights/Runway Alignment Indicator Lights (SSALF/SSALR), Medium-Intensity Approach Lighting System with Sequenced Flashing Lights/Runway Alignment Indicator Lights (MALSF/MALSR), Lead-in Light System (LDIN), Runway Alignment Indicator Lights (RAIL) and Omnidirectional Approach Lighting System (ODALS).

- A **rotating beacon** is used to guide pilots to lighted airports with a sequence of yellow, green and/or white lights. Most general aviation airports are considered to be civilian land airports, consisting of alternating white and green lights or a water airport, consisting of alternating white and yellow lights. A beacon is normally operated from dusk until dawn. If the beacon is on during other hours, it typically indicates that the airport is operating under instrument flight rules due to poor visibility conditions.

- **Runway edge lights** consist of a single row of white lights bordering each side of the runway, outlining the runway edges during periods of darkness or low visibility. Runway edge lights are classified into three types according to the intensity of light of which they are capable of producing: they include High Intensity Runway Lights (HIRL), Medium Intensity Runway Lights (MIRL) and Low Intensity Runway Lights (LIRL). Both HIRLs and MIRLs have variable intensity settings, whereas LIRLs have only one. Instrument runway lights include yellow edge lights on the last 2,000 feet of runway to visually inform pilots of the amount of runway remaining. At most non-towered airports, runway lights are activated by pilot-controlled lighting which is utilized by transmitting a series of "clicks" on the radio transmitter to activate and control lighting intensity settings.

- **Runway End Identifier Lights (REIL)** consist of a pair of synchronized high intensity white flashing lights placed on each side of the runway threshold to enable rapid identification of the runway threshold.

- **Runway markings** vary depending on whether the runway is used exclusively for visual flight rule operations (VFR) or instrument flight rule (IFR) operations. A visual runway is typically marked with the runway designator numbers and a dashed white centerline. Threshold bars and aiming point markings are added to provide non-precision instrument markings. A precision instrument runway includes touchdown zone markings.

- **Threshold lights** consist of a single row of green lights used to indicate the beginning of the usable landing surface. These lights are two-directional and appear red from the opposite end of the runway to mark the end of the usable runway.

- **Taxiway edge lights** consist of a single row of blue lights bordering each side of the taxiway. These lights mark the edge of the taxiways and guide aircraft from the runway to the ramp or apron area.

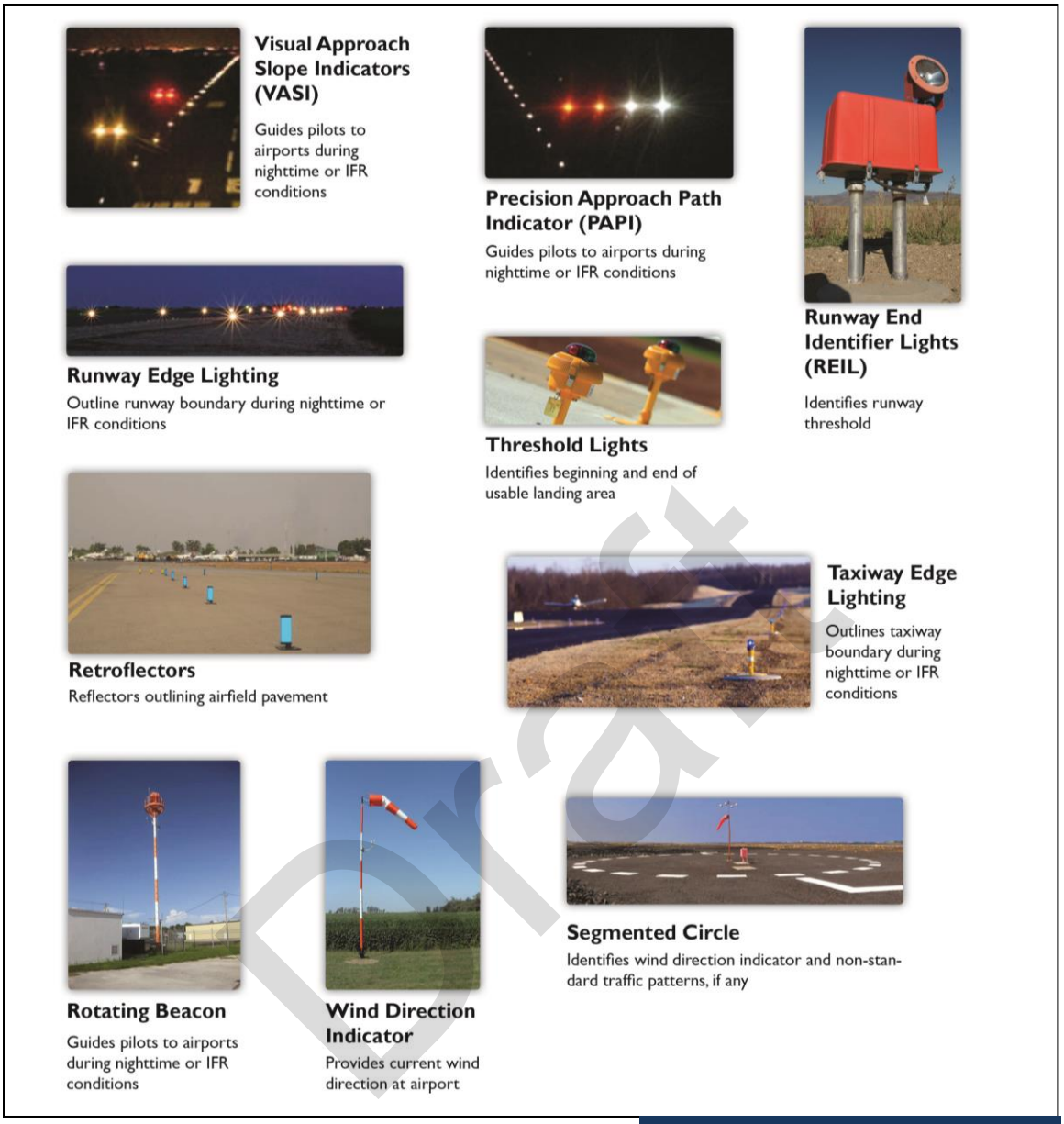
- **Retroreflectors**, used in lieu of taxiway lighting, consists of a single row bordering each side of the taxiway of reflective tape mounted on a pole.

- A **wind direction indicator** consists of a wind cone, wind tee or tetrahedron. A wind cone aligns itself into the wind as the wind blows through a truncated cloth aligning itself with the wind indicating both wind direction and approximate velocity. The tail of a wind tee aligns itself in the wind similar to that of a weathervane. A tetrahedron may either swing around to align the small end pointing into the wind or it may be manually positioned to show landing direction. Wind indicators can be lighted for use during periods of darkness and low visibility.

- A **segmented circle** is located around the wind direction indicator. The segmented circle has two purposes, including identifying the location of the wind direction indicator and identifying non-standard traffic patterns.

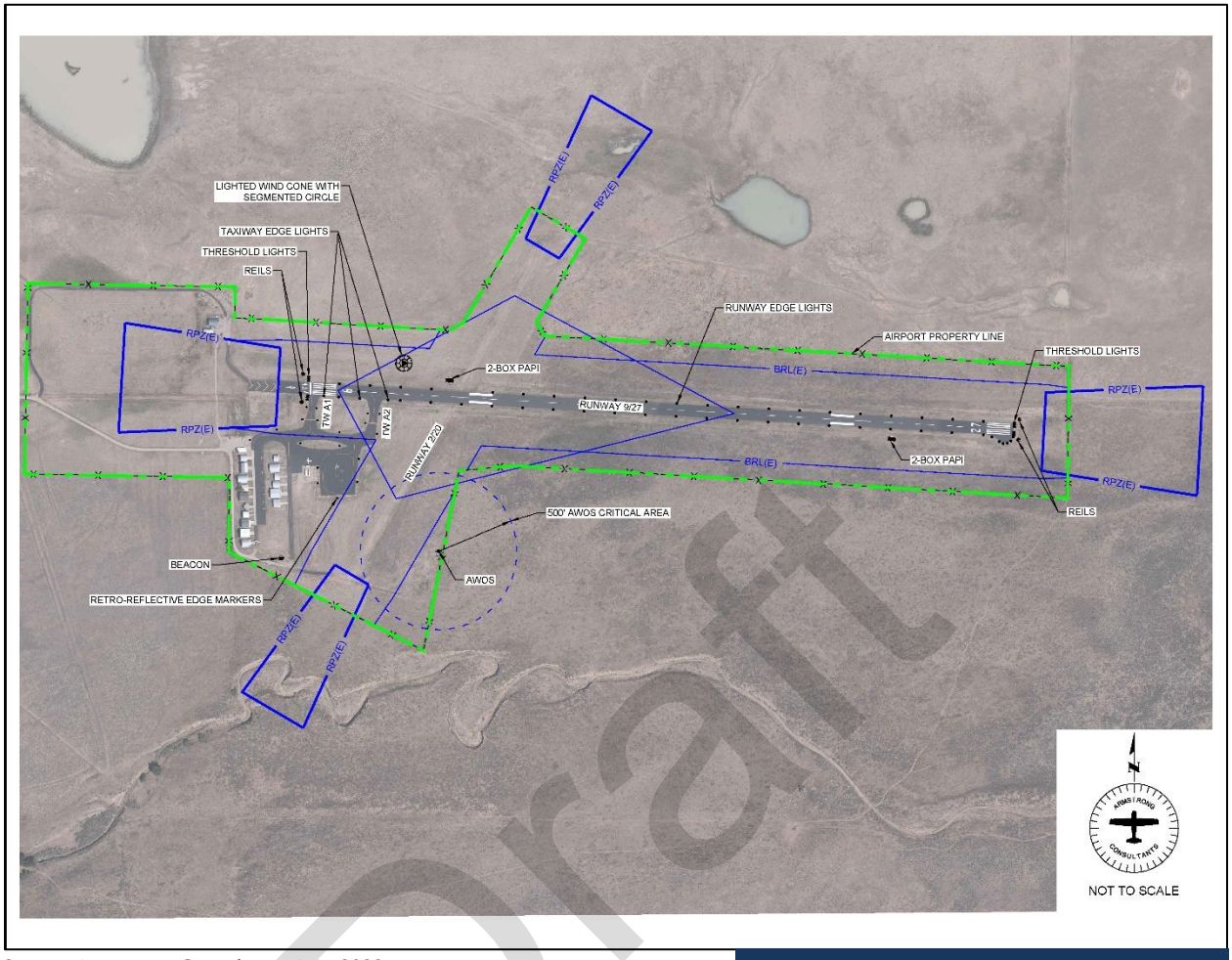
- **Lighted signs** provide airfield location and direction information to pilots.

The airfield lighting and visual aids at Spanish Peaks Airfield consist of MIRLs, retroreflectors, as well as threshold lights and REILs and two-light PAPIs on each end of Runway 9/27, which are pilot controlled on the Common Traffic Advisory Frequency (CTAF) frequency 122.8 MHz. The airfield lighting and visual aids are in fair condition. There is a lighted wind cone with segmented circle and a rotating airport beacon that operates from sunset to sunrise, and both are in good condition. The lighted wind cone with segmented circle is located to the west of Runway 2/20 at the midfield point. The rotating beacon is located adjacent to the lighted wind cone and segmented circle. The taxiways at the airport are lined with retroreflectors and lighted airfield signage. The locations of the airfield lighting and visual aids are shown in **Figure 2-7**.



Source: Armstrong Consultants, Inc., 2023

Figure 2-6 Typical Lighting and Visual Aids



Source: Armstrong Consultants, Inc., 2023

Figure 2-7 Spanish Peaks Lighting and Visual

2.6.6 Navigational Aids

A Navigational Aid (NAVAID) is any ground based visual or electronic device used to provide course or altitude information to pilots. NAVAIDs include Very High Omni-directional Range (VORs), Very High Frequency Omni-directional Range with Tactical Information (VOR-TAC), Non-directional Beacons (NDBs), Instrument Landing System (ILS), and Tactical Air Navigational Aids (TACANs), as examples. There are no existing NAVAIDs located on the airport. The nearest VOR-TAC is PUEBLO and is located 40 nautical miles northeast of the airport on a frequency of 116.70.

Spanish Peaks Airfield is currently served by two instrument approach procedures, listed in **Table 2-6**.

Table 2-6 Spanish Peaks Airfield Instrument Approach Procedures

Runway End	Approach Procedure	Visibility Minimums	Approach Type
9	GPS/RNAV	1-Mile	Non-precision
27	GPS/RNAV	1-Mile	Non-precision

Source: Federal Aviation Administration, 2023

2.6.7 Air Traffic Control

There is no air traffic control tower (ATC) located at the airport. Instead, pilots coordinate their position in the airport traffic pattern over the radio via the Common Traffic Advisory Frequency (CTAF, 122.8 MHz) assigned to the airport. In-flight air traffic control services are provided by FAA's Denver Center Air Route Traffic Control Center (ARTCC) and Denver Flight Service Station (FSS). Enroute radar and coverage for Spanish Peaks Airfield is provided by Denver ARTCC. The Denver FSS provides additional weather data and other pertinent weather information to pilots on the ground and enroute.

2.6.8 Weather Reporting Systems

The Weather reporting system at Spanish Peaks Airfield includes an Automated Weather Observing System III (AWOS-III). This system reports the following parameters: barometric pressure, altimeter setting, wind speed and direction, temperature and dew point in degrees Celsius, density altitude, visibility, and cloud ceiling, while also having the additional capabilities of reporting temperature and dew point in degrees Fahrenheit, present weather, icing, lighting, sea level pressure and precipitation accumulation. The AWOS-III information may be obtained via radio at 123.6 MHz or by phone at (719) 738-1053.

2.6.9 FAA Design Standards and Airport Reference Code (ARC)

FAA Advisory Circular 150/5300-13B, *Airport Design* provides design standards for use in the design of civil airports. Each runway and operational area serving the particular design aircraft must be identified. Generally, runway standards are related to aircraft approach speed, aircraft wingspan and designated or planned approach visibility minimums. Each runway is assigned a Runway Design Code (RDC). The Aircraft Approach Category (AAC), Airplane Design Group (ADG) and approach visibility minimums (runway visual range - RVR) are combined to determine the RDC. The RDC provides the information needed to determine design standards that apply. The first component, depicted by a letter is the AAC and relates to aircraft approach speed (operational characteristic). The second component, depicted by a Roman numeral, is the ADG and relates to either the aircraft wingspan or tail height (physical characteristics) whichever is most restrictive. The third component relates to the visibility minimum expressed by RVR values in feet which include 1,200, 1,600, 2,400, 4,000, and 5,000 feet. The third component will read "VIS" for runway designed with visual approaches only.

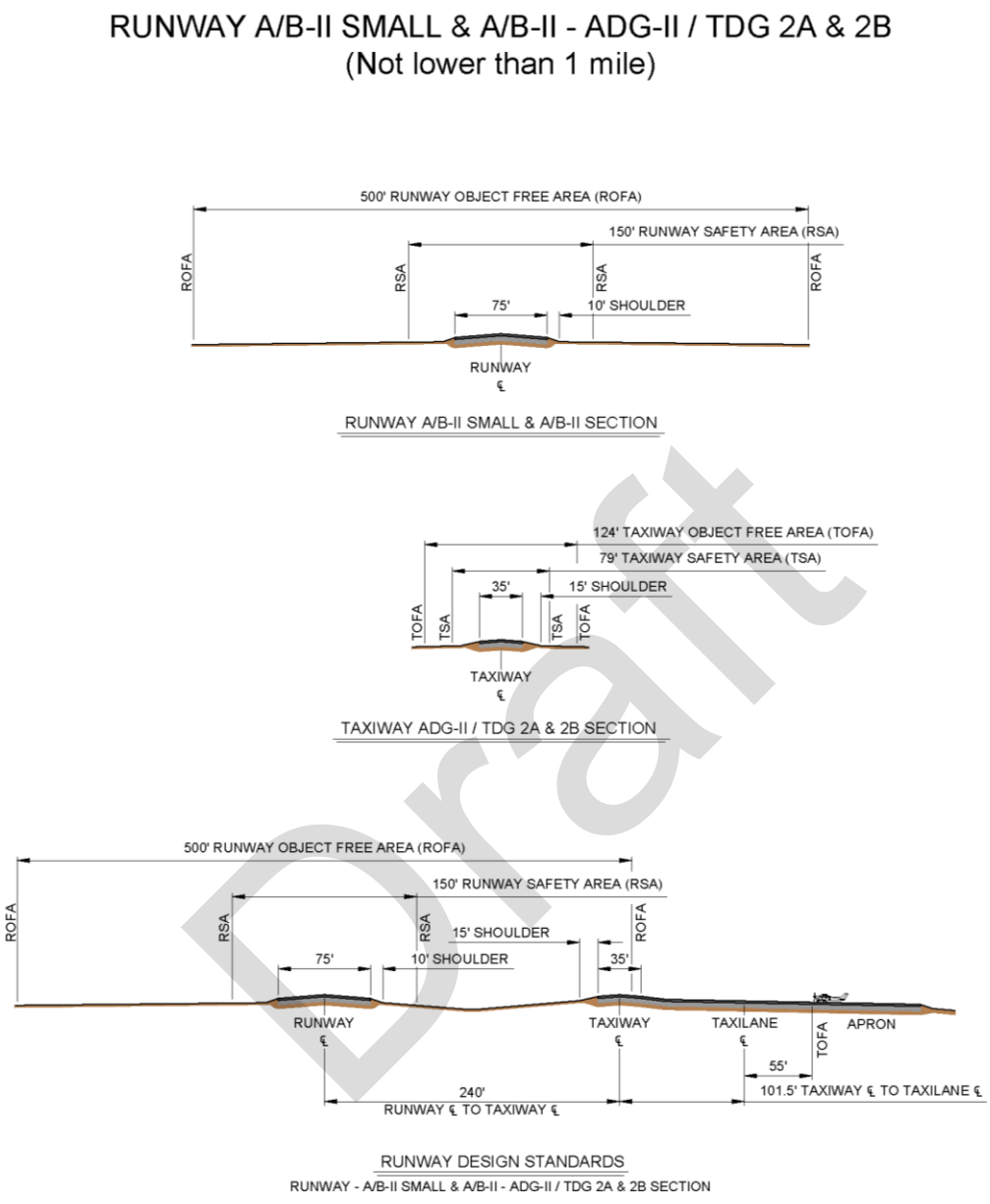
The Airport Reference Code (ARC) of the airport signifies the airport's highest RDC. The ARC is used for planning and design purposes only and does not limit the aircraft that may be able to operate safely at the airport. **Table 2-7** lists the RDC criteria.

The current RDC for Runway 9/27 and ARC for Spanish Peaks Airfield is B-II-5000. The previous design aircraft listed for Runway 9/27 is the King Air B-200 a B-II aircraft. The current RDC and ARC for Runway 2/20 is A-I (Small). The previous design aircraft listed for Runway 2/20 is the Bonanza F-33A an A-I (Small) aircraft. It is recommended that the King Air 200 be maintained as the existing design aircraft for Spanish Peaks Airfield. A more detailed discussion of RDCs and ARCs is included in Chapter Three, *Forecast of Aviation Activity*. **Figure 2-8** depicts the FAA design standards as they apply to the airport. **Figure 2-9** depicts Spanish Peaks Airfield's current FAA design standards.

Table 2-7 Runway Design Code

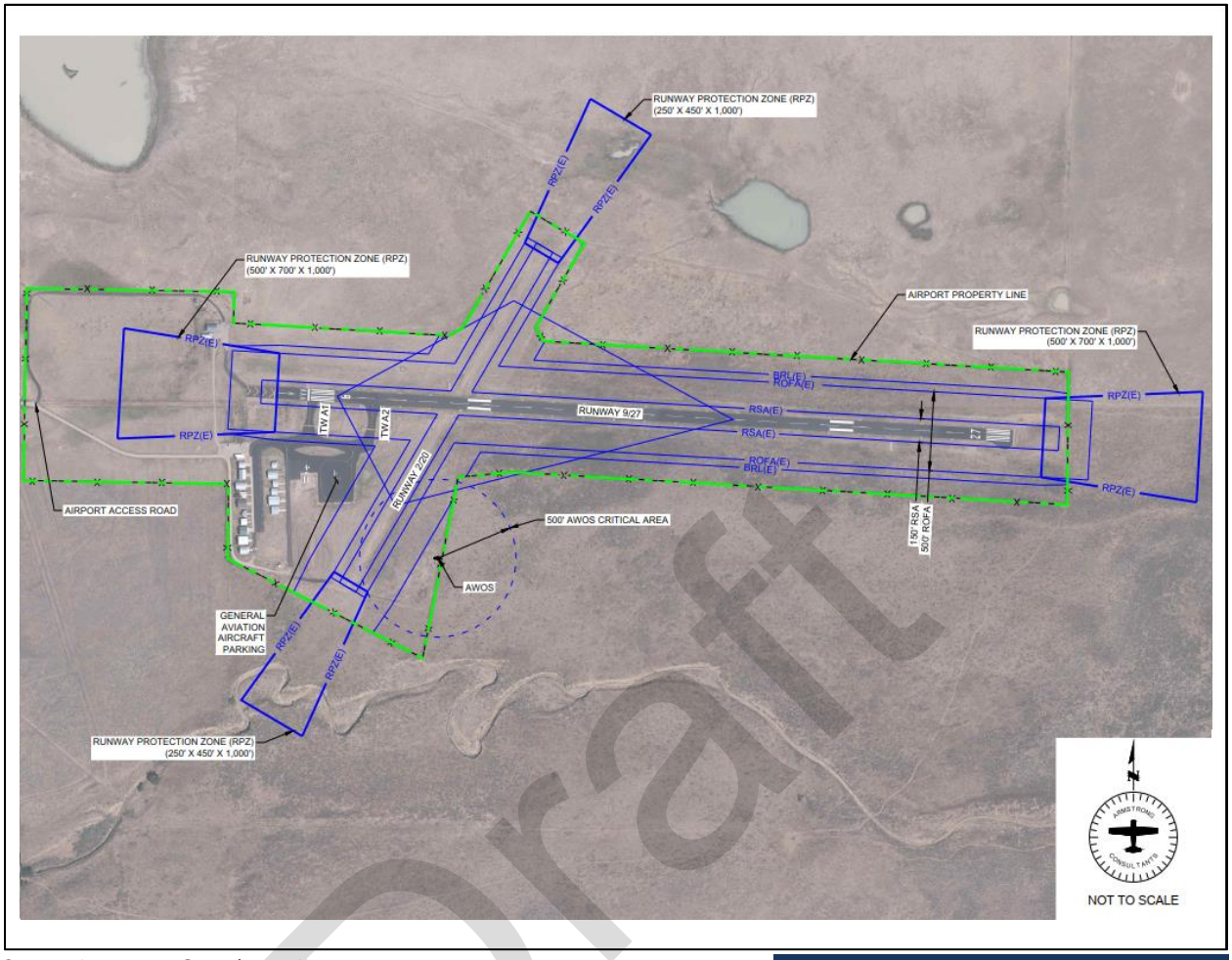
Approach Category	Approach Speed	
Category A	less than 91 knots	
Category B	91 to 120 knots	
Category C	121 to 140 knots	
Category D	141 to 165 knots	
Category E	166 knots or more	
Design Group	**Wingspan**	**Tail Height**
Group I	< than 49 feet	< than 20 feet
Group II	49 to 78 feet	20 to 29 feet
Group III	79 to 117 feet	30 to 44 feet
Group IV	118 to 170 feet	45 to 59 feet
Group V	171 to 213 feet	60 to 65 feet
Group VI	214 to 261 feet	66 to 79 feet
Runway Visual Range (in feet)	**Flight Visibility Category (Statute Mile)**	
VIS	Visual	
5,000	1-mile or greater	
4,000	Lower than 1 mile but not lower than 3/4 mile (APV ≥ 3/4 but < 1 mile)	
2,400	Lower than 3/4 mile but not lower than 1/2 mile (CAT - I PA)	
1,600	Lower than 1/2 mile but not lower than 1/4 mile (CAT - II PA)	
1,200	Lower than 1/4 mile (CAT - III PA)	

Source: FAA Advisory Circular 150/5300-13B, *Airport Design*



Source: Armstrong Consultants, Inc.

Figure 2-8 FAA Design Standards



Source: Armstrong Consultants, Inc.

Figure 2-9 Existing Design Standards at 4V1

2.6.9.1 Safety Areas

Runway and taxiway safety areas (RSAs and TSAs) are defined surfaces surrounding the runway and taxiways that are prepared specifically to minimize bodily injury and reduce damage to aircraft and property in the event of an under-shoot, over-shoot or excursion from a runway or taxiway.

According to FAA Advisory Circular 150/5300-13B, safety areas must be:

- Cleared and graded and have no potentially hazardous surface variations.
- Drained to prevent water accumulation.
- Capable, under dry conditions of supporting snow removal equipment (SRE) and aircraft rescue and firefighting (ARFF) equipment and the occasional passage of aircraft without causing structural damage to the aircraft.
- Free of objects, except for objects that need to be located in the runway or taxiway safety area because of their function.

Spanish Peaks Airfield meets RSA and TSA standards.

2.6.9.2 Obstacle Free Zones and Object Free Areas

The runway Obstacle Free Zone (OFZ) is a three-dimensional volume of airspace that supports the transition of ground to airborne aircraft operations. The clearing standard precludes taxiing and parked airplanes and object penetrations, except for frangible visual NAVAIDs that need to be located in the OFZ because of their function. The OFZ is similar to the Part 77 Primary Surface, as discussed in the next section, in that it represents the volume of space longitudinally centered on the runway. The Inner-approach Obstacle Free Zone is a defined volume of airspace centered on the approach area. It applies only to runways with an ALS. It performs the same function as the OFZ and extends outwards 200 feet from the approach end of the runway threshold along the ALS.

The Object Free Areas (OFA) are two-dimensional areas centered on the ground on a runway, taxiway, or taxilane centerline provided to enhance the safety of aircraft operations by remaining clear of objects. This excludes objects that need to be located in the OFA for air navigation or aircraft ground maneuvering purposes.

Spanish Peaks Airfield meets standards for OFA and OFZ requirements.

2.6.9.3 Displaced Thresholds

A displaced threshold is a threshold located at a point other than that of the physical end of the runway. The displaced portion of the runway maybe used for takeoff but not for landing. Landing aircraft may only use the displaced area on the opposite end for roll out.

There is currently a displaced threshold on Runway 9 end, measuring 210-feet by 75-feet.

2.6.9.4 Runway Protection Zone

The Runway Protection Zone (RPZ) is trapezoidal in shape and centered on the extended runway centerline that is intended to protect persons and property from aircraft that land short or overrun the runway. It begins 200 feet beyond the end of the area usable for takeoff or landing. The RPZ dimensions are functions of the design aircraft, type of operation and visibility minimums.

While it is desirable to clear all objects from the RPZ, uses that FAA may permit include:

- Farming that meets minimum buffers, and irrigation channels as long as it does not attract birds;
- Airport service roads, as long as they are not public roads and are directly controlled by the airport operator;
- Underground facilities and unstaffed NAVAIDs and facilities, such as equipment for airport facilities that are considered fixed-by-function in regard to the RPZ.

All new land uses within the RPZ must be evaluated and approved by the FAA. **Table 2-8** further describes the RPZs at Spanish Peaks Airfield.

Table 2-8 Spanish Peaks Airfield RPZ Information

Runway Protection Zone	Dimension	Ownership	Existing Land Uses
Runway 9	500' x 700' x 1,000'	Fee Simple	Undeveloped (Airport)
Runway 27	500' x 700' x 1,000'	Fee Simple / Uncontrolled	Undeveloped (Airport)
Runway 2	250' x 450' x 1,000'	Fee Simple / Uncontrolled	Undeveloped (Airport)
Runway 20	250' x 450' x 1,000'	Fee Simple / Uncontrolled	Undeveloped (Airport)

Source: Armstrong Consultants, Inc.

2.6.9.5 Summary of FAA Design Standards at Spanish Peaks Airfield

Table 2-9 lists the current FAA design standards conditions at Spanish Peaks Airfield, as listed in FAA AC 150/5300-13B, *Airport Design*.

Table 2-9 Existing Design Standards

	Runway 9	Runway 27	Runway 2	Runway 20
Runway Design Code (RDC)	B-II-5000	B-II-5000	A-I (Small)	A-I (Small)
Runway Centerline to Parallel Taxiway Centerline	240'	240'	N/A	N/A
Runway Width	75'	75'	40'(*60' Actual)	40 (*60' Actual)
Runway Safety Area Width	150'	150'	120'	120'
Runway Safety Area Length Beyond RW End	300'	300'	240'	240'
Runway Object Free Area Width	500'	500'	250'	250'
Runway Object Free Area Length Beyond RW End	300'	300'	240'	240'
Runway Obstacle Free Zone Width	400'	400'	250'	250'
Runway Obstacle Free Zone Length Beyond RW End	200'	200'	200'	200'
Runway Protection Zone	500' x 700' x 1,000'	500' x 700' x 1,000'	250' x 450' x 1,000'	250' x 450' x 1,000'
Taxiway System				
Taxiway Design Group (TDG)			2A	
Airplane Design Group (ADG)			II	
Taxiway Width			35'	
Taxiway Safety Area Width			79'	
Taxiway Object Free Area (TOFA) Width			124'	
Taxilane Object Free Area (TLOFA) Width			110'	
Runway Centerline to Aircraft Hold Lines			200'	

Source: FAA Advisory Circular 150/5300-13B, *Airport Design*
*Indicates the actual design standards exceed minimum FAA requirements.

2.6.10 Airspace Surfaces

Title 14 Code of Federal Regulations (CFR) Part 77, *Safe, Efficient Use, and Preservation of the Navigable Airspace,* (Part 77) includes several imaginary surfaces that are used as a guide to provide a safe and unobstructed operating environment for aviation. These surfaces, which are typical for civilian airports, are shown in **Figure 2-10**. The primary, approach, transitional, horizontal and conical surfaces identified in Part 77 are applied to each runway at both existing and new airports on the basis of the type of approach procedure available or planned for that runway and the specific Part 77 runway category criteria.

For the purpose of this section, a utility runway is a runway that is constructed for and intended for use by propeller driven aircraft of a maximum gross weight of 12,500 pounds or less. A visual runway is a runway intended for the operation of aircraft using only visual approach procedures (no instrument-aided approach). A non-precision instrument runway is a runway with an approved or planned straight-in instrument approach procedure that has no existing or planned precision instrument approach procedure. A precision runway is served by an instrument procedure with vertical and horizontal guidance that allows for lower visibility landings.

Runway 9/27 is currently considered a non-precision instrument utility runway for Part 77 purposes. Runway 2/20 is considered a visual utility runway for Part 77 purposes.

The Part 77 airspace surfaces for these classifications are defined as follows:

- The **primary surface** is an imaginary surface of specific width, longitudinally centered on a runway. The primary surface extends 200 feet beyond each end of the paved surface of runways but does not extend past the end of unpaved runways. The elevation of any point on the primary surface is the same as the elevation of the nearest point on the runway centerline. The width is 1,000 feet for precision instrument runways, 250 feet for visual-utility runways and 500 feet for visual larger than utility and non-precision instrument runways. The existing primary surface width for Runway 9/27 is 500-feet and the primary surface width of Runway 2/20 is 250-feet.

- The **approach surface** is a surface longitudinally centered on the extended runway centerline and extending outward and upward from each end of the primary surface. An approach surface is applied to each end of the runway based upon the type of approach available or planned for that runway, with approach gradients of 20:1, 34:1 or 50:1. The inner edge of the surface is the same width as the primary surface. It expands uniformly to a width corresponding to the Part 77 runway classification criteria. At Spanish Peaks Airfield, the approach surface for Runway 9/27 is 500-feet by 3,500-feet by 10,000-feet at a slope of 34:1and Runway 2/20 is 250-feet by 1,250-feet by 5,000-feet at a slope of 20:1.

- The **transitional surfaces** extend outward and upward at right angles to the runway centerlines from the sides of the primary and approach surfaces at a slope of 7:1 and end at the horizontal surface.

- The **horizontal surface** is considered necessary for the safe and efficient operation of aircraft in the vicinity of an airport. As specified in Part 77, the horizontal surface is a horizontal plane 150 feet above the established airport elevation. The airport elevation is defined as the highest point of an airport's useable runways, measured in feet above mean sea level. The perimeter is constructed by arcs of specified radius from the center of each end of the primary surface of each

runway. The radius of each arc is 5,000 feet for runways designated as utility or visual and 10,000 feet for all other runways. The existing horizontal surface arc at Spanish Peaks Airfield is 10,000-feet.

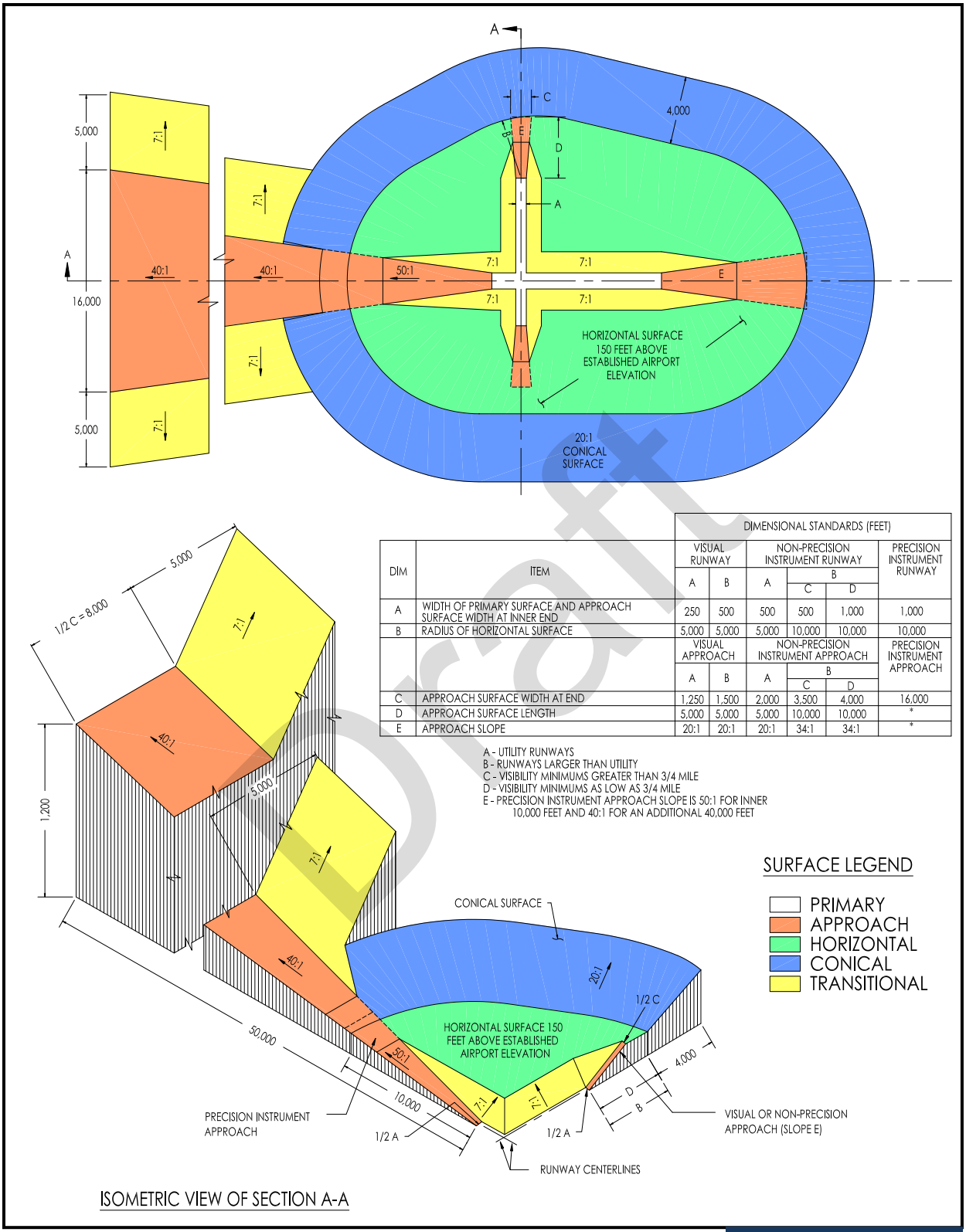
- The **conical surface** extends outward and upward from the periphery of the horizontal surface at a slope of 20:1 for a horizontal distance of 4,000 feet.

Table 2-10 summarizes the current Part 77 surfaces described above for Spanish Peaks Airfield.

Table 2-10 Part 77 Surfaces

Surface	Dimensions
Primary Surface width	9/27: 500' 2/20: 250'
Primary Surface beyond Runway end	200'
Approach Surface dimensions	RW 9: 500' x 3,500' x 10,000' RW 27: 500' x 3,500' x 10,000' RW 2: 250' x 1,250' x 5,000' RW 20: 250' x 1,250' x 5,000'
Approach Surface slope	RW 9: 34:1 RW 27: 34:1 RW 2: 20:1 RW 20: 20:1
Transitional Surface slope	7:1
Horizontal Surface radius	20:1

Source: Title 14 Code of Federal Regulations (CFR) Part 77, *Safe, Efficient Use, and Preservation of the Navigable Airspace*



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

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

Source: Federal Aviation Administration, 2023

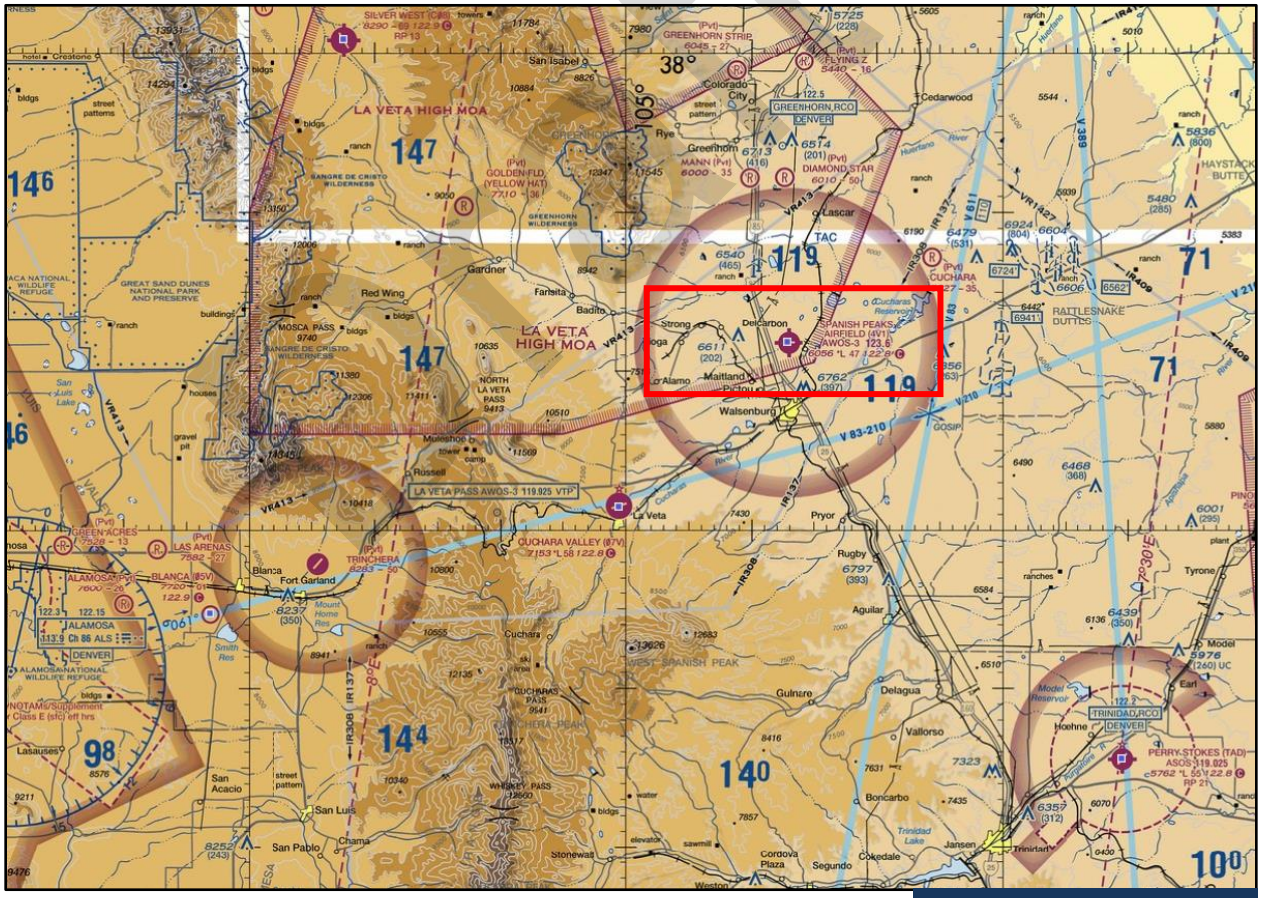
Figure 2-10 Part 77 Surfaces

2.6.11 Surrounding Airspace

2.6.11.1 National Airspace System

The National Airspace System consists of various classifications of airspace regulated by the FAA. Airspace classification is necessary to ensure the safety of all aircraft utilizing the facilities during periods of inclement weather, with the primary function of airspace classification being the separation of IFR traffic from VFR traffic. Pilots flying in controlled airspace are subject to air traffic control requirements and must either follow VFR or IFR regulations. These regulations, which include combinations of operating rules, aircraft equipment and pilot certification, vary depending on the class of airspace and are described in 14 CFR Part 91, *General Operating and Flight Rules*.

Figure 2-11 shows the airport is located within Class G airspace, the least restrictive airspace and then transitions to Class E airspace at 700 feet above ground level, which requires pilots to comply with more restrictive weather requirements and certain air traffic control procedures for IFR operations. **Figure 2-12** depicts the various airspace classifications.



Source: www.skyvector.com, 2023

Figure 2-11 VFR Sectional Map

There is a victor airway, Victor 83-210, just south of the airport. Victor airways are low altitude flight paths between ground-based navigational equipment known as VHF Omni-directional Receivers or VORs.

Spanish Peaks Airfield is an uncontrolled airport, which means navigation and traffic awareness relies on the pilots using the airport. Traffic patterns at the airport include standard left hand traffic for Runway 9/27 and 2/20. Pilots in the area can communicate or announce their intentions via the CTAF frequency of 122.8 MHz.

2.6.11.2 Airspace Restrictions

Spanish Peaks Airfield is located within Class G airspace shown on **Figure 2-11.** Military Operation Areas (MOAs) and low-level military training routes (MTRs) are established for the purpose of separating certain military training activities, which routinely necessitate acrobatic or abrupt flight maneuvers, from IFR traffic. Spanish Peaks Airfield is located within the immediate vicinity of the La Veta High MOA. There is no known impact on airport operations caused by the MOA.

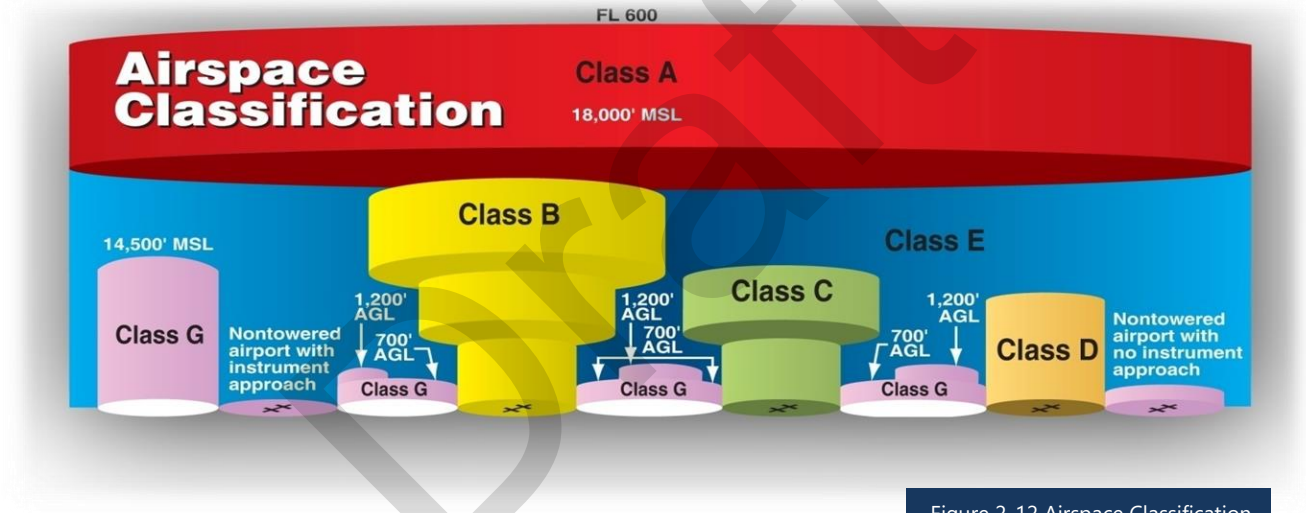


Figure 2-12 Airspace Classification

Source: Federal Aviation Administration, 2023

2.7 Existing Landside Facilities at Spanish Peaks Airfield

The landside facilities of an airport consist of those facilities that are not included on the airfield. Examples of such landside facilities include any structure adjoining the airfield, terminal buildings, hangars, ground access routes to and from the airport, automobile parking areas, airport fencing, utilities, fuel provisions and snow removal equipment storage facilities. **Figure 2-13** illustrates the existing landside facilities**.**

Source: Armstrong Consultants, Inc.

Figure 2-13 Existing Landside Facilities

2.7.1 Pilot Services

A fixed base operator (FBO) is usually a private enterprise that leases land/hangars from the airport sponsor on which to provide services to based and transient aircraft. The extent of the services an FBO provides varies from airport to airport; but typically, these services include aircraft fueling, minor maintenance and repair, aircraft rental and/or charter services, flight instruction, pilot lounge, flight planning facilities, aircraft tie down and/or hangar storage. Spanish Peaks Airfield provides a pilot lounge, approximately 1,250 square feet, which includes restroom facilities, kitchen amenities, pilot planning and lounge area. The airport offers fuel service through Huerfano County of both Jet-A and 100LL. **Figure 2-14** depicts the pilot lounge.

Source: Armstrong Consultants, Inc., 2023

Figure 2-14 Spanish Peaks Airfield Pilot Lounge/Terminal

2.7.2 Hangar Facilities

Existing facilities at Spanish Peaks Airfield include 16 hangars. The hangars at the airport include a combination of private and airport owned facilities. The vast majority of the hangars are in predominantly good condition. **Figure 2-15** depicts a row of standard box hangars at the airport.

Source: Armstrong Consultants, Inc., 2023

Figure 2-15 Hangars at 4V1

2.7.3 Access Routes and Signage

The airport can be accessed by traveling north on Interstate 25 five miles then exiting on Exit 55 and heading east on Co Road 101 for one mile. An entrance sign is located on the west facing side of the Pilot Lounge building, which is depicted in **Figure 2-16**.

Source: Armstrong Consultants, Inc., 2023

Figure 2-16 Airport Entrance/Welcome Sign

2.7.4 Ground Transportation

Spanish Peaks Airfield does not have local transportation at the airport, such as a courtesy vehicle. The nearest Amtrak station is located approximately 43 miles south in Trinidad, Colorado.

2.7.5 Automobile Parking

Automobile parking facilities are necessary for originating and terminating airport users and visitors. It is important that vehicle parking is adequate to serve the needs of all airport users and visitors. While the airport does not currently have any paved vehicle parking, there is approximately 4,000 square feet of gravel parking areas directly outside of the pilot lounge.

2.7.6 Utilities

Available utilities at Spanish Peaks Airfield include propane, electricity, septic sewer as well as a city water line supplying the pilot lounge.

2.7.7 Fencing

The primary purpose of airport fencing is to prevent inadvertent intrusions by persons or animals entering airport property. Airport fencing also provides an increased level of safety and security for the airport. Fencing is commonly installed along the perimeter of the airport property and outside of any safety areas or below all imaginary surfaces as defined by FAA Advisory Circular 150/5300-13B and Federal Aviation Regulation Part 77. The airport access road is lined with a four-foot, four strand barbed wire fence. The airport perimeter is surrounded by an eight-foot wildlife fence.

2.7.8 Fuel Facilities

The county owns and operates one 10,000-gallon Jet-A and one 10,000-gallon 100 Low Lead AvGas above ground fuel storage tanks, depicted in **Figure 2-17**. Aircraft refueling is conducted using self-serve system with a credit card reader. The fuel system is in fair condition.

Source: Armstrong Consultants, Inc., 2023

Figure 2-17 Spanish Peaks Fuel System

2.7.9 Emergency and Security Services

Emergency response services include the Huerfano County Fire Protection and Huerfano County Sheriff Department. The fire station is located approximately seven-half miles south of the airport. The Huerfano County Sheriff Department is located within the City of Walsenburg approximately seven-half miles south of the airport. The nearest hospital is the Spanish Peaks Regional Health Center located in the City of Walsenburg. Spanish Peaks Airfield does not currently hold any operating certificates which require them to have on site ARFF response services.

2.7.10 Snow Removal and Maintenance Equipment

Snow removal and airfield maintenance is conducted by the county. There is no dedicated Snow Removal Equipment (SRE), or facilities located at the airport. SRE is provided seasonally by the county.

2.8 Land Use Compatibility

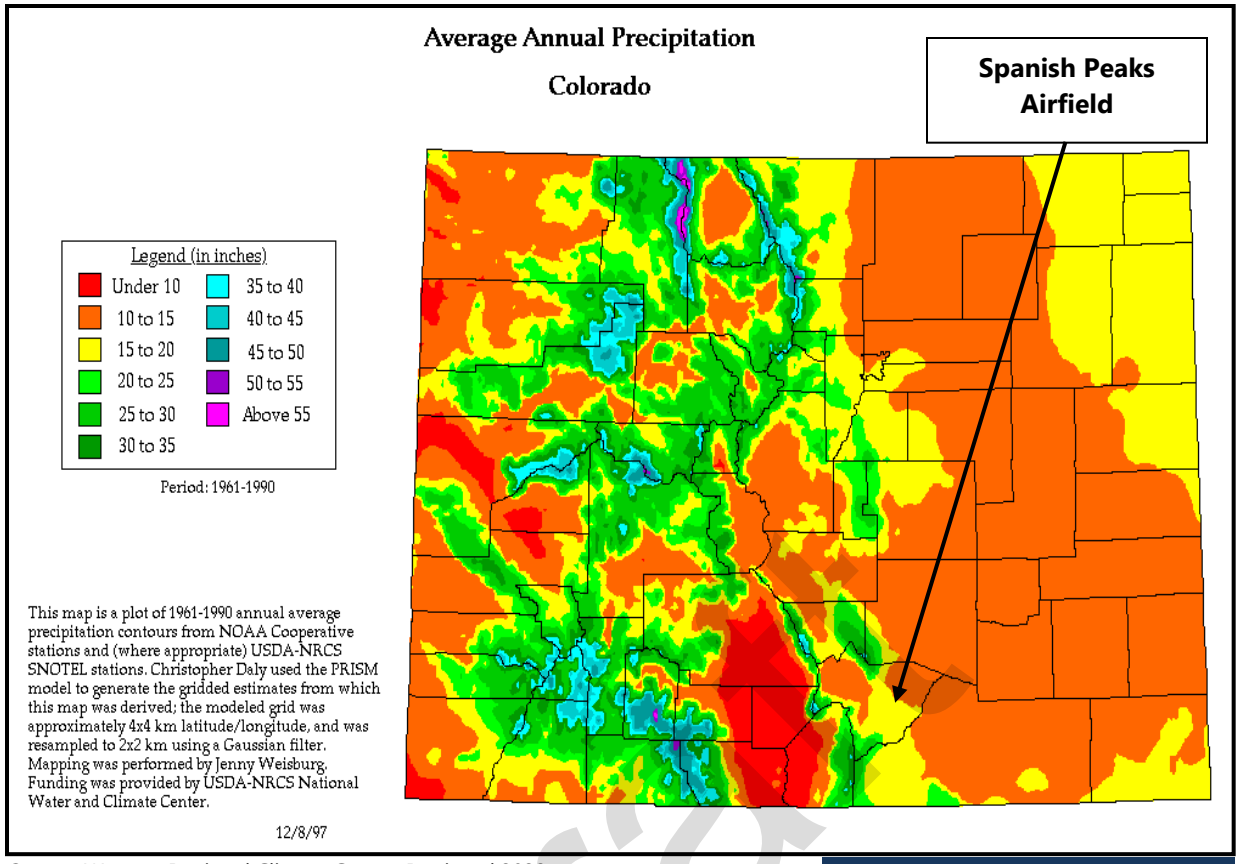
The FAA recommends that airport sponsors protect the areas surrounding an airport from incompatible development. Incompatible development includes those land uses which would be sensitive to aircraft noise or over flight, such as residences, schools, churches, and hospitals and those uses which could attract wildlife and cause a hazard to aircraft operations such as certain agriculture crops, landfills, ponds and wastewater treatment facilities. The height of objects surrounding airports also needs to be considered in order to avoid airspace impacts to existing and future instrument approach procedures.

Huerfano County has implemented an airport protection overlay zone around the Spanish Peaks Airfield. The land use and regulations are intended to minimize significant hazards to public health and safety around the facility utilizing height restrictions, development restrictions, and review for noise sensitive development.

2.9 Meteorological Conditions

Meteorological conditions have a direct impact on the operational characteristics of an airport. These conditions determine the regulations under which operations may be conducted, the frequency of use for each operational configuration and the instrumentation required to assist aircraft in landing and departing. Temperatures combined with airport elevation also have an impact on aircraft performance capabilities.

As depicted in **Figure 2-18**, the Spanish Peaks Airfield is located within an area that receives between 15 to 20 inches of rainfall a year, according to the Western Regional Climate Center.



Source: Western Regional Climate Center; Retrieved 2023

Figure 2-18 Colorado Precipitation Map

2.9.1 Local Climatic Data

Ceiling and visibility conditions are important considerations for an airport as the occurrence of low ceiling and/or poor visibility limits the use of the airport until conditions improve. According to the Western Regional Climate Center, Spanish Peaks Airfield receives an average of 15.87 inches of rainfall per year, with snowfall averaging 81.8 inches. Temperatures range from an average maximum temperature of 87.5 degrees Fahrenheit in July to an average minimum temperature of 21.1 degrees Fahrenheit in January. A summary of the climate at the airport is shown in **Table 2-11**.

Table 2-11 Temperature and Precipitation

Month	Mean Maximum Temperature (Fahrenheit)	Mean Minimum Temperature (Fahrenheit)	Precipitation (Inches)	Snowfall (Inches)
January	47.1	**21.1**	0.66	10.3
February	49.6	22.6	0.83	11.4
March	55.7	27.2	1.56	**16.9**
April	64.3	34.2	1.92	11.9
May	73.2	42.7	**1.94**	2.1
June	83.3	51.0	1.23	0.0
July	**87.5**	56.9	1.98	0.0
August	84.9	55.8	1.93	0.0
September	78.6	48.1	0.95	0.7
October	69.0	38.0	1.09	5.1
November	55.7	28.2	0.98	10.7
December	47.8	22.5	0.81	12.6
Annual	66.4	37.4	15.87	81.8

Source: Western Regional Climate Center, retrieved 2023 (Period Recorded: 1934 – 2016)

2.9.2 Runway Wind Coverage

An analysis of wind is essential in deciding the desired alignment and configuration of the runway system. It is beneficial to align runways as closely as practicable in the direction of the prevailing winds. Aircraft land and takeoff into the wind and, therefore, can only tolerate limited crosswind components (winds that blow perpendicular to the runway centerline). The maximum allowable crosswind depends on the aircraft size, design characteristics and pilot proficiency. **Table 2-12** shows allowable crosswind components for aircraft according to their Airport Reference Code.

Table 2-12 Allowable Crosswind Component

Crosswind (knots)	Airport Reference Code
10.5	A-I, B-I
13.0	A-II, B-II
16.0	A-III, B-III, C-I through D-III
20.0	A-IV through D-VI

Source: FAA Advisory Circular 150/5300-13B, *Airport Design*

FAA Advisory Circular 150/5300-13B, *Airport Design*, recommends that a runway should be oriented so that it yields 95 percent wind coverage under stipulated crosswind coverage defined by the ARC. If a single runway alignment cannot meet the recommended 95 percent wind coverage, then construction of an additional runway may be advisable.

Wind directional data was determined using the ASOS at Perry Stokes Airport (TAD) with observations from 2011 to 2021. Perry Stokes Airport in Trinidad, Colorado is 34 nautical miles

southeast of Spanish Peaks Airfield. While Spanish Peaks Airfield does have an AWOS, only one year of data was available. Generally, ten years of historical data is preferred. **Table 2-13** lists the wind data using information from the Perry Stokes Airport ASOS, as it was determined there was not sufficient recorded wind data available from the Spanish Peaks AWOS at the time of this study. **Figure 2-19** depicts the existing wind rose for Spanish Peaks Airfield.

Table 2-13 Wind Data for Spanish Peaks Airfield

Crosswind (knots)	Runway 9/27 All Weather Percent of Coverage	Runway 9/27 IFR Percent of Coverage	Runway 2/20 All Weather Percent of Coverage	Runway 2/20 IFR Percent of Coverage	Combined All Weather Percent of Coverage
10.5	88.92%	83.86%	85.66%	95.07%	97.43%
13.0	93.05%	89.85%	92.61%	97.17%	99.1%
16.0	96.88%	96.0%	100.0%	98.59%	99.74%

Source: Perry Stokes Airport (TAD) AWOS, 2011 - 2021, Number of Observations: 97,695

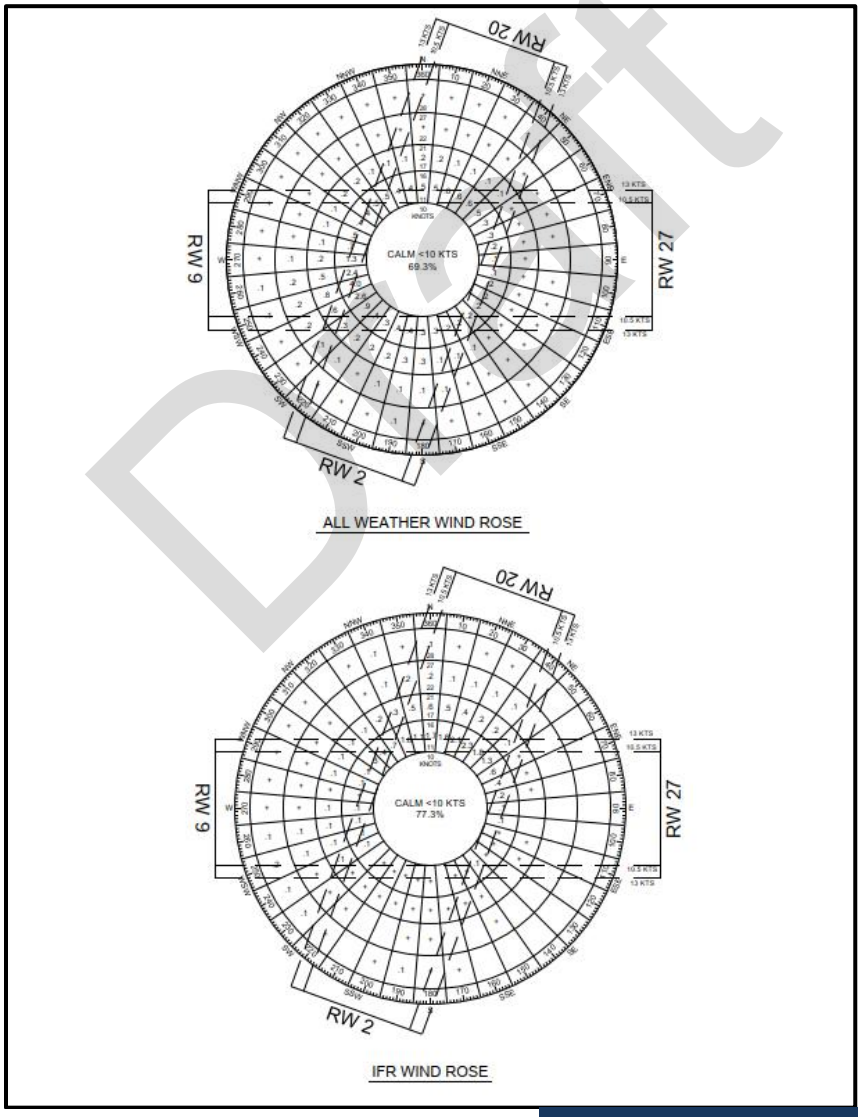


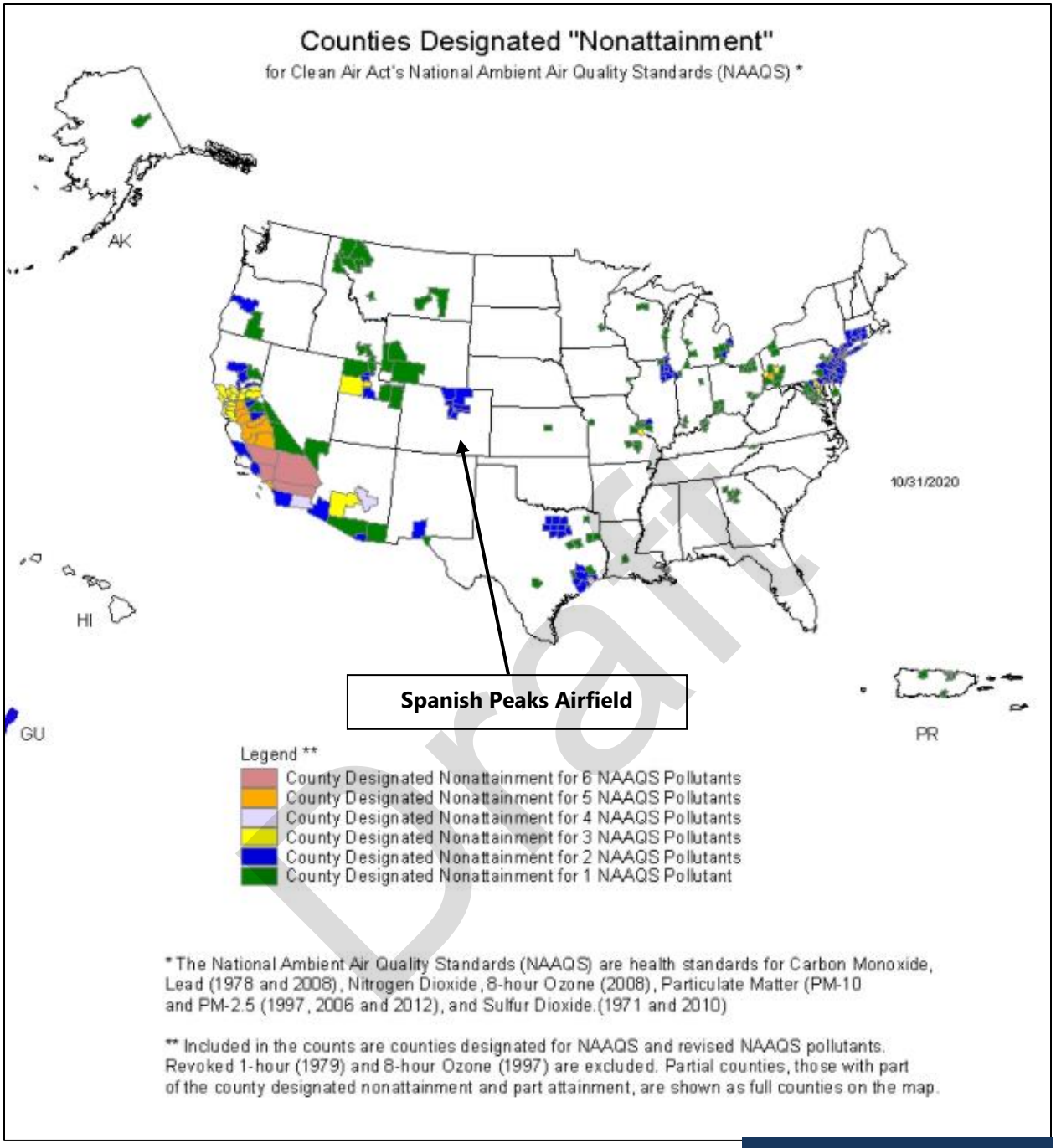
Figure 2-19 4V1 Wind Rose

2.10 Environmental Overview

The purpose of the environmental inventory is to identify key environmental resources that may be affected by potential airport development. The data compiled in this section will be used throughout the report when evaluating potential airport development alternatives and identifying any potential environmental impacts and environmental related permits that may be required for recommended development projects.

2.10.1 Air Quality

As depicted within **Figure 2-20**, the airport is located within an attainment area. The air quality map identifies counties that are designated as Nonattainment for 1 or more National Ambient Air Quality Standards (NAAQS). Huerfano County is within attainment with NAAQS.



Source Environmental Protection Agency, 2023

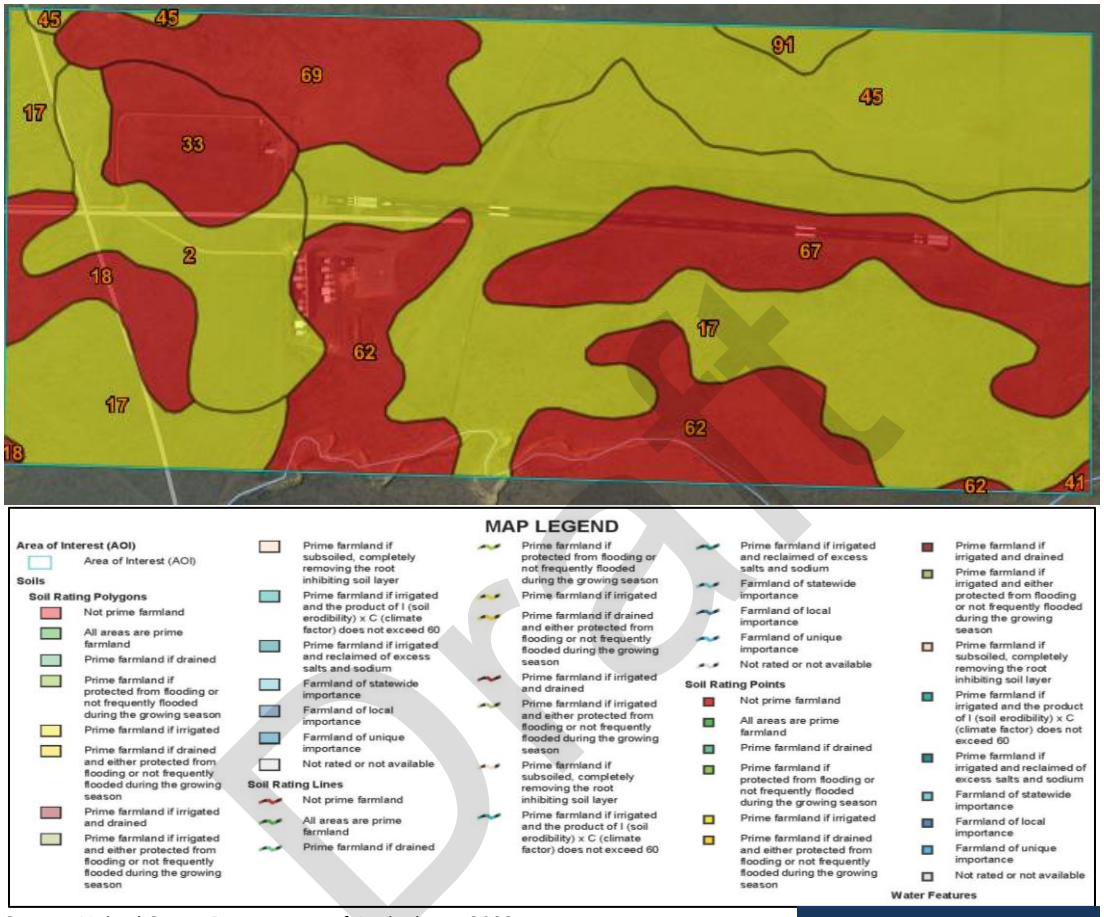
Figure 2-20 Non-Attainment Map

2.10.2 Department of Transportation Act – Section 4(f)

There are no Section 4(f) properties located near the airport. The closest section 4(f) property is the Lathrop State Park, located seven miles southwest of Spanish Peaks Airfield in Walsenburg, Colorado.

2.10.3 Farmlands

The U.S. Department of Agriculture has rated areas of the Spanish Peaks Airfield and surrounding lands as prime farmland if irrigated and not prime farmlands, as shown in **Figure 2-21**. The majority of the land adjacent to the airport is open space.



Source: United States Department of Agriculture, 2023

Figure 2-21 Farmland Map

2.10.4 Floodplains

Data for the area is not available from the Federal Emergency Management Agency (FEMA). It can be assumed that the airport is not at risk of impacting floodplains, as historical information and aerial imagery shows no record or indication of flooding on airport property.

2.10.5 Fish, Wildlife and Plants

The U.S. Fish and Wildlife Service (USFWS) database was researched to obtain an Official Threatened and Endangered Species List for the area encompassing Spanish Peaks Airfield. There were three endangered, threatened, or candidate species listed within the area, as shown in **Table 2-14**. Additionally, there is no critical habitat identified within the area.

Table 2-14 Threatened, Endangered, and Candidate Species – Huerfano County, Colorado

Common Name	Scientific Name	Status
Canada Lynx	*Lynx canadensis*	Threatened
Greenback Cutthroat Trout	*Oncorhynchus clarkia stomias*	Threatened
Monarch Butterfly	*Danaus plexippus*	Candidate

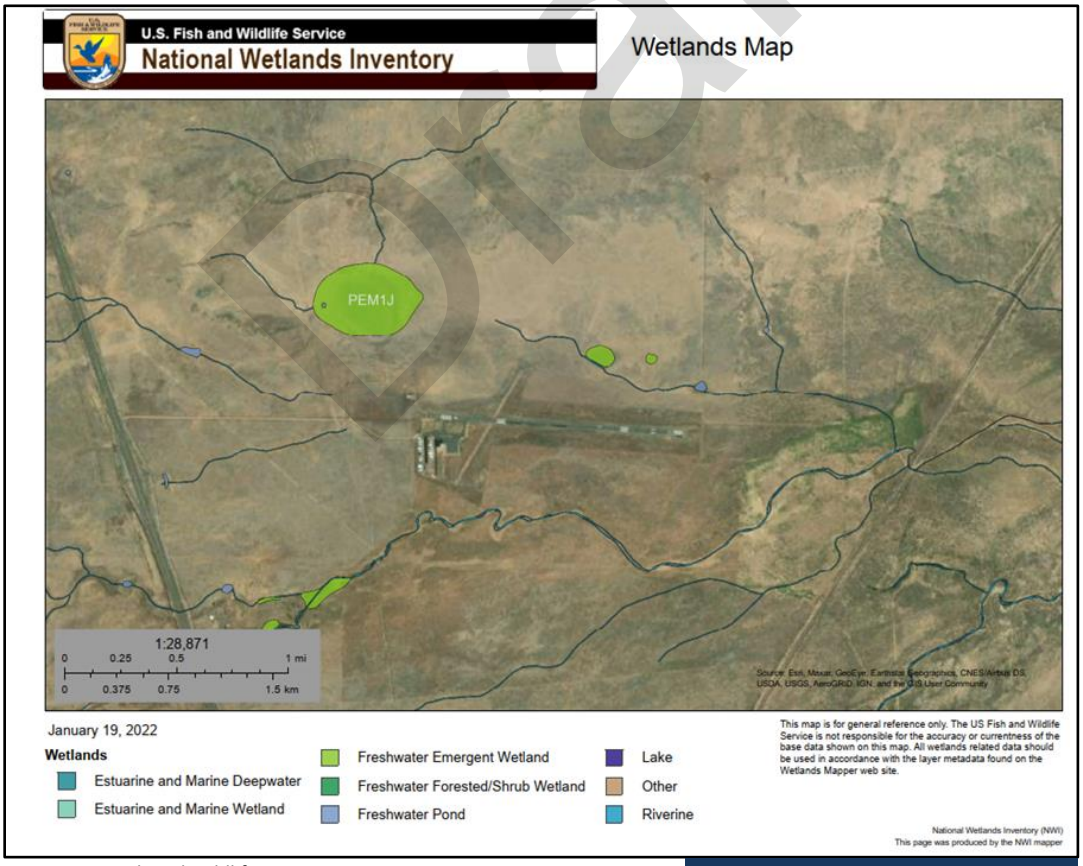
Source: U.S. Fish and Wildlife Service, 2023

2.10.6 Historical, Architectural, Archaeological and Cultural Resources

There are no known historical, architectural or archaeological sites located at Spanish Peaks Airfield. The nearest location on the National Register of Historic Places is the Huerfano County Courthouse and Jail located in the City of Walsenburg, five miles north of the airport.

2.10.7 Wetlands

The U.S. Fish and Wildlife Service *National Wetlands Inventory* was reviewed to determine the location of wetlands within the vicinity of the airport. The National Wetlands Inventory identified no existing wetlands located on airport property. **Figure 2-22** depicts the location of wetlands surrounding Spanish Peaks Airfield.



Source: U.S. Fish and Wildlife Service, 2023

Figure 2-22 Wetlands Inventory Map

2.10.8 Airport Waste Recycling and Solid Waste Management

As required by FAA Order 5100.38D, airports need to develop a plan for recycling and minimizing the generation of airport solid waste, consistent with applicable state and local recycling laws.

Based on FAA guidance, recycling and solid waste management plans need to incorporate the following components:

- A waste audit;
- The feasibility of solid waste recycling at the airport;
- Minimizing the generation of solid waste at the airport;
- Operation and maintenance requirements;
- Review of waste management contracts; and
- Potential of cost savings and/or the generation of revenue.

Before recycling and waste minimization plans are developed, an inventory of current waste produced at the airport must be completed. A waste audit identifies what type of waste is generated, where it is created, and how much is collected. The first step in the waste audit is to identify applicable waste streams, followed by categorization of when each waste stream was created, and who is responsible for disposal.

Waste steams identified for Spanish Peaks Airfield include:

- Pilot Lounge;
- Flight kitchens;
- Restroom amenities;
- Aircraft storage hangars;
- Airfields;
- Aircraft;
- Airport construction.

The applicable waste streams for Spanish Peaks Airfield are discussed below.

Pilot Lounge: The current pilot lounge at the airport is a stand-alone building measuring approximately 1,250 square-feet and includes kitchen and restroom amenities. Typically, generated waste includes food, paper, plastic and aluminum cans. The operators of the Spanish Peaks Airfield are responsible for the disposal of such waste.

Airfields: Waste created at the runways, taxiways and aircraft aprons typically include rubber from aircraft and vehicle tires and biodegradable waste from mowing operations. Airfield wastes are typically solid and compostable. Huerfano County is responsible for disposing of these wastes.

Aircraft: Maintenance of aircraft and ground support equipment routinely produce waste such as oil, grease, fuel (automobile and aircraft), chemicals, wastewater, batteries, electronics, tires, and vehicle or aircraft fluids. The individual owner or business is responsible for proper disposal of aircraft and vehicle waste products.

Airport Construction: Construction projects at Spanish Peaks Airfield are typically Capital Improvement Projects (CIP) and vary in size, length and time of year. Construction activities have the potential to create a large amount of waste including concrete, asphalt, oil, soil, metal and miscellaneous building material. Contractors are generally responsible for proper disposal of construction waste products.

The airport currently has no requirements to minimize solid waste generation. The airport should consider promoting waste minimization by:

- Establishing recycling standards in lease agreements;
- Requiring containers and space for recycling; or
- Including contract requirements for contractors.

2.11 Summary of Airport Facilities

Table 2-15 provides a summary of the existing facilities available at Spanish Peaks Airfield.

Table 2-15 Existing Airport Facilities

Airport Data	Description	
Identifier	4V1	
FAA Site Number	02751.*A	
FAA NPIAS Number	08-0079	
Owner	Huerfano County	
Airport Elevation	6,055' MSL	
Airport Facility	**Description**	
Runways	Runway 9/27	Runway 2/20
Airport Reference Code	B-II-5000	A-I (Small)
Runway Dimensions	4,715' x 75'	2,238' x 40'
Runway Markings	Non-Precision	None
Runway Lighting	MIRL	None
Instrument Approach	RNAV (GPS) RWY	None
Approach Minimums	1 Statute Mile	None
Runway Pavement Strength	17,000 lbs. SWG / DWG	None
Runway Pavement Condition	Good (Asphalt)	Poor (Turf)
Taxiways	Partial Parallel with two Entrance/Exit	
Aprons	7,741 S.Y. / 1,862 S.Y. Fuel Apron	
Tie Downs	15	
Visual Aids	Runway 9/27: Threshold Lights, MIRLs, 2-Box PAPI, and lighted wind cone	
Pilot Lounge	Yes	
Hangar Facilities	16	
Fuel Storage	100 LL and Jet-A (10,000 GAL Above Ground)	
Fuel Service	Self-serve	
Weather Equipment	AWOS-3	
Automobile Parking	Yes (Gravel Lot)	

Chapter Three

Forecast of Aviation Demand

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Chapter 3- Forecast of Aviation Demand

3.1 Introduction

A forecast of aviation demand provides the basis for evaluating the adequacy of existing airport facilities and its capability of handling potential traffic demand. Forecasts are the foundation for effective decision making in airport planning and establish when improvements are needed, the level of capital improvements and the timing of the necessary investments.

While forecast information is necessary for successful comprehensive airport planning, it is important to recognize that forecasts are only approximations of future activity, based upon historical data and viewed through present situations. Therefore, forecasts must be used with careful consideration, as they may lose their validity with the passage of time or are impacted by unforeseen changes in the surrounding market.

General aviation forecasts are typically based on historical data and other broadly accepted industry and governmental estimates of aviation activity, as well as the primary socioeconomic drivers of general aviation activity.

For this reason, an ongoing program of examination of local airport needs and national and regional trends is recommended and encouraged in order to promote the logical development of aviation facilities at Spanish Peaks Airfield.

At airports not served by air traffic control towers, approximations of existing aviation activity are necessary in order to form a basis for the development of reliable forecasts. Unlike towered airports, non-towered general aviation airports have historically not tracked or maintained comprehensive logs of aircraft operations. Therefore, approximations of existing aviation activity are based upon the most reliable data available, including reviews of based aircraft, fuel sales, historical data, local information and regional, state and national data forming the baseline to which forecasted aviation activity trends are applied.

Forecast methodologies and analysis in this study consider historical aviation trends at Spanish Peaks Airfield, as well as throughout the nation. The latest local historical data was collected from the following sources: Federal Aviation Administration (FAA) Terminal Area Forecast (TAF) records from 2022, FAA Form 5010-1, *Airport Master Record*; The FAA's National Based Aircraft Inventory Program; Colorado Aviation System Plan (CASP) from 2020; and airport management records.

Aviation activity projections are made based upon estimated growth rates, area demographics and socioeconomics, industry trends and other relevant indicators. Forecasts are prepared for the short-term (0-5 years); the medium-term (6-10 years); and long-term (11-20 years) time frames. Using forecasts within this planning horizon allows the recommended airport improvements to be timed in a way that will efficiently and cost effectively meet the expected demand.

Accordingly, FAA approval of the forecast does not constitute justification for future projects. Justification for future projects will be made based on activity levels at the time the project is requested for development.

3.2 Local Profile

The Spanish Peaks Airport is located within the City of Walsenburg, which is part of Huerfano County in southern Colorado. Examining the specific socioeconomic characteristics of the City of Walsenburg, Town of La Veta, and Huerfano County helps to define the factors influencing aviation activity in the area and determine the extent to which aviation facility developments are needed. Characteristics such as population, employment and income will provide a foundation upon which to base the potential growth rate of aviation activity at the airport.

3.2.1 Population

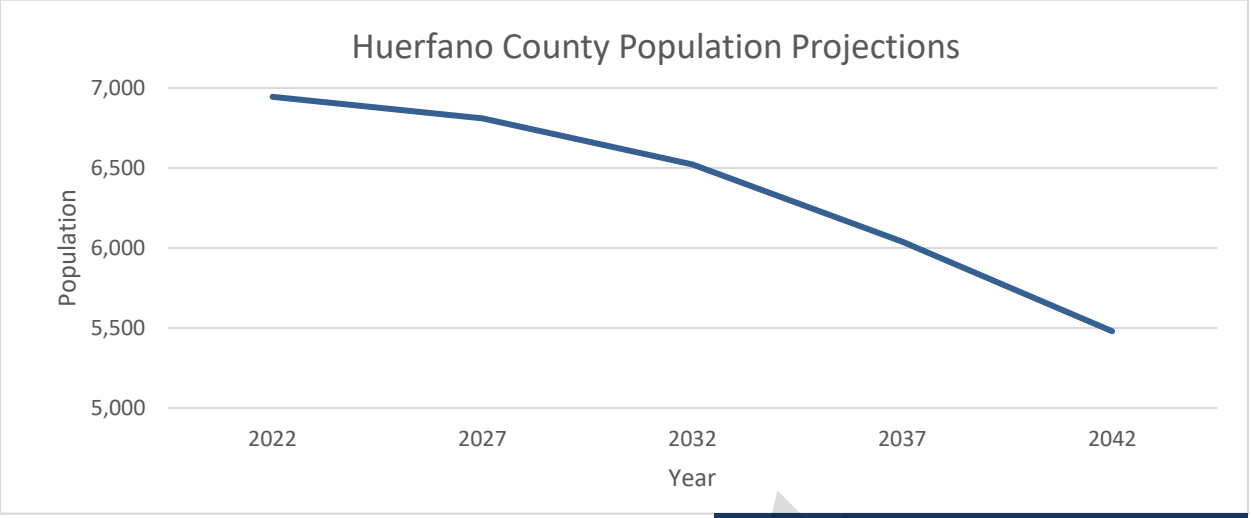
According to the Colorado Department of Local Affairs (CDOLA), the population for the State of Colorado increased from 5,050,332 in 2010 to 5,814,707 in 2022 with Huerfano County's population decreasing from 14,790 in 2010 to 6,945 in 2022.

The CDOLA also developed population projections for all Colorado counties and the State of Colorado. Population projections for the planning period for both Huerfano County and the State of Colorado are shown in **Table 3-1**, **Figure 3-1,** and **Figure 3-2**. These projections are based on the rates of growth indicated by the CDLA. The population forecast indicates a population decrease of 1.17 percent for Huerfano County and an increase of 1.01 percent for the State of Colorado between 2022 and 2042.

Table 3-1 Population Projections for Huerfano County and Colorado

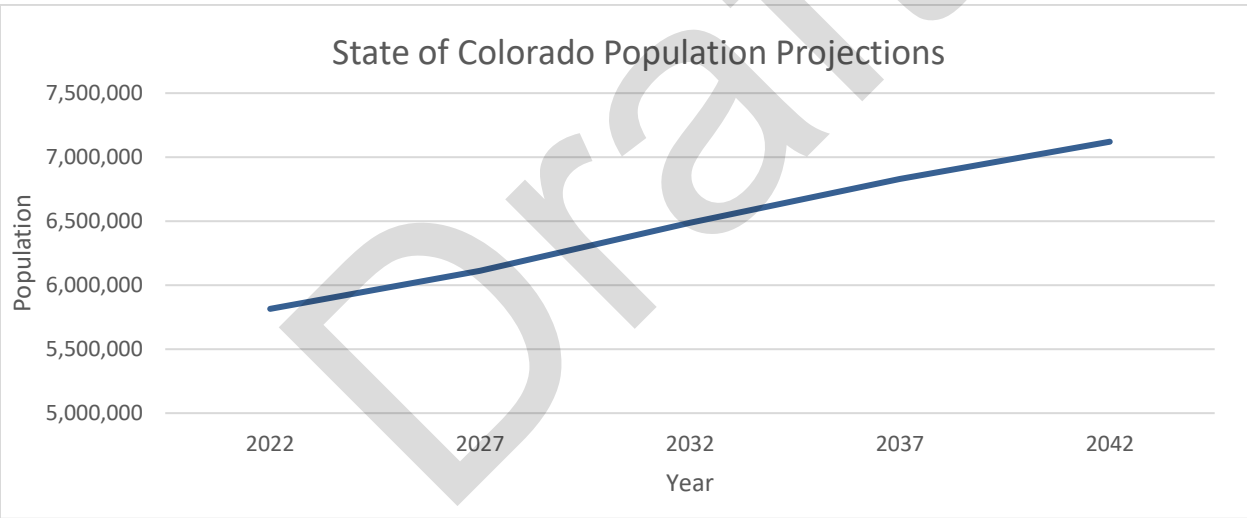
	2022	2027	2032	2037	2042	Average Annual Growth Rate (AARG)
Huerfano County	6,945	6,810	6,522	6,040	5,480	-1.17%
Colorado	5,814,707	6,110,882	6,486,948	6,830,582	7,120,397	1.01%

Source: Colorado Division of Local Affairs, 2022



Source: Colorado Division of Local Affairs, 2022

Figure 3-1 Huerfano County Population Projections



Source: Colorado Division of Local Affairs, 2022

Figure 3-2 State of Colorado Population Projections

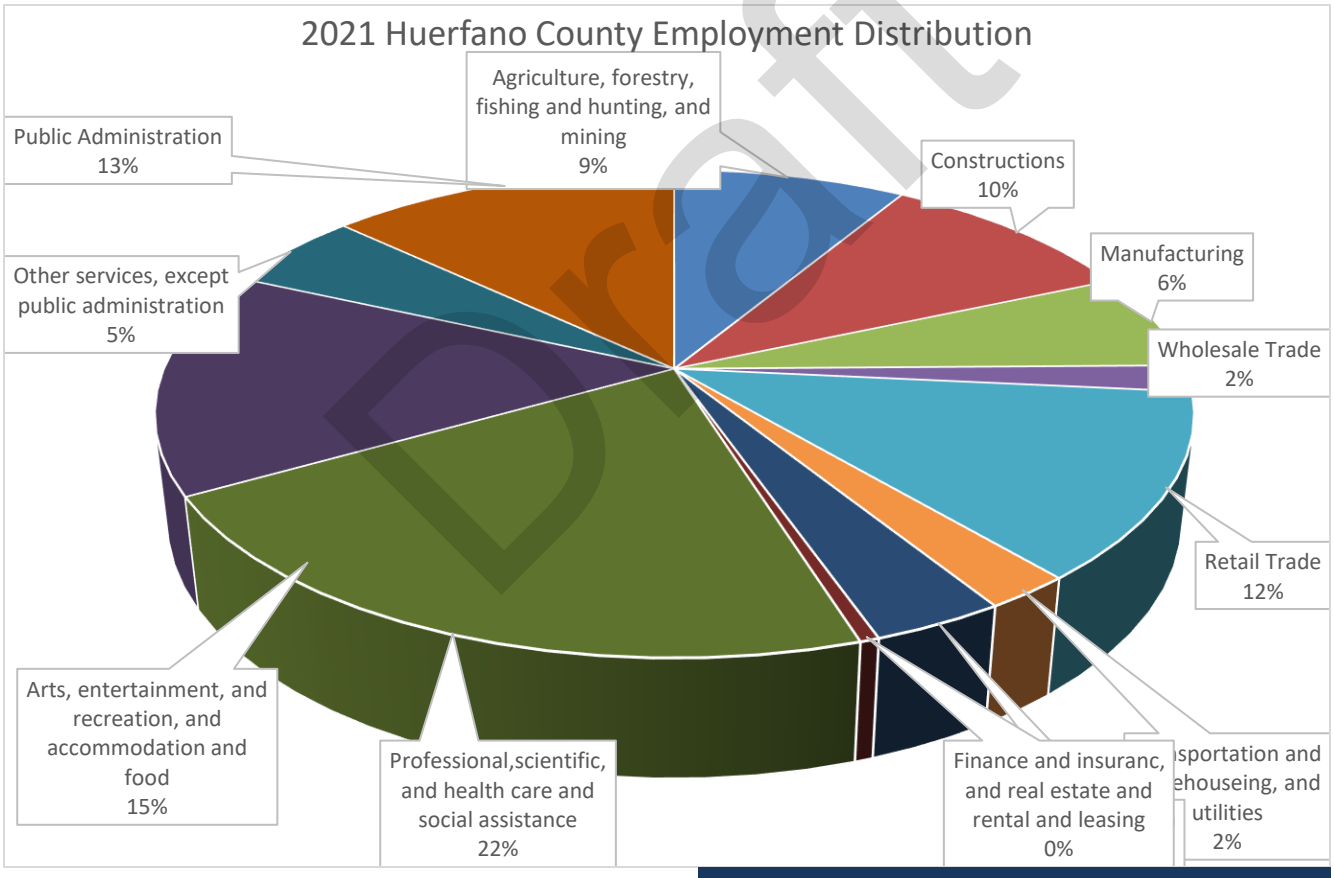
3.2.2 Employment and Largest Industries

According to the U.S. Bureau of Labor Statistics, the unemployment rate in Huerfano County was 6.1 percent in 2022. This is above the unemployment rate for the State of Colorado and the United States which were reportedly 3.0 percent and 3.6 percent, respectively in the year 2022. The largest employment industry in Huerfano County is the professional, scientific and health care and social assistance sector according to the most recent published U.S. Census data from 2021. The employment distribution by industry for Huerfano County is shown in **Table 3-2** and **Figure 3-3**.

Table 3-2 Huerfano County Employment Distribution by Industry

Industry	Percent of Employed County Residents
Agriculture, forestry, fishing and hunting and mining	8.6%
Constructions	9.8%
Manufacturing	6.3%
Wholesale Trade	1.8%
Retail Trade	12.3%
Transportation, warehousing and utilities	2.3%
Information	3.5%
Finance and insurance, real estate and rental and leasing	0.5%
Professional, scientific and health care and social assistance	21.6%
Arts, entertainment, recreation and accommodation and food services	15%
Public Administration	13%
Other Services	5.2%

Source: U.S. Census Bureau, 2021; retrieved 2023



Source: U.S. Census Bureau, 2021; retrieved 2023

Figure 3-3 Huerfano County Employment Distribution by

3.2.3 Income

According to the U.S. Census Bureau, the median household income is $45,724 for Huerfano County. This is slightly lower than both the median household incomes for the State of Colorado which is $75,231 as well as the median household income for the United States which is $60,293, respectively. The per capita income is $26,111 for Huerfano County.

3.3 Aircraft Operation Categories

There are four types of aircraft operations considered in the planning process. These are termed "local, based, itinerant and transient." They are defined as follows:

Local operations: Represents operations that stay within the traffic pattern airspace (non-itinerant).

Itinerant operations: Represents operations that arrive from outside the traffic pattern or depart the airport traffic pattern.

Based aircraft operations: The total operations made by aircraft based (stored at the airport on a permanent, seasonal, or long-term basis) at the study airport, with no attempt to classify the operations as to purpose. If based at more than one airport, the airport at which the aircraft is stored at the most days is the base airport (example: the airport at which the aircraft is located at more than 6 months out of the year if operated out of two different airports).

Transient operations: The total operations made by aircraft other than those based at the airport under study. These operations typically consist of business or pleasure flights originating at other airports, with termination or a stopover at the study airport.

The terms transient and itinerant are sometimes erroneously used interchangeably. This study will confine analysis to local and itinerant operations to correlate with FAA and State Aeronautics forecasting criteria.

3.4 National and Regional Trends in General Aviation

According to factors such as aircraft production, pilot activity and hours flown, general aviation reached a peak in the late 1970s. This peak was followed by a long downturn that persisted through most of the 1980s and the early 1990s and has been attributed to high manufacturing costs associated with product liability issues as well as other factors. The General Aviation Revitalization Act (GARA) of 1994 was enacted with the goal of revitalizing the industry by limiting product liability costs. The Act established an 18-year statute of repose on liability related to the manufacture of all general aviation aircraft and their components. According to a 2001 report to Congress by the General Accounting Office (GAO), trends in general aviation since GARA was enacted suggest that liability costs have been less burdensome to manufacturers, shipments of new aircraft have increased, and technological advances have been made. Indicators of general aviation activity, such as the numbers of hours flown and active pilots, have also increased in the years since GARA, but their growth has not been as substantial as the growth in manufacturing.

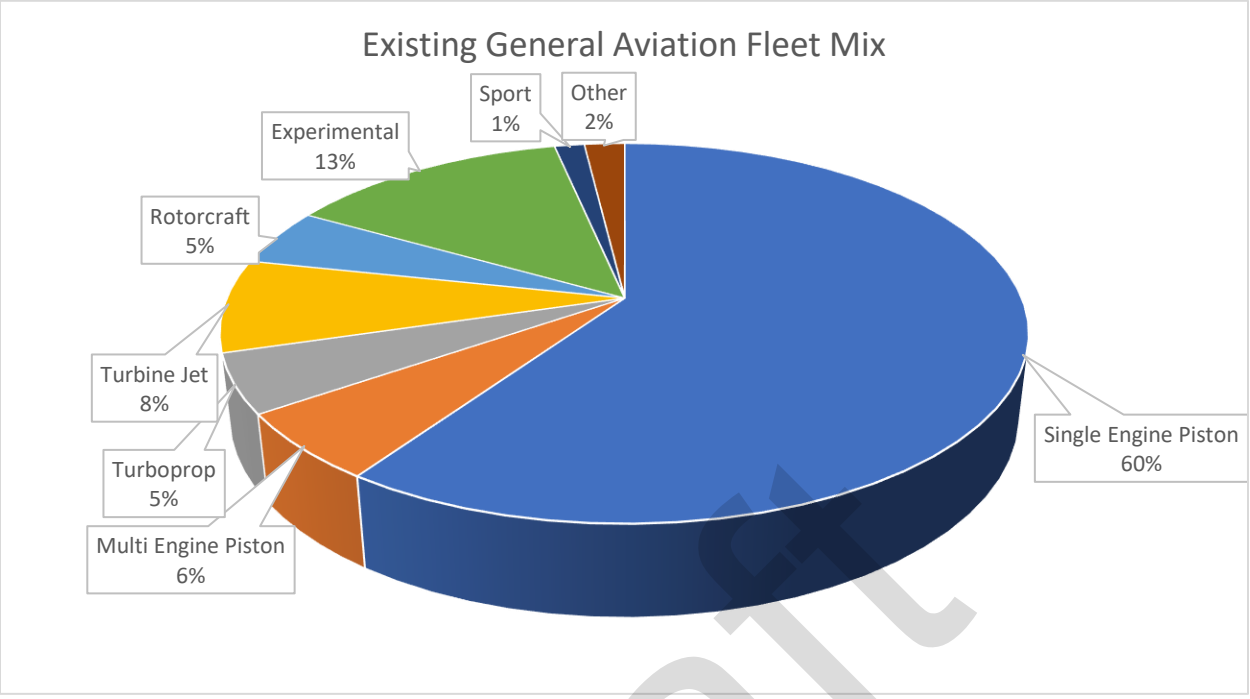
The FAA annually convenes expert panels in aviation and develops forecasts for future activity in all areas of aviation, including general aviation. The FAA's 2022 forecast predicts that the total general

aviation fleet will increase during the 20-year forecast period at a rate of 1.0 percent, from 204,590 aircraft in 2022 to 208,905 aircraft in 2042. The fleet of jet turbine aircraft is expected to increase at a greater rate while fixed-wing piston aircraft are expected to decline slightly; as a result, piston aircraft are expected to represent a smaller percentage of the total general aviation fleet.

The FAA forecasts an increase in larger aircraft that are able to carry more passengers each flight, while retiring a larger number of smaller aircraft. **Figure 3-4** and **Figure 3-5** illustrate this forecasted change to the general aviation fleet that is forecast to occur over the 20-year period.

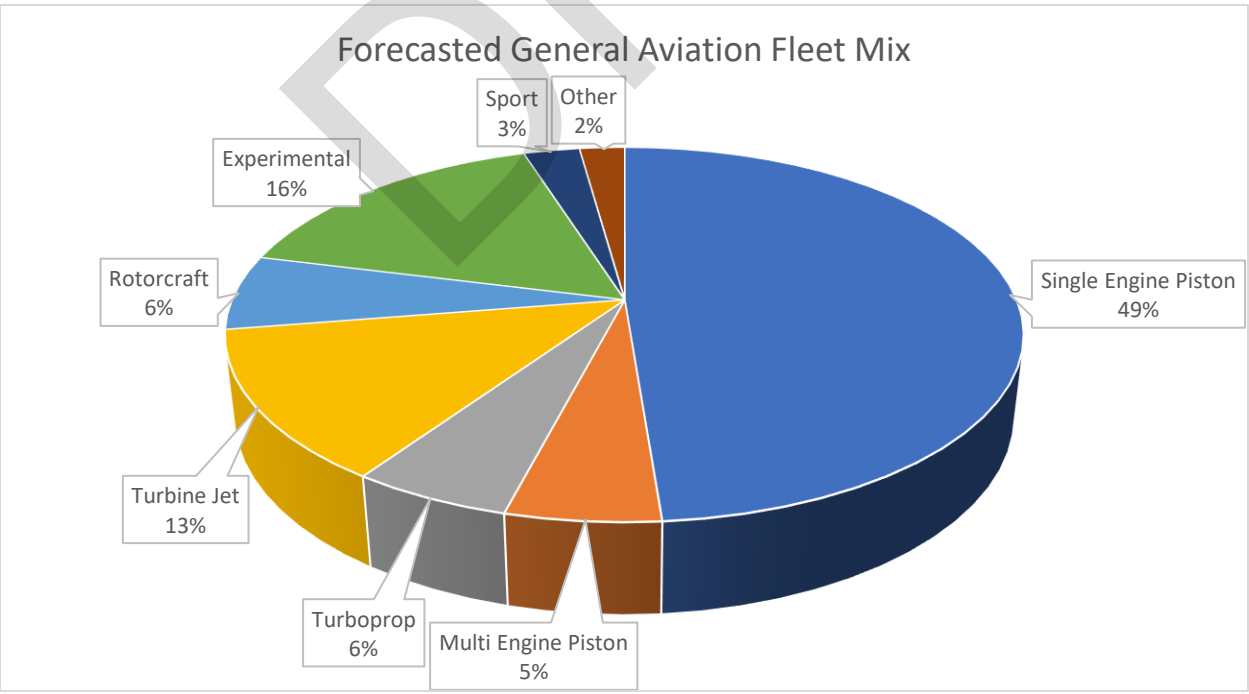
In 2005 the category of "light sport" aircraft was created. By 2022 a total of 2,905 aircraft were included in this category. By 2042, a total of 5,655 light sport aircraft are projected to be in the fleet.

The Federal Aviation Aerospace Forecast produces activity forecasts based on general aviation and air taxi hours flown. As shown in **Table 3-3**, the biggest predicted increase is for turbo jet and light sport aircraft at 3.4 percent and 3.8 percent growth respectively from 2022 through 2042. All aircraft categories, with the exception of single-engine fixed wing piston aircraft, are forecast to increase throughout the forecast period.



Source: FAA Aerospace Forecast, 2023

Figure 3-4 Existing National GA Fleet Mix



Source FAA Aerospace Forecast, 2023

Figure 3-5 Forecasted National GA Fleet Mix

Table 3-3 Active General Aviation and Air Taxi Hours Flown (In Thousands)

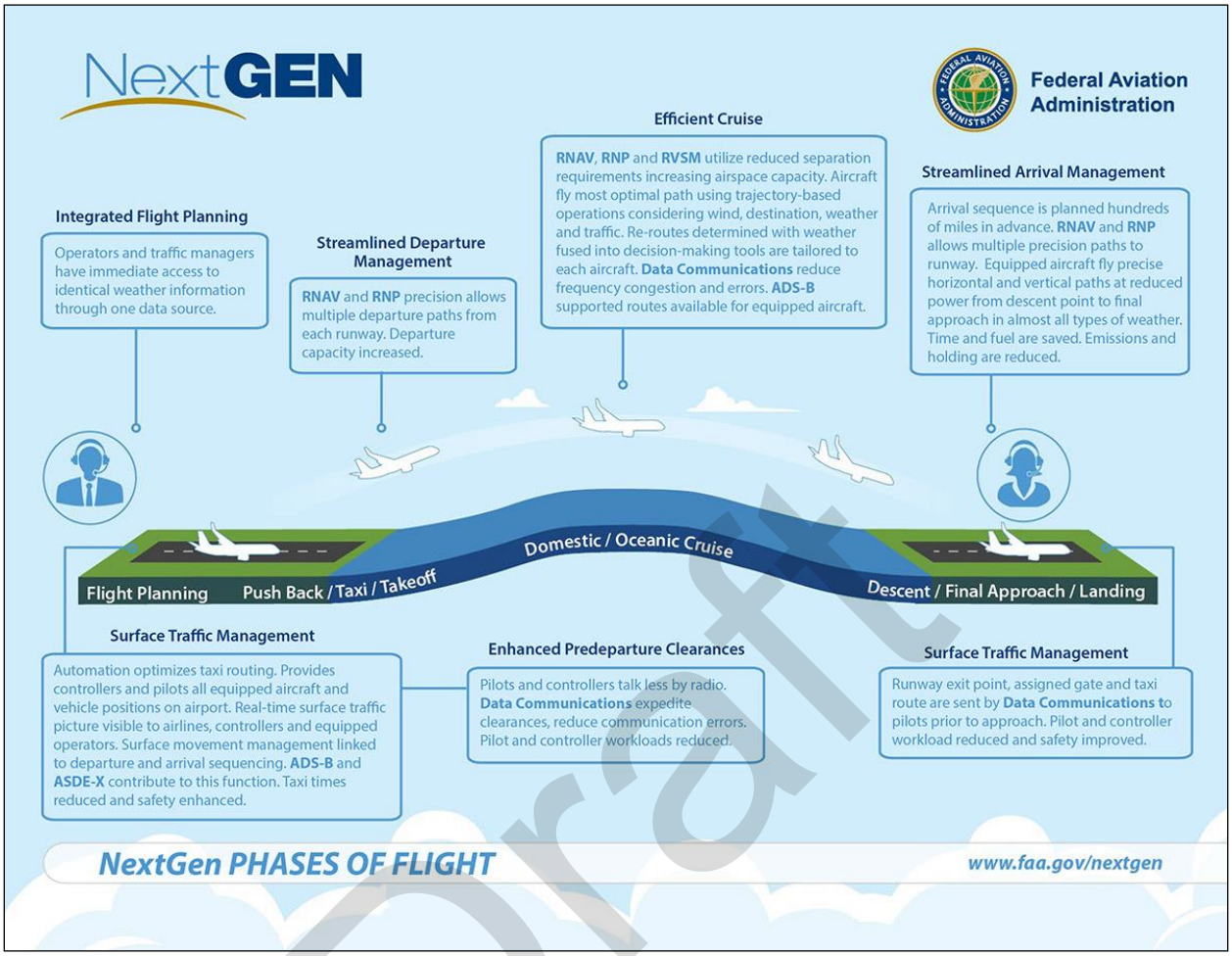
Year	Fixed Wing Aircraft				Rotorcraft		Experimental	Sport	Other	Total
	Piston		Turbine							
	Single-Engine	Multi-Engine	Turboprop	Turbojet	Piston	Turbine				
2022	11,478	1,464	2,618	4,403	586	2,116	1,198	232	116	24,211
2023	11,391	1,503	2,707	4,776	598	2,184	1,257	245	126	24,788
2024	11,294	1,513	2,772	5,107	611	2,245	1,300	258	134	25,235
2025	11,172	1,510	2,827	5,375	623	2,309	1,342	271	138	25,568
2026	11,029	1,505	2,856	5,597	634	2,366	1,374	285	142	25,788
2027	10,903	1,502	2,880	5,809	647	2,425	1,416	298	144	26,024
2028	10,793	1,498	2,891	6,014	661	2,488	1,441	311	144	26,242
2029	10,666	1,496	2,904	6,197	672	2,551	1,469	324	145	26,425
2030	10,558	1,498	2,918	6,380	683	2,615	1,494	337	145	26,628
2031	10,434	1,495	2,930	6,561	693	2,673	1,520	349	145	26,801
2032	10,328	1,496	2,946	6,739	703	2,731	1,543	362	145	26,994
2033	10,231	1,497	2,965	6,914	713	2,790	1,569	376	145	27,200
2034	10,139	1,500	2,986	7,092	721	2,849	1,592	388	145	27,412
2035	10,060	1,503	3,005	7,267	729	2,908	1,614	402	146	27,634
2036	9,988	1,507	3,017	7,449	739	2,967	1,638	414	146	27,865
2037	9,921	1,513	3,038	7,628	748	3,027	1,660	427	147	28,108
2038	9,869	1,519	3,068	7,792	758	3,086	1,680	440	147	28,359
2039	9,822	1,525	3,104	7,971	768	3,146	1,701	453	148	28,638
2040	9,788	1,533	3,143	8,150	778	3,208	1,721	466	148	28,934
2041	9,754	1,541	3,184	8,329	787	3,269	1,740	479	148	29,231
2042	9,742	1,552	3,229	8,513	797	3,331	1,758	491	149	29,563
AAG	-0.8%	0.3%	1.1%	3.4%	1.6%	2.3%	1.9%	3.8%	1.3%	1.0%

Source: FAA Aerospace Forecast, 2023

According to the most current FAA Aerospace Forecast, the FAA projects the number of active pilots (excluding student pilots) to increase by an average annual rate of 0.3 percent over the forecast period. Airline Transport Pilots are projected to increase at an average annual rate of 0.8 until 2042. The number of private pilots is projected to decrease at an average yearly rate of 0.5 percent over the forecast period. The FAA is also projecting an annual increase of 2.7 percent of sport pilots, reflecting a growing interest in this "entry level" pilot certificate.

NextGen

Next Generation Air Transportation System (NextGen) is a new era in flight that is transforming how aircraft navigate the sky and is a replacement to the World War II era technology that has until recently been the primary navigation technology. NextGen utilizes satellite technology which allows pilots to know the precise locations of other aircraft around them. This allows more planes in the sky while enhancing the safety of air travel. Satellite landing procedures also allow pilots to arrive at airports more efficiently by providing more direct flight routes. **Figure 3-6** illustrates the NextGen system.



Source: FAA, 2023

Figure 3-6 NextGen Program Improvements

Unmanned Aerial Systems

The integration of Unmanned Aerial Systems (UAS) into the National Airspace System poses a unique situation for airports throughout the United States. The UAS Integration Pilot Program (IPP) is currently investigating many applications of this new technology including agricultural management including spray operations, package delivery (retail and medical), emergency response management, and infrastructure inspection. Additionally, the IPP is also looking into operational considerations of UAS such as operations beyond visual line of sight, operations over residential areas, ability to "see and avoid", and ADS-B detection. The 2022-2042 FAA Aerospace Forecasts expects a rapid growth in commercial UAS uses within the forecast period. As a result of this evolving component to the National Airspace System, it is important to recognize that UAS may have an impact on the operational use of Spanish Peaks Airfield and should be planned for accordingly.

Regional / Commuter Airline Fleet Mix

There is an overall trend in general aviation and regional airline fleet mix transitioning from smaller aircraft to larger aircraft. The hours flown and number of piston driven general aviation aircraft are forecasted to decline while turbine and jet powered aircraft are expected to increase.

Regional carriers have fluctuated in the retirement of both turboprop and jet powered aircraft with passenger capacities of less than 50 seats in favor of larger capacity regional aircraft. In the early 2010's, many regional airlines retired their 50 seat passenger jets only to reintroduce them into service. These aircraft include the Bombardier Canadair Regional Jet (CRJ) 200 or Embraer 140/145. As previously indicated, the CRJ-200 and ERJ-140/145 have a capacity of 50 seats or less and are also slated for retirement from passenger service during the planning period. It is likely the CRJ-200 and ERJ-140/145 will be retired in the late-2020's according to recent projections. By the mid to late-2020's and onwards, the regional air carrier fleet mix will likely consist of the Bombardier CRJ-700/900 or Embraer 170 and 175.

3.5 Factors Affecting Aviation Demand at Spanish Peaks Airfield

In order to develop aviation forecasts to truly reflect the unique conditions at Spanish Peaks Airfield, the factors impacting the airport's demand must be evaluated. As of 2022, national indicators (i.e., population, unemployment, and general national trends in general aviation) depict a slight increase in growth rate for aviation activity. It's possible these factors may contribute to an uptick in demand to expand the existing hangar facilities and infrastructure to accommodate business and recreation transportation at the airport. If additional hangar space became available, it is likely there would be growth in based aircraft exceeding standard forecasting methodologies.

Globally, the Coronavirus Pandemic (COVID-19) has impacted air travel and enplanements at airports on a national, state and local level. Starting in early 2020, the COVID-19 virus progressed into a global pandemic which has impacted both general aviation and commercial traffic and travel. The onset of this unprecedented, fast-spreading virus resulted in virtually every state implementing some form of measures to slow the spread including: stay-at-home orders, wearing masks / protective equipment in public, and no non-essential travel. Global economic markets incurred significant losses in a relatively short-period. The United States unemployment rate increased from 4.4 percent in February 2020 to 14.7 percent in May 2020. Recreational and business air travel felt these impacts, due to travel restrictions and economic loss. However, activity is starting to return to pre-pandemic levels, and it is expected that these levels will continue to rise throughout the planning period and it is reasonable to expect that Spanish Peaks Airfield will experience similar trends.

Situated in the picturesque setting of southern Colorado, Huerfano County offers many natural attractions. Most notably include the mountain range after which the airport was named, the Spanish Peaks. The mountain range offers a wide variety of outdoor activities for visitors to enjoy including hiking, biking, fishing, and hunting grounds. Just 73 miles west of the Town of Walsenburg is the Great Sand Dunes National Park. The park is known for its impressive sand dunes, which are a sightseeing attraction, but it is also the gateway to several trails leading to mountainous forests, lakes and wetland landscapes. Visitors are attracted to the scenic landscape for photography, backpacking and camping, horseback riding, fishing and a host of other activities. The proximity of these areas to the airfield position it as a hub for general aviation activity and recreational/backcountry pilots visiting the surrounding areas or stopping for fuel.

3.6 Available Activity Forecasts

The first step in preparing aviation forecasts is to examine historical and existing activity levels and currently available forecasts from other sources. The FAA TAF and CASP forecasts were reviewed. The FAA TAF and CASP forecasts each provide different figures for forecasted based aircraft and total operations.

The TAF is the official FAA forecast of aviation activity for U.S. airports. The forecasts are prepared to meet the budget and planning needs of FAA and provide information for use by state and local authorities, the aviation industry, and the public. The current 2022 TAF indicates 20 existing based aircraft for Spanish Peaks Airfield and 5,000 existing annual operations. The TAF indicates no growth in either based aircraft or aircraft operations over the twenty-year planning period at Spanish Peaks. A no-growth trend at small general aviation airports is common with the FAA TAFs. The TAF is generally used as a reference to compare baseline activity levels.

The 2020 CASP indicates 18 based aircraft and 5,000 annual operations at Spanish Peaks Airfield, anticipating a The CASP forecast reports 19 based aircraft with a 1.0 percent average annual growth rate and 2,896 annual operations with a 1.8 percent average annual growth rate by the year 2042. The current National Based Aircraft Registry currently reports 20 based aircraft at the airfield, with 18 verified Aircraft. As part of the master plan study, airport management will update the based aircraft registry.

3.7 Existing Aviation Activity

The FAA Form 5010-1, *Airport Master Record*, is an FAA document which contains aeronautical data describing the physical and operational characteristics of civil public-use airports. Information is usually provided by the local operator of the airport. At the time of this study, the current Form 5010-1 indicates 20 based aircraft, and 5,000 total annual operations.

Table 3-4 depicts the existing based aircraft fleet and operations mix at Spanish Peaks Airfield as reported by airport management.

Table 3-4 Existing Aviation Activity

Year	Based Aircraft					Operations			
	Single-Engine	Multi-Engine	Turbo Prop	Rotorcraft	Total	GA – Local	GA – Itinerant	Air Taxi	Total
2022	17	2	1	0	20	3,500	1,500	0	5,000

Source: FAA Form 5010-1

As discussed in Chapter Two, *Inventory of Airport Assets*, Spanish Peaks Airfield serves a mix of single-engine piston and multi-engine piston driven, turboprop, and turbojet aircraft. These users include aircraft for personal and business purposes and frequently accommodates flight training, emergency medical services, and/or charter passenger services.

- **Business and Recreational Transportation -** This category includes business as well as tourism related activities. The types of aircraft utilized for personal and business transportation include a mix of single-engine, multi-engine, turboprop, and turbo jet aircraft. These users

prefer the utility and flexibility offered by general aviation aircraft. This is the most common type of user at the airport.

- **Air Ambulance Services and Local Health Care Support -** Air ambulance aircraft operate at the airport to provide emergency medical transportation for life threatening situations and assists in patient transfers by air from local hospitals to higher level care facilities that are typically located in Denver (approximately 104 miles by road). The air ambulance services provide quick and efficient transportation in emergency situations when time is of the essence. air ambulance operations are typically conducted by single and multi-engine turbo prop and jet aircraft, or rotorcraft.
- **Flight Training -** The airport is regularly utilized for flight training activities and provides a location for flights schools in the surrounding areas to utilize for cross-country training. Flight training operations are typically conducted by single and multi-engine propeller driven aircraft.

- **Military -** Military operations are those conducted by U.S. or foreign military aircraft and personnel for the purposes of national security and defense. Almost all military operations are training or proficiency activities. A wide range of aircraft may be used for these operations, including multi-engine piston or turboprop, turbojet, jet, or rotary.

3.8 Forecasts of Aviation Activity

3.8.1 Based Aircraft Forecast

The forecasts for Spanish Peaks Airfield took into consideration growth rates for the community, county, and state with a comparative analysis of existing based aircraft levels using several methodologies to determine a preferred forecast of based aircraft.

Forecasting methods were developed with the assumption that airport services would have reasonable growth in the future.

Method 1: General Aviation Hours Flown Method

This method utilizes growth rates in terms of hours flown, as indicated in the 2022-2042 FAA Aerospace Forecast and adjusts for the fleet mix of current and future aircraft operating at Spanish Peaks Airfield, primarily single and multi-engine piston, and some turboprop aircraft. This method assumes a 1.8 percent average annual growth rate which was applied to the current based aircraft fleet, resulting in 29 based aircraft in 2042. The result of the General Aviation Hours Flown scenario is shown in **Table 3-5**.

Table 3-5 General Aviation Hours Flown Method

Year	Average Annual Rate of Growth	Based Aircraft
2022	N/A	20
2027	1.8%	22
2032	1.8%	24
2037	1.8%	26
2042	1.8%	29

Source: Armstrong Consultants, Inc. 2023; FAA Aerospace Forecast, 2022

Method 2: State of Colorado TAF Market Share Method

This method utilizes based aircraft projections from the FAA TAF projections for the State of Colorado. The existing 20 based aircraft at Spanish Peaks Airfield accounted for 0.42 percent of the total based aircraft market share in the State of Colorado for 2022. To determine future based aircraft at the airport, the 0.42 percent market share was applied to the FAA TAF based aircraft projections for the State of Colorado. This forecast method results in a total of 23 based aircraft at Spanish Peaks Airfield in 2042. The result of the State of Colorado TAF Market Share scenario is shown in **Table 3-6**.

Table 3-6 Colorado TAF Market Share Method

Year	Average Annual Rate of Growth	Based Aircraft
2022	N/A	20
2027	0.42%	20
2032	0.42%	21
2037	0.42%	22
2042	0.42%	23

Source: Armstrong Consultants, Inc. 2023; FAA TAF 2022

Method 3: State of Colorado CASP

This method utilizes based aircraft projections from the CASP projections for the State of Colorado. It is worth noting that the most recent CASP is dated 2020, and baseline data from the CASP is dated 2018. This forecast applies the 0.73 percent growth rate identified in the CASP Based Aircraft Forecasting Methodologies to the existing based aircraft at Spanish Peaks Airfield. This forecast method results in a total of 21 based aircraft at Spanish Peaks Airfield in 2042. The result of the State of Colorado CASP scenario is shown in **Table 3-7**.

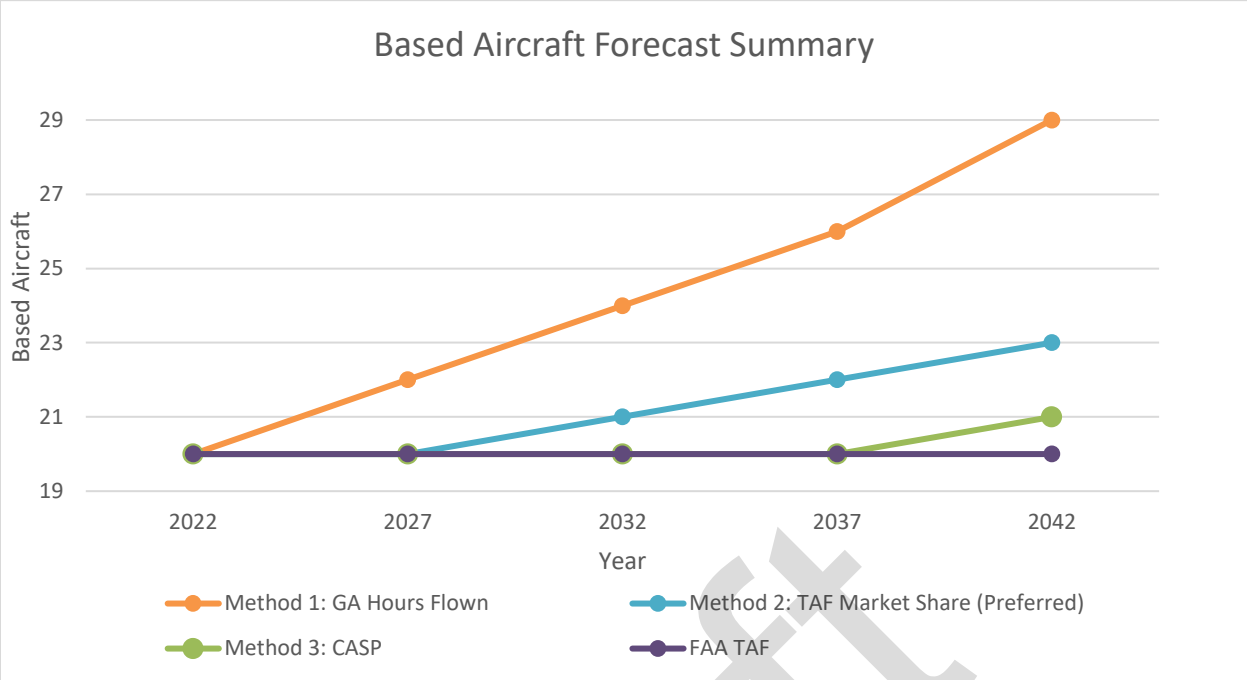
Table 3-7 CASP Method

Year	Average Annual Rate of Growth	Based Aircraft
2022	N/A	20
2027	0.73%	20
2032	0.73%	20
2037	0.73%	20
2042	0.73%	21

Source: Armstrong Consultants, Inc. 2022; CASP 2020

Preferred Method

Based on the results of the three forecasting methods discussed, Method 2, TAF Market Share, has been selected as the preferred forecast for based aircraft. This method factors in regional trends corresponding to aviation demand within the State of Colorado and the current fleet mix at the airport. This scenario would protect for moderate growth throughout the planning period. **Figure 3-7** and **Table 3-8** depict the various forecasting methods against the FAA TAF.



Source: Armstrong Consultants, Inc. 2023; FAA, 2022; CASP, 2020; CDLA, 2022

Figure 3-7 Based Aircraft Forecast Summary

Table 3-8 Total Based Aircraft Forecast

Year	Method 1	Method 2	Method 3	FAA TAF
2022	20	20	20	20
2027	22	20	20	20
2032	24	21	20	20
2037	26	22	20	20
2042	29	23	21	20

3.8.2 Aircraft Operations Forecast

In order to develop a preferred method of forecasting future aircraft operations at Spanish Peaks Airfield, the following methods were used:

Method 1: General Aviation and Air Taxi Hours Flown Method

This method utilizes the projected growth rates in general aviation and air taxi hours flown from the FAA Aerospace Forecast. This method assumes a 1.0 percent average annual growth rate from the existing 5,000 operations. This method results in 6,101 operations in 2042. The result of the General Aviation and Air Taxi Hours Flown Method is shown in **Table 3-9**.

Table 3-9 General Aviation and Air Taxi Hours Flown Method

Year	Average Annual Rate of Growth	Annual Operations
2022	N/A	5,000
2027	1.0 %	5,255
2032	1.0 %	5,523
2037	1.0 %	5,805
2042	1.0 %	6,101

Source: Armstrong Consultants, Inc. 2022; FAA Aerospace Forecast 2022

Method 2: Cohort Method

Method 2 is the Cohort Method, and it estimates operations based on a combination of forecasting methods. In this case, it applies the average of Method 1 and the aircraft operations forecast from the CASP which results in a new growth rate of 0.51 percent. This method results in 5,600 annual operations in 2042. The result of the Cohort Method is shown in **Table 3-10**.

Table 3-10 Cohort Method

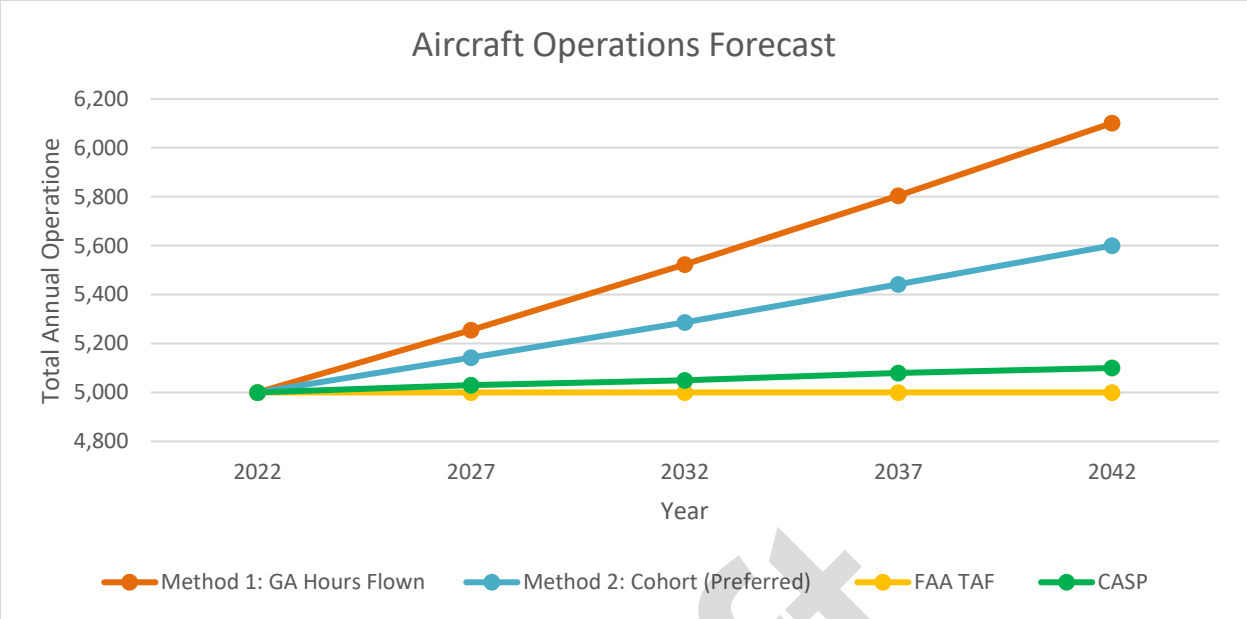
Year	Average Annual Rate of Growth	Annual Operations
2022	N/A	5,000
2027	0.51%	5,143
2032	0.51%	5,287
2037	0.51%	5,442
2042	0.51%	5,600

Source: Armstrong Consultants, Inc. 2022

These methods provide a likely estimate of activity for future operations at Spanish Peaks Airfield. **Figure 3-8** and **Table 3-11** summarize the operations forecasts. Based on an evaluation of the aircraft operations forecast methodologies, Method 2, the Cohort Method, was selected as the preferred operations forecast. It was determined that this method provides a realistic outlook for growth as it takes into consideration both local factors as well as regional and national trends in the industry.

Table 3-11 Total Annual Operations Forecast

Year	Method 1	Method 2	CASP	FAA TAF
2022	5,000	**5,000**	5,000	5,000
2027	5,255	**5,143**	5,030	5,000
2032	5,523	**5,287**	5,050	5,000
2037	5,805	**5,442**	5,080	5,000
2042	6,101	**5,600**	5,100	5,000



Source: Armstrong Consultants, Inc. 2022; FAA TAF; CASP

Figure 3-8 Annual Operations Forecast

3.9 Seasonal Use Determination

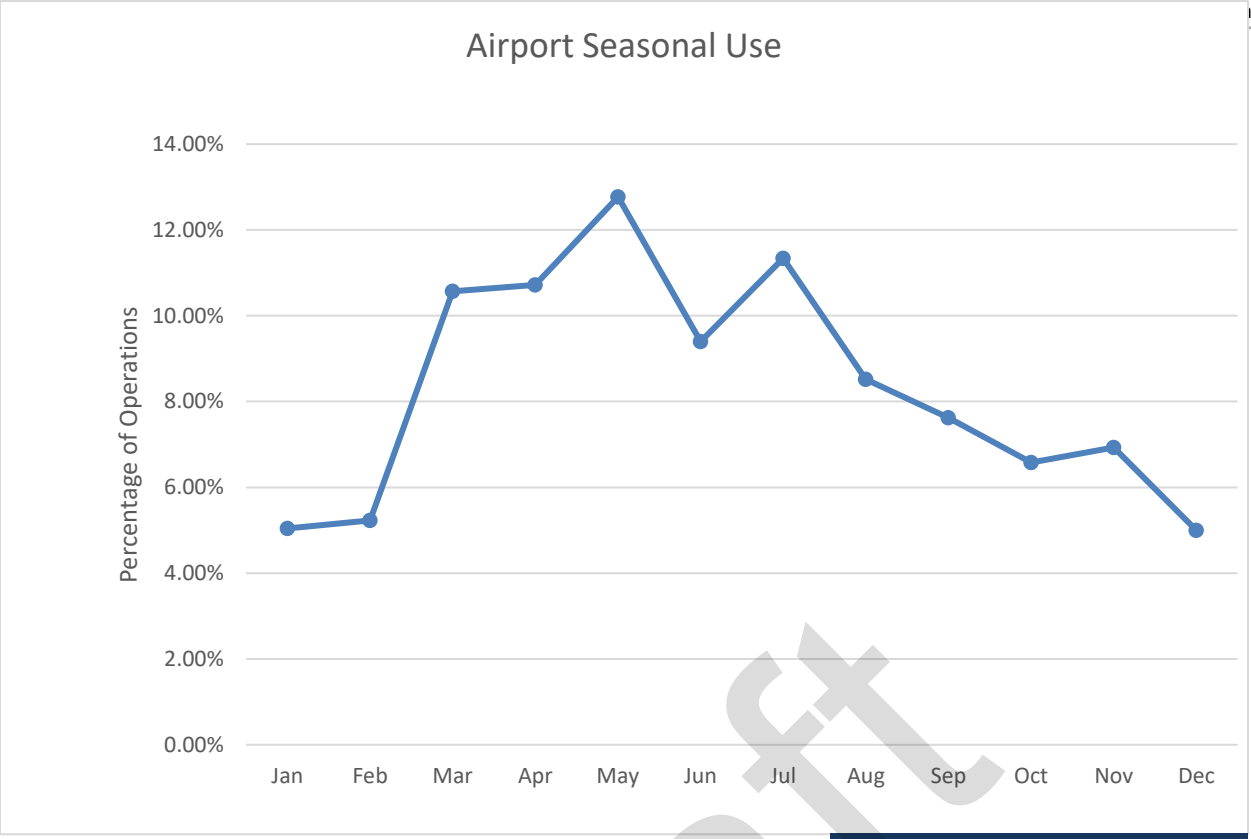
Some level of seasonal fluctuation in aircraft operations can be expected at nearly all airports. This fluctuation is most apparent in regions of the country with severe winter weather patterns or in resort communities where the local economy is driven by tourism. The fluctuation is less pronounced at major hub airports, with a high percentage of commercial and scheduled airline activity.

At non-towered general aviation airports, a method to determine seasonal fluctuation is to review annual fuel sales. A review of Spanish Peak Airfield's fuel sales data from 2019 through 2022 provides insight to the airport's seasonal use. **Table 3-12** and **Figure 3-9** show the fuel sales at Spanish Peaks Airfield. The greatest quantity of fuel sales occurred in May. The fuel sales information was used to help determine the monthly/hourly peaking tendencies at the airport.

Table 3-12 Spanish Peaks Airfield Fuel Sales

Jan	Feb	Mar	Apr	May	Jun	Jul	**Aug**	Sep	Oct	Nov	Dec
5.04%	5.23%	10.57%	10.72%	**12.77%**	9.40%	11.34%	8.52%	7.62%	6.85%	6.93%	5.0%

Source: Huerfano County, 2019-2022



Source: Armstrong Consultants, Inc. 2023

Figure 3-9 Seasonal Use Determination

Based on fuel sales data, Spanish Peaks Airfield operations peak in the spring and early summer when local weather conditions are most favorable for aircraft operations. Fuel sales gradually decline throughout the fall and early winter months. The peak month of operations has been determined to be May. This data will be utilized to determine monthly/hourly peaking tendencies at the airport.

3.10 Hourly Demand and Peaking Tendencies

In order to arrive at a reasonable estimate of demand at the airport facilities, it was necessary to develop a method to calculate the levels of activity during peak periods. The periods normally used to determine peaking characteristics are defined below:

Peak Month: The calendar month when peak enplanements or operations occur.

Design Day: The average day in the peak month derived by dividing the peak month enplanements or operations by the number of days in the month.

Busy Day: The Busy Day of a typical week in the peak month. In this case, the Busy Day is equal to the Design Day.

Design Hour: The peak hour within the Design Day. This descriptor is used in airfield demand/capacity analysis, as well as in determining terminal building, parking apron and access road requirements.

Busy Hour: The peak hour within the Busy Day. In this case, the Busy Hour is equal to the Design Hour.

Using the Seasonal Use information, a formula was derived which will calculate the average daily operations in a given quarter, based on the percentage of the total annual operations for that month, as determined by the graph. The formula is as follows:

M = A (T / 100)

D = M / (365 / 12)

Where T = Quarterly percent of use (from graph)

M = Average quarterly operations

A = Total annual operations

D = Average Daily Operations in a given quarter

Approximately 90% of total daily operations occur between the hours of 7:00 AM and 7:00 PM (12 hours) at a typical general aviation airport, meaning the maximum peak hourly occurrence may be 50% greater than the average of the hourly operations calculated for this time period.

The Estimated Peak Hourly Demand (P) in a given quarter was, consequently, determined by compressing 90% of the Average Daily Operations (D) in a given quarter into the 12-hour peak use period, reducing that number to an hourly average for the peak use period and increasing the result by 50% as follows:

P = 1.5 (0.90D / 12)

Where D = Average Daily Operations in a given quarter.

P = Peak Hourly Demand in a given month.

The calculations were made for each quarter of the planning period. The results of the calculations are shown in **Table 3-13**. The design day and design hour peak demand in the planning year occurs under VFR weather conditions in May (highlighted in bold), with an average of 24 daily operations and approximately 3 operations per hour in 2042.

Table 3-13 Monthly/Daily/Hourly Demand

Planning Year: 2027 Operations: 5,143					Planning Year: 2032 Operations: 5,287				
		Operations					Operations		
Month	% Use	Monthly	Daily	Hourly	Month	% Use	Monthly	Daily	Hourly
January	5.04%	259	9	0.96	January	5.04%	266	9	0.99
February	5.23%	269	9	0.99	February	5.23%	277	9	1.02
March	10.57%	544	18	2.01	March	10.57%	559	18	2.07
April	10.72%	551	18	2.04	April	10.72%	567	19	2.10
May	**12.77%**	**657**	**22**	**2.43**	**May**	**12.77%**	**675**	**22**	**2.50**
June	9.40%	483	16	1.79	June	9.40%	497	16	1.84
July	11.34%	583	19	2.16	July	11.34%	600	20	2.22
August	8.52%	438	14	1.62	August	8.52%	450	15	1.67
September	7.62%	392	13	1.45	September	7.62%	403	13	1.49
October	6.85%	352	12	1.30	October	6.85%	362	12	1.34
November	6.93%	356	12	1.32	November	6.93%	366	12	1.36
December	5.00%	257	8	0.95	December	5.00%	264	9	0.98
Planning Year: 2037 **Operations: 5,442**					**Planning Year: 2042** **Operations: 5,600**				
		Operations					Operations		
Month	% Use	Monthly	Daily	Hourly	Month	% Use	Monthly	Daily	Hourly
January	5.04%	274	9	1.01	January	5.04%	282	9	1.04
February	5.23%	285	9	1.05	February	5.23%	293	10	1.08
March	10.57%	575	19	2.13	March	10.57%	592	20	2.19
April	10.72%	583	19	2.16	April	10.72%	600	20	2.22
May	**12.77%**	**695**	**23**	**2.57**	**May**	**12.77%**	**715**	**24**	**2.64**
June	9.40%	512	17	1.89	June	9.40%	526	17	1.95
July	11.34%	617	20	2.28	July	11.34%	635	21	2.35
August	8.52%	464	15	1.71	August	8.52%	477	16	1.76
September	7.62%	415	14	1.53	September	7.62%	427	14	1.58
October	6.85%	373	12	1.38	October	6.85%	384	13	1.42
November	6.93%	377	12	1.39	November	6.93%	388	13	1.44
December	5.00%	272	9	1.01	December	5.00%	280	9	1.04

Source: Armstrong Consultants, Inc. 2023

3.11 Peak Hour General Aviation Pilot and Passenger Flow

The number of pilots and general aviation passengers relates to the peak hour operations forecast. Based upon a historical economic impact study, an average of 3.44 persons per aircraft operation is considered reasonable for general aviation forecasts. The average of 3.44 passengers per peak hour operation results in a peak hour flow of 9 general aviation pilots and passengers by 2042. **Table 3-14** lists the forecasted peak hour general aviation pilot and passenger flow.

Table 3-14 Peak Hour General Aviation Pilot and Passenger Flow

Year	Peak Hourly Aircraft Operations	Peak Hour GA Pilot/Passenger Flow
2027	2.43	8
2032	2.50	9
2037	2.57	9
2042	2.64	9

Source: Armstrong Consultants, Inc., 2023

3.12 Design Aircraft

A variety of aircraft, ranging from RDC of A-I through C-II, currently use and are expected to continue to utilize the airport in the short, medium and long-term time frames. Typically, the design aircraft best represents the most demanding aircraft using the airport that has at least 500 annual operations. The design aircraft is used to determine both existing and future facility needs at the airport.

The primary users of the airport include general aviation operators of aircraft with an Airplane Design Group (ADG) of B-II. One of the primary aircraft utilized at Spanish Peaks Airfield is the Beechcraft King Air 200 (RDC of B-II). It is recommended that the King Air 200 be the design aircraft for the primary runway (Runway 9/27) and the Cessna 182 be maintained as the design aircraft for the crosswind runway (Runway 2/20) during the planning period. **Figure 3-10** and **Figure 3-11** depicts the design aircraft for Spanish Peaks Airfield.

Source: globaljet.com, 2023

Figure 3-10 King Air 200

Source: AOPA, 2023

Figure 3-11 Cessna 182

3.13 Annual Service Volume

Airfield capacity is determined by using an airport's Annual Service Volume (ASV). An airport's ASV has been defined by the FAA as "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." Therefore, ASV is a function of the hourly capacity of the airfield and the annual, daily, and hourly demands placed upon it. According to FAA Advisory Circular 150/5060-5, *Airport Capacity and Delay*, the ASV for the single runway configuration for Spanish Peaks Airfield is approximately 230,000 annual operations.

Based on existing and forecasted activity levels, operations are not expected to exceed 2.43 percent of capacity over the 20-year planning period. Therefore, no additional runways are needed (from a capacity perspective) to accommodate the existing or forecasted activity. **Table 3-15** summarizes the ASV relationship developed in this section.

Table 3-15 Annual Service Volume

Year	Total Annual Operations	Annual Service Volume	Annual Service Ratio
2022	5,000	230,000	2.17%
2027	5,143	230,000	2.23%
2032	5,287	230,000	2.29%
2037	5,442	230,000	2.36%
2042	5,600	230,000	2.43%

Source: FAA Advisory Circular 150/5060-5, *Airport Capacity and Delay*

3.14 Forecast Summary

Table 3-16 provides a summary of the preferred forecasts for Spanish Peaks Airfield through the 20-year planning period, while utilizing the most current based aircraft and aircraft operations data for the baseline year.

Table 3-16 Preferred Forecast Summary

		Operations		
Year	Based Aircraft	GA- Local	GA – Itinerant	Total
2022	20	1,500	3,500	5,000
2027	21	1,543	3,600	5,143
2032	22	1,586	3,701	5,287
2037	23	1,633	3,809	5,442
2042	24	1,680	3,920	5,600

Source: Armstrong Consultants, Inc., 2023

Chapter Four
Facility Requirements

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Chapter 4 – Facility Requirements

4.1 Introduction

This chapter identifies the requirements for airside and landside facilities to accommodate the forecasted demand levels at Spanish Peaks Airfield. In order to meet the demand levels, an assessment of the existing airport facilities to meet current and future demand was conducted. The facility requirements were based on information derived from capacity and demand calculations, information from FAA advisory circulars and design standards, the sponsor's vision for the future of the airport, the condition and functionality of existing facilities, and other pertinent information.

Facility requirements have been developed for the various airport functional areas listed below:

- General aviation requirements
- Runways, taxiways, taxilanes and aircraft parking aprons
- Support facilities
- Ground access, circulation, and parking requirements
- Infrastructure and utilities
- Land use compatibility and control

The time frame for addressing development needs usually involves short-term (up to five years), medium-term (six to ten years), and long-term (eleven to twenty years) planning periods. Short-term analysis focuses on immediate action items. Medium-term planning focuses on a more detailed assessment of needs and long-term planning primarily focuses on the ultimate role of the airport. Most important to consider is that master planning should be based on actual demand at an airport rather than time-based predictions. Actual activity at the Airport will vary over time and may be higher or lower than what the demand forecast predicts. Using the three planning milestones (short-term, medium-term, and long-term) the airport sponsor can make an informed decision regarding the timing of development based on the actual demand. This approach will result in a financially responsible and demand-based development of the Airport.

4.2 Design Standards

Airport design standards provide basic guidelines for a safe, efficient, and economically beneficial airport system. The FAA requires that design and construction projects to follow design standards to receive FAA grant funds. The standards cover a wide range of size and performance characteristics of aircraft that are anticipated to use an airport. Various elements of airport infrastructure and their functions are also covered by these standards. Choosing the correct aircraft characteristics for which the Airport will be designed needs to be done carefully so that future requirements for larger and more demanding aircraft are taken into consideration, while at the same time remaining mindful that designing for large aircraft that may never serve the Airport is not economical.

As discussed previously in Chapter Two, *Inventory of Airport Assets*, the design aircraft and Runway Design Code (RDC) are key components of the FAA's design standards. The design aircraft (or family of design aircraft), along with the RDC, provide the information needed to determine which FAA design standards apply to the airfield, and in turn can be used to determine some of the necessary facility requirements. As mentioned, the existing RDC for Runway 9/27 is B-II-5000; the existing design aircraft for Runway 9/27 is a King Air B-200 (**Figure 4-1**). The existing RDC for Runway 2/20 is A-I (Small); existing design aircraft for Runway 2/20 is the Cessna 182 (**Figure 4-2**). It is recommended that the King Air 200 and Cessna 182 be maintained as the existing design aircraft for Spanish Peaks Airfield. Examples of the various types of aircraft that operate at the Airport frequently and their specifications are illustrated in **Table 4-1**.

Figure 4-1 King Air 200

Source: globaljet.com, 2023

Figure 4-2 Cessna 182

Source: Armstrong Consultants, Inc. 2023

Table 4-1 Example of Similar Aircraft Types Operating at Spanish Peaks Airfield

Aircraft	AAC/ADG	Approach Speed (kts)	Wingspan (ft)	Tail Height (ft)	Max. Take Off Weight (lbs.)
Cessna 182	**A-I**	**64**	**36.0**	**9.2**	**2,950**
Cessna 172	A-I	60	36.0	9.8	2,200
Eclipse 500 Jet	A-I	90	37.9	13.5	5,920
Piper Archer II	A-I	86	35.0	7.4	2,500
Pilatus PC-12	A-II	85	52.3	14.0	9,920
Beech Bonanza F33A	A-I	69	33.5	8.2	3,500
Beech King Air B-100	B-I	111	45.9	15.3	11,799
Beech King Air B-200	**B-II**	**103**	**54.5**	**14.1**	**12,500**
Cessna 441	B-II	100	49.3	13.1	9,925
Cessna Citation 525A	B-II	118	49.8	14.0	12,500
Cessna Citation 560XL	B-II	107	55.8	17.2	16,830
Cessna Citation 650	B-II	126	53.6	16.8	23,000
Dassault Falcon 50	B-II	113	61.9	22.9	37,480
Dassault Falcon 2000	B-II	114	63.3	23.2	35,888
Grumman Gulfstream I	B-II	113	78.5	23.0	35,100
Hawker 125-400A	C-I	124	47.0	16.5	23,300
Learjet 25	C-I	137	35.6	12.6	15,000
Learjet 55	C-I	128	43.7	14.7	21,500
Bombardier CL-604	C-II	132	64.3	20.3	47,600
Bombardier CL-600	C-II	125	64.3	20.7	41,100
Embraer ERJ-145	C-II	124	65.75	22.17	46,275
CRJ-200	C-II	140	68.67	20.75	51,000
Gulfstream IV	C-II	128	77.1	24.1	73,200
Bombardier CRJ 700	C-II	135	76.27	24.8	72,750
Gulfstream 450	D-II	149	77.1	24.1	74,600
E-175	C-III	124	93.9	32.3	89,353
Gulfstream	C-III	125	93.3	25.7	91,400

Source: FAA AC 150/5300-13B, *Airport Design*, 2022; Armstrong Consultants, 2023

As previously discussed in Chapter Three, *Forecasts of Aviation Demand*, the fleet mix at the Airport is expected to remain consistent with the existing levels throughout the planning period. Based on existing and forecasted demand levels, these aircraft represent the likely types of aircraft to use the facility in the planning period, and it is reasonable to maintain the existing RDC of B-II for Runway 9/27 over the course of the planning period. Chapter Five, *Development Alternatives* will further discuss any recommended changes to the Airport and the airfield to meet the prescribed design standards.

4.3 Airfield Capacity

The airfield capacity analysis is determined by using an airport's annual service volume (ASV). An airport's ASV has been defined by the FAA as "a reasonable estimate of an airport's annual capacity. It takes into account differences in runway utilization, weather conditions and aircraft mix that would be encountered in one year. According to FAA Advisory Circular (AC) 150/5060-5, *Airport Capacity and Delay*, the ASV for an airfield configuration like Spanish Peaks Airfield (a two-runway system) is approximately 230,000 operations.

The existing 5,000 aircraft operations in 2022 and the 230,000 ASV per AC 150/5060-5, account for approximately 2.17 percent of Spanish Peaks Airfield's ASV. By 2042, the forecasted operations are estimated to be at approximately 2.43 percent of the total ASV for the Airport. Under the current and forecasted conditions, the existing runway configuration will adequately meet the airfield capacity demand throughout the planning period. **Table 4-2** summarizes the projected ASV and annual capacity ratio for the Airport.

Table 4-2 Airfield Capacity Analysis Summary

Year	Annual Operations	Annual Service Volume	Annual Service Ratio
2022	5,000	230,000	2.17%
2027	5,143	230,000	2.23%
2032	5,287	230,000	2.29%
2037	5,442	230,000	2.36%
2042	5,600	230,000	2.43%

Source: FAA AC 150/5060-5, *Airport Capacity and Delay*, Armstrong Consultants, 2023

4.4 Airside Facility Requirements

All airports are comprised of both airside and landside facilities. Airside facilities consist of those facilities that are related to aircraft arrival, departure, and ground movement, along with all associated navigational aids, airfield lighting, pavement markings, and signage.

4.4.1 Runway Orientation

The FAA AC 150/5300-13B, *Airport Design*, recommends that a runway's orientation provide at least 95 percent crosswind coverage. Based on the wind data presented in **Table 2-13**, Runways 9/27 and 2/20 provide a combined 97.43 percent wind coverage for A-I and B-I aircraft (10.5 knots), and 99.1 percent wind coverage for A-II and B-II aircraft (13 knots). The wind coverage for Runway 9/27 is 88.92 percent for A-I and B-I aircraft (10.5 knots), and 93.05 percent wind coverage for A-II and B-II aircraft (13 knots).

The existing airfield configuration exceeds the FAA's recommended crosswind coverage of 95 percent for both 10.5 and 13 knot crosswind categories. However, the crosswind Runway 2/20 is designed for aircraft that fall within the A-I and B-I category; therefore, it is recommended to upgrade the Runway Design Code (RDC) for Runway 2/20 to B-II in order to provide the recommended 95 percent combined wind coverage for B-II aircraft.

4.4.2 Runway Length

There are many factors that may determine the runway length for an airport. FAA AC 150/5325-4B, *Runway Length Requirements for Airport Design*, provides guidance for determining runway length requirements. The information required to determine the recommended runway length(s) includes airfield elevation, mean maximum temperature of the hottest month, and the effective gradient for the runway. Also, the performance characteristics and operating weight of an aircraft impacts the amount of runway length needed. The following information for Spanish Peak Airfield was used for the runway length analysis:

- Field elevation: 6,055 feet mean sea level (MSL)
- Mean maximum temperature of hottest month (July): 87.5° F
- Maximum difference in runway centerline elevation (Runway 9/27): 26 feet
- Performance characteristics and operating weight of design aircraft

The process to determine recommended runway lengths for a selected list of critical design aircraft begins with determining the weights of the critical aircraft that are expected to use the airport on a regular basis. For aircraft weighing 60,000 pounds or less, the runway length is determined by family groupings of aircraft having similar performance characteristics. The first family grouping is identified as small aircraft, which is defined by the FAA as airplanes weighing 12,500 pounds or less at maximum takeoff weight (MTOW). The second family grouping is identified as large aircraft, which is defined by the FAA as aircraft exceeding 12,500 pounds but weighing less than 60,000 pounds. For aircraft weighing more than 60,000 pounds, the required runway length is determined by aircraft-specific length requirements. **Table 4-3** depicts the aircraft weight categorization as recommended by the FAA.

Table 4-3 Airplane Weight Categorization for Runway Length Requirements

Airplane Weight Category MTOW			Aircraft Grouping
≤ 12,500 Pounds	Approach Speed < 30 knots		Family groupings of small airplanes
	Approach Speed ≥ 30 knots, but < 50 knots		Family groupings of small airplanes
	Approach Speed ≥ 50 knots	With < 10 Passengers	Family groupings of small airplanes
		With ≥ 10 Passengers	Family grouping of small airplanes
Over 12,500 pounds, but < 60,000 pounds			Family groupings of large airplanes
≥ 60,000 pounds or more, or Regional Jets			Individual large airplane

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

Recommended runway lengths are determined using charts in AC 150/5325-4B based on the seating capacity and the mean daily maximum temperature of the hottest month of the year at the airport. According to the AC, small airplanes with an approach speed of greater than or equal to 50 knots with less than 10 passenger seats and a MTOW less than 12,500 pounds recommends a runway length of 7,400 feet to accommodate 95 and 100 percent of the fleet respectively. Due to

a high field elevation of the Airport, the existing length of Runway 9/27, which is 4,715 feet, is not adequate to accommodate 95 percent of the small aircraft fleet during the warmest month at the hottest time of day.

Recommended runway lengths to serve large aircraft weighing over 12,500 pounds, but less than 60,000 pounds, are determined using a certain percentage of the useful load. The term useful load, as defined by the FAA, is the difference between the maximum allowable structural gross weight and the operating empty weight. A typical operating empty weight includes the airplane's empty weight, crew, baggage, other crew supplies, removable passenger service equipment, removable emergency equipment, engine oil and unusable fuel. According to the above referenced Advisory Circular, 75 percent of the large aircraft fleet at 60 and 90 percent useful load requires runway lengths of 7,000 and 8,500 feet, respectively. Similarly, the Advisory Circular indicates that 100 percent of the large fleet at 60 and 90 percent useful load requires a runway length of 11,000 feet. With an existing runway length of 4,715 feet, Runway 9/27 cannot accommodate most of the aircraft that fall within the large aircraft category (over 12,500 pounds, but less than 60,000 pounds), and aircraft that weigh more than 60,000 pounds according to FAA calculations. The recommended runway length for the design aircraft (King Air 200), is approximately 5,000 feet at max gross takeoff.

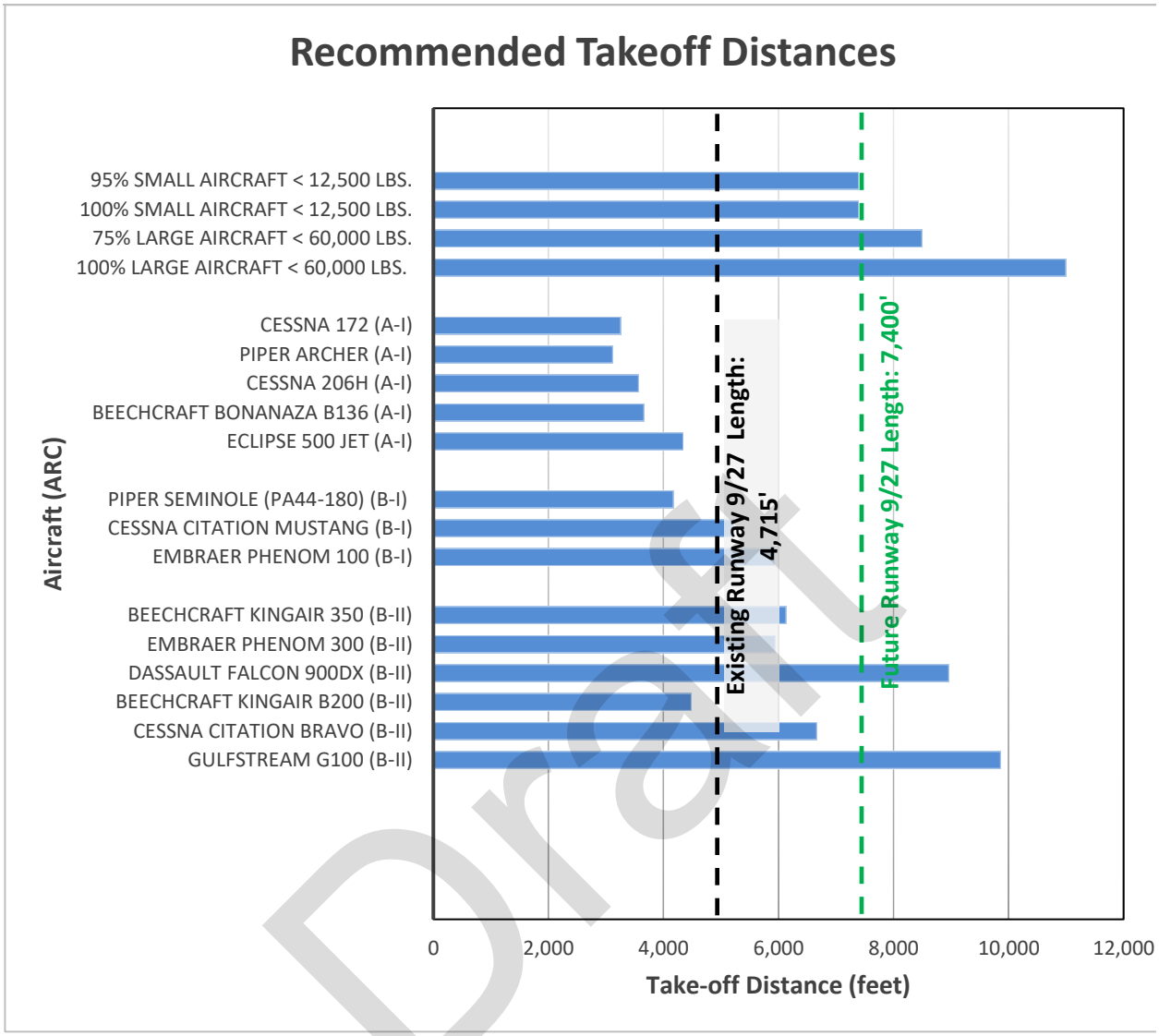
Based on the analysis, it is recommended that the Runway 9/27 length of 4,715 feet be extended to a future length of 7,400 feet to accommodate 100 percent of the small aircraft fleet. The recommended runway length information for Runway 9/27 and 2/20 as discussed above is summarized in **Table 4-4**. A depiction of recommended takeoff distances for aircraft that typically operate that the Airport is shown in **Figure 4-3**.

FAA AC 150/5325-4B recommends the same guidelines be followed to determine the recommended runway length for crosswind runways. Small aircraft weighing less than 12,500 pounds primarily have less crosswind performance capabilities. A length of 7,400 feet for Runway 2/20 is recommended to accommodate 100 percent of small aircraft weighing less than 12,500 pounds. Recommendations and evaluations for the length of the Airport's crosswind runway will be further discussed in Chapter Five, *Development Alternatives*.

Table 4-4 Runway 9/27 Length Analysis

Existing Runway 9/27 Length (feet)	**4,715**
Existing Runway 2/20 Length (feet)	**2,238**
Aircraft Grouping:	**Recommended Runway Length (feet)**
Small Aircraft (<12,500 lbs., < 10 passenger seats)	
95 percent of these small airplanes	7,400
100 percent of these small airplanes	**7,400**
Large Aircraft (<60,000 lbs.)	
75 percent of these planes at 60 percent useful load	7,000
75 percent of these planes at 90 percent useful load	8,500
100 percent of these planes at 60 percent useful load	11,000
100 percent of these planes at 90 percent useful load	11,000
King Air 200 (Existing Design Aircraft)	
Max gross takeoff weight	5,000

Source: FAA AC 150/5325-4B, *Runway Length Requirements for Airport Design*, 2005; These are no wind conditions with an uncontaminated runway.



4.4.3 Runway Width

The required runway width is a function of airplane approach category, airplane design group, and the approach minimums for the design aircraft expected to use the runway on a regular basis. The existing runway pavement width on Runway 9/27 is 75 feet which meets the FAA design standard for B-II. It is recommended that the existing width of 75 feet for Runway 9/27 be maintained throughout the planning period.

Runway 2/20 is constructed to a width of 40 feet which is considered inadequate according to the FAA design standard for A-I (Small) runway, The design standard for an A-I (Small) runway is 60 feet wide. As was previously discussed, it is recommended that the Runway Design Code for Runway

2/20 be upgraded to B-II based on the wind coverage and therefore the runway width should be increased to 75 feet to meet B-II runway design standards.

4.4.4 Runway Pavement Strength and Condition

According to FAA guidance on pavement strength, the aircraft types and the critical aircraft expected to use the airport during the planning period are used to determine the required pavement strength, or Pavement Classification Number (PCN), of airfield surfaces. The required PCN is based on average levels of activity of the critical aircraft's Aircraft Classification Number (ACN). PCN strength is not the maximum allowable weight; limited operations by heavier aircraft other than the critical aircraft may be permissible. However, it is important to note that frequent operations by aircraft with a higher ACN will shorten the lifespan of the pavement.

The existing reported PCN for Runway 9/27 is 5/F/C/Y/T. The ACN for the future design aircraft, the King Air B-200, is reported to be no greater than 4 for flexible pavement. The runway pavement strength can also be expressed in allowable maximum weight for specified landing gear configurations. Runway 9/27 has a published pavement strength of 17,000 pounds single wheel gear (SWG). The maximum takeoff weight (MTOW) for the King Air 200 is 12,500 pounds. Based on the existing PCN and published pavement strength it is recommended to maintain the existing Runway 9/27 PCN pavement strength throughout the planning period. Should operations occur by aircraft with an ACN outside the existing Runway 9/27 PCN capabilities, it is recommended further analysis be conducted to determine adequate PCN pavement strengths. As shown in **Figure 2-5** of Chapter 2, Runway 9/27 PCI is listed being in good condition. Maintaining runway pavement is an important factor in providing a safe environment for aircraft operations at an airport.

It is recommended to pave Runway 2/20 in the future, as part of the RDC upgrade. At this time, the future PCN should be 4 with a published strength of 12,500 pounds SWG.

4.4.5 Taxiway and Taxilane Requirements

By definition, a taxiway is a defined path established for the taxiing of aircraft from one part of an airport to another. A taxilane is a taxiway designated for low speed and precise taxiing. Taxilanes are usually, but not always, located outside the movement area, providing access from taxiways to aircraft parking positions, hangars, and terminal areas.

FAA AC 150/5300-13B, *Airport Design*, provides planners with guidance on recommended taxiway and taxilane layouts to avoid runway incursions and to enhance the overall safety at the airport. According to the FAA, a runway incursion is "any occurrence at an airport involving the incorrect presence of an aircraft, vehicle, or person on the protected area of a surface designated for the landing and takeoff of aircraft." In addition, according to *Airport Design*, "good airport design practices keep taxiway intersections simple by reducing the number of taxiways intersecting at a single location and allows for proper placement of airfield markings, signage, and lighting.

As discussed previously in Chapter Two, to arrive at the TDG (Taxiway Design Group), the undercarriage dimensions of the aircraft are used. The TDG design standards are based on the overall main gear width (MGW) and the cockpit-to-main gear (CMG) distance. Taxiway/taxilane width and fillet standards, and in some instances, runway-to-taxiway and taxiway/taxilane separation requirements, are determined by the TDG. The FAA advises that it is appropriate for a series of taxiways on an airport to be built to a different TDG standards based on anticipated use. The Airplane Design Group (ADG) is based on the wingspan and tail height and determines the safety area, object free area, and separation standards for a taxiway.

The existing design aircraft for Runway 9/27 falls within the TDG 2A design standards. The prescribed taxiway width for TDG 2A is 35 feet. The existing taxiways, taxiway connectors, and taxilanes meet TDG 2A design standards. The future design aircraft for Runway 9/27 is recommended to remain the King Air B- 200, and therefore the existing TDG 2A design standards will remain adequate for the planning period. Therefore, it is recommended to keep the width of Taxiway A1 and Taxiway A2.

The development of a full-length parallel taxiway serving Runway 9/27 is recommended for the future. The development of the taxiway may be completed in phasing based on available funding. Initial development of a bypass taxiway on the approach end of Runway 27 is recommended to provide an area for aircraft to conduct takeoff checklists clear of the active runway. The parallel taxiway should be constructed with 300 feet of separation from runway centerline to taxiway centerline to protect for a potential post planning period upgrade to Category C design standards. The development of a taxiway serving Runway 2/20 is also recommended. Further discussion regarding taxiway configurations will be discussed in Chapter Five, *Development Alternatives*.

It is recommended that the airport protect for additional taxilane development, this should include both Group I and Group II design standards.

4.4.6 Aircraft Apron

An aircraft apron is typically located in the non-movement area of an airport near or adjacent to the terminal area. The function of an apron is to accommodate aircraft during loading and unloading of passengers and/or cargo. Activities such as fueling, maintenance, and short to long-term parking take place on an apron. The layout and size of an apron depends on aircraft and ground vehicle circulation needs and specific aircraft clearance requirements. There are several types of aircraft aprons:

- ***General aviation aircraft apron –*** At general aviation airports, this type of apron can provide some tie-down locations for both itinerant and based aircraft. It is recommended to continually configure the general aviation apron to meet FAA design standards and optimize aircraft parking layouts as needed with apron expansion.
- ***Other services apron –*** Apron areas that will accommodate aircraft servicing, fueling, and the loading/unloading of cargo.

- ***Hangar aprons –*** This is an area on which aircraft move into and out of a storage hangar.
- ***Helicopter apron –*** This is an area that is designated specifically for helicopter parking and is typically connected or adjacent to other aircraft parking aprons.

FAA AC 150/5300-13B, *Airport Design*, provides design criteria to assist in apron layout and capacity. For the purpose of calculating the aircraft apron size, the following planning criterions were used:

- 800 square yards of apron per aircraft for single-engine and multi-engine aircraft
- 1,500 square yards per aircraft for turboprops and small business jets
- Itinerant aircraft apron requirements are based on the design hour operations

It is recommended to protect for apron expansion in the future. It is also recommended that routine pavement maintenance projects take place on the existing apron, and reconstruction when warranted.

The best course of action regarding aircraft parking apron, includes protecting for post-planning period development, which will be included in Chapter Five, *Development Alternatives*.

The following recommendations for additional aircraft apron development are discussed below.

General Aviation Aircraft Parking Apron:

- Expand the general aviation aircraft parking apron for a combination of small and large aircraft. It is recommended to continually configure the general aviation apron to meet FAA design standards and optimize aircraft parking layouts as needed with apron expansion.
- Continue to monitor the existing apron pavement condition and conduct maintenance and reconstruction projects as the pavement reaches the end of its useful life.
- Protect for helicopter parking pads and concrete hardstands for jet traffic. It is recommended to construct dedicated helicopter parking pads and concrete hardstands near the general aviation and transient apron to help prevent damage to the aircraft parking apron. Recommended locations and layouts will be identified in Chapter Five, *Development Alternatives.*
- It is recommended to protect for additional infrastructure and circulation for electric charging stations serving electric aircraft (currently in development) which may utilize the airport over the planning period.

Special Use Aprons:

- Provide a dedicated apron for unmanned aerial systems (UAS) and vertical takeoff and landing (VTOL) operations. As UAS and VTOL become more prevalent and sophisticated it is prudent to plan for their integration at airports. It is recommended to protect for a

dedicated UAS VTOL apron area. Separating special use apron areas from the general aviation apron provides enhanced safety and efficiency. Recommended locations and layouts will be identified in Chapter Five, *Development Alternatives.*

4.4.7 Instrument Approaches and Navigational Aids

For aircraft operating under Instrument Flight Rules (IFR), an instrument approach procedure is a series of predetermined maneuvers under instrument meteorological conditions (IMC) from the beginning of the initial approach to a landing, or to a point from which a landing may be made visually.

Non-precision Global Positioning System (GPS) approaches do not require ground-based facilities on or near the airport for navigation. The GPS receiver uses satellite technology coupled with instrumentation onboard the aircraft and does not require the use of ground-based NAVAIDs. Therefore, it involves little or no cost for the airport sponsor. Instrument approach procedures increase the utility of the airport by providing the capability to operate in inclement weather conditions. This is especially important for air ambulance and business flights. It is also utilized for conducting training and maintaining instrument currency.

The existing instrument approach procedures available at Spanish Peaks Airfield are listed in **Table 2-6** of Chapter Two*, Inventory of Airport Assets*. It is recommended to maintain the existing non-precision GPS instrument approach procedures.

4.4.8 Airfield Lighting, Signage, Markings, and Visual Aids to Navigation

Based on findings from the airport inventory as discussed in Chapter Two, *Inventory of Airport Assets*, the Airport lighting, signage, markings and visual aids consists of the following:

- Non-Precision approach markings on Runway 9/27
- Medium Intensity Runway Lights (MIRLs) on Runway 9/27
- Two-Light Precision Approach Path Indicators (PAPIs) on Runway 9/27
- Runway End Identifier Lights (REILs) on Runway 9/27
- Threshold Lights on Runway 9/27
- Lighted taxiway signage
- Taxiway retroflectors
- Lighted wind cone with segmented circle
- Rotating Beacon

The existing airfield signage, marking and lighting is considered to be in fair condition. It is recommended to maintain and replace these facilities as needed. Light-Emitting Diodes (LED) lights are currently utilized on the runway. Lighting of the future parallel taxiway is recommended.

4.4.9 Weather Aids

The existing Airport AWOS-III meets the existing and projected needs of the Airport and is in good overall condition.

4.5 Landside Facility Requirements

Landside facilities are another important aspect of any airport as they handle aircraft and passengers while on the ground at the airport. Landside facilities serve as the processing interface between two modes of transportation – air and ground. Likewise, landside facilities also offer travelers the first impression of the airport and the local community.

The capacity, condition, and functionality of the various facilities were examined in relation to the anticipated aviation demand presented in Chapter Three, *Forecasts of Aviation Demand* to identify future facility needs.

4.5.1 FBO and Pilot Services

Spanish Peaks Airfield provides a pilot lounge, approximately 1,250 square feet, which includes restroom facilities, kitchen amenities, pilot planning and lounge area. It is recommended that the airport protect for the development of an FBO adjacent to the general aviation apron.

4.5.2 Hangar Facilities

Hangar facilities are typically classified as either T-hangars, (small multi-unit storage complexes that usually accommodate one single engine aircraft within each unit) or conventional box hangars, (small to very large units) which accommodate a variety of aircraft types or corporate fleets. The number of aircraft that each conventional hangar can hold varies according to the size of the aircraft and building. As previously mentioned in Chapter Two, *Inventory of Airport Assets*, there are 16 conventional box hangar structures located on the airport. It is recommended to replace, repair, and expand the hangar facilities as demand warrants.

Prefabricated conventional and T-Hangar units are available from a variety of manufacturers throughout the nation. Storage space for based aircraft was determined using guidelines suggested by manufacturers literature. The following are conventional hangar standards:

- 1,200 square feet for single-engine aircraft
- 1,400 square feet for multi-engine aircraft
- 1,800 square feet for turboprop or turbojet aircraft T-hangar Standards:
- 1,400 square feet for single and multi-engine aircraft

Based Aircraft Hangar Requirements: Future facility requirements for based aircraft typically determine the number of tie-down locations, number of shaded spaces, number of T-hangars, and number of conventional type hangars required for the planning period. The number of hangars to be constructed at the airport will depend on actual demand, however it is recommended to protect

space for T-hangars and conventional box hangars. Development areas will be identified on the ALP for a mix of hangars to accommodate future growth and to protect areas for development beyond the 20-year planning period. The configuration of additional hangars will be evaluated in Chapter Five, *Development Alternatives*.

Transient Aircraft Hangar Requirements: Transient single-engine aircraft operators generally do not require aircraft storage facilities unless there is inclement weather expected or if the operator is planning an extended stay. Some higher performance single-engine and multi-engine and jet aircraft operators may desire overnight aircraft storage or a heated hangar in the winter. It is recommended to protect for corporate/FBO hangar development for transient aircraft and aircraft maintenance operations. Development areas for additional transient hangar space will be identified on the ALP.

General Aviation: The airport should continue to provide long-term land leases to interested parties for the construction of aircraft storage hangars. This allows tenants to retain ownership of the hangar while leasing the ground, reduces capital outlay requirements for the sponsor, and enables the sponsor to collect land lease revenue and property taxes on the hangar and other improvements.

4.5.3 Aviation Fuel Facilities

As discussed in Chapter Two, *Inventory of Airport Assets*, the airport owns one 10,000-gallon Jet-A and one 10,000-gallon 100 Low Lead AVGAS above ground fuel storage tanks. Aircraft refueling is conducted via a self-serve system with a credit card reader. The FAA has also recently approved the utilization of unleaded fuel UL94 for use in certain piston aircraft. It is therefore recommended to protect for a 10,000-gallon UL94 tank at the airport. Other fueling sources for aircraft, such as hydrogen, are in the early stages of development and accommodating these new fueling options is recommended. The replacement fueling facilities should be developed above ground. With the emergence and continual development of electric powered aircraft, it is also recommended that the airport protect for an electric charging station, which will be identified in Chapter Five, *Development Alternatives.*

4.5.4 Airport Access and Vehicle Parking

Spanish Peaks Airfield can be accessed from Walsenburg by traveling five miles north on Interstate 25 then exiting on Exit 55 and heading east on Co Road 101 for one mile. The existing airport access road is gravel and is expected to be adequate to accommodate current activity, however it is recommended to pave the access road in the future. There are approximately 4,000 square feet of designated vehicle parking. It is recommended that with additional development including hangar development that additional parking be made available. Typically, parking is developed adjacent to hangars and outside of the fence to avoid the need for automobile traffic entering the aircraft operations area.

It is also recommended to pave the vehicle parking lot near the Pilot Lounge. Chapter Five, *Development Alternatives* will provide more information on vehicle parking recommendations.

4.5.5 Fencing

According to FAA AC 150/5300-13B, *Airport Design*, the primary purpose of airport fencing is to restrict inadvertent entry to the airport by unauthorized people and wildlife. There are several types of airport fencing that are eligible for FAA funding as part of the AIP program depending on the airport's classification (commercial service, GA, etc.) and fencing needs. The different types include wire fencing (with wooden or steel posts), chain-link fencing with steel posts, and wildlife deterrent fencing.

Spanish Peaks Airfield has an eight-foot-high wildlife fence around the airport perimeter and a four-foot, four strand barbed wire fence along the access road. It is recommended to maintain the existing fencing and make repairs as needed. It is also recommended to develop interior terminal area fencing around the existing and future hangar development area to avoid open access for vehicles to drive on the aircraft operations area. Recommended configuration for the terminal area fence will be provided in Chapter Five *Development Alternatives*.

4.5.6 Airport Support and Maintenance Building

The airport does not have any dedicated Snow Removal Equipment (SRE) or SRE facilities on site. It is recommended the airport obtain SRE and airfield maintenance equipment. The development of an SRE building to house equipment is also recommended for the future. A future location of the SRE storage building will be identified in Chapter Five *Development Alternatives.*

4.6 New Infrastructure Needs

The existing electric, water, septic, and telecommunication utilities are considered adequate for the existing facility. Upgrades and extensions to the existing utilities are recommended, as needed, to accommodate expansion and demand. It is recommended to protect for additional infrastructure and circulation for electric charging stations serving electric aircraft (currently in development) which may utilize the airport over the planning period. It is also recommended to protect for fiber optic communication lines to provide telecommunication services at the Airport. Upgrades to utilities are generally outside of the FAA grand funding program. Therefore, upgrades to utilities should be budgeted with other funding sources.

4.7 Land Use Compatibility and Control

As previously discussed in Chapter Two, *Inventory of Airport Assets*, 14 CFR Part 77 establishes several imaginary surfaces that are used as a guide to provide a safe and unobstructed operating environment for aviation activities. In addition to ensuring that penetrations to these imaginary surfaces are avoided or appropriately marked and lighted, the FAA recommends that airport sponsors protect the areas surrounding an airport from incompatible development. Incompatible development includes those land uses which would be sensitive to aircraft noise or over flight, such

as residences, schools, churches, and hospitals and those uses which could attract wildlife and cause a hazard to aircraft operations such as certain agriculture crops, landfills, ponds and wastewater treatment facilities. The height of objects surrounding airports also needs to be considered in order to avoid airspace impacts to existing and future instrument approach procedures.

Huerfano County has implemented an airport protection overlay zone around the Spanish Peaks Airfield. The land use and regulations are intended to minimize significant hazards to public health and safety around the facility utilizing height restrictions, development restrictions, and review for noise sensitive development.

Although extremely rare, most aircraft accidents occur within 5,000 feet of a runway. Therefore, the ability of the pilot to bring the aircraft down in a manner that minimizes the severity of an accident is dependent upon the type of land uses within the vicinity of the airport. The land surrounding the airport is considered compatible with the airport.

4.7.1 Airport Property

The existing airport property encompasses approximately 195 acres. FAA recommends that airports control the land within the Runway Protection Zone (RPZ). The land located within the approach to Runway 9 RPZ is controlled via fee simple ownership. The land located within the approach to Runway 27 RPZ is partially controlled through fee simple ownership and partially uncontrolled. The RPZ's to both ends of Runway 2/20 are partially controlled through fee simple ownership and partially uncontrolled. It is recommended that the airport control the land through fee simple ownership in the future.

4.7.2 Airport Zoning

Airport zoning ordinances should include height restrictions and land use compatibility regulations. Development around airports can pose certain hazards to air navigation if appropriate steps are not taken to ensure that existing, as well as future, buildings and other types of structures do not penetrate 14 CFR Part 77 imaginary surfaces. The FAA therefore recommends that all Airport Sponsors implement height restriction zoning in the vicinity of the airport to protect these Part 77 Surfaces.

In addition to ensuring that obstructions to Part 77 Surfaces are avoided or appropriately marked and lighted, it is recommended that the Airport Sponsor make reasonable efforts to prevent incompatible land uses such as residential encroachment from the immediate area of the airport. According to the FAA Order 5190.6B, *Airport Compliance Manual*, incompatible land use at or near airports may result in the creation of hazards to air navigation and reductions in airport utility resulting from obstructions to flight paths or noise-related incompatible land use resulting from residential construction too close to the airport. For areas over which the airport sponsor has the authority to zone or control land use, FAA expects the airport sponsor to zone and use other measures to restrict the use of land in the vicinity of the airport to activities and purposes compatible with normal aircraft operations. The FAA does not consider an airport sponsor's lack of

direct jurisdictional control over land uses of property near its airport as a reason for the sponsor to decline to take any action at all to achieve land use compatibility outside the airport boundaries. The airport has been proactive at protecting the surrounding land uses from incompatible development. It is recommended to continue to protect the surrounding land uses in the future.

FAA Advisory Circular 150/5200-33C, *Hazardous Wildlife Attractants On or Near Airport*, that landfills and/or transfer stations are incompatible land uses with airports. Therefore, these types of facilities should be located at least 5,000 feet from any point on a runway that serves piston type aircraft and 10,000 feet from any point on a runway that serves turbine type aircraft. Furthermore, any facility which may attract wildlife (especially birds) such as sewage treatment ponds and wastewater treatment plants should also be located this same distance from any point on the runway.

Currently, Huerfano County has zoned the airport as "Airport Protection Overlay" land uses. Any future development proposals should be reviewed by the county to ensure compatibility in the vicinity of the airport. This is considered adequate to protect the airspace surrounding the airport.

4.8 Summary of Facility Requirements

The facility requirements for the Airport are summarized in **Table 4-5**. The recommendations are based on the types and volume of aircraft currently using, and expected to use, the airport in the short- and long-term time frames. In the next chapter, *Development Alternatives*, various airside and landside improvements will be presented and evaluated, which will in turn lead to the recommended airside and landside development for the Airport. The recommended facilities will enable the Airport to continue to serve its current and future users in a safe and efficient manner.

Table 4-5 Summary of Facility Requirements

Runway	9/27 Existing	9/27 Future	2/20 Existing	2/20 Future
Runway Design Code	B-II-5000	B-II-5000	A-I (Small)	B-II-VIS
Length	4,715'	7,400'	2,238'	7,400'
Width	75'	75'	40'	75'
Strength (pounds)	17,000 lbs. SWG	17,000 lbs. SWG	None	12,500 lbs. SWG
Runway Markings	Non-Precision	Non-Precision	None	Visual
Surface	Asphalt	Asphalt	Turf	Asphalt
Instrument Approach	RNAV (GPS)	RNAV (GPS)	None	None
Taxiway System	**Existing**		**Future**	
Taxiway Design Group	2A		2A	
Taxiway	Entrance/Exit		Full-Length Parallel on 9/27 and Bypass on Runway 2/20	
Width	35'		35'	
Airfield Lighting	**Existing**		**Future**	
Runway Edge	Runway 9/27 MIRLs		MIRLs	
Threshold Lights	Runway 9/27 Yes		Yes	
REILs	Runway 9/27 Yes		Yes	
Approach Slope Indicator	Runway 9/27 PAPIs		Yes	
Approach Lighting System	None		None	
Taxiway Edge Lights	Reflectors		MITLs	
Visual Aids	**Existing**		**Future**	
Segmented Circle	Yes		Yes	
Wind Cone	Yes		Yes	
Rotating Beacon	Yes		Yes	
Fencing	**Existing**		**Future**	
Terminal Area	None		Yes	
Perimeter	8' Wildlife		8' Wildlife	
Hangar Facilities	**Existing**		**Future**	
T-Hangar Structures	0		8*	
"Conventional" (Box Hangar)	16		24*	
Fuel Storage Facilities	**Existing**		**Future**	
100 LL	10,000-Gallons Above Ground		10,000-Gallons Above Ground	
Jet-A	10,000-Gallons Above Ground		10,000-Gallons Above Ground	
Unleaded Fuel UL94	None		Yes	
Electric Charging Station	None		Yes	
Other Services	**Existing**		**Future**	
Weather Station	AWOS-III		AWOS-III	

*Based on actual demand

Chapter Five
Recommended Development

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Chapter 5 – Recommended Development

5.1 Introduction

This chapter contains the description and evaluation of alternatives to determine the recommended development for Spanish Peaks Airfield. The evaluation of future airside and landside development represents a critical step in the airport master planning process, with the goal being to develop a clear path for future development which satisfies the forecast demand and facility needs defined in previous chapters. The basis for the recommended airside and landside development was derived from the recommendations contained in Chapter Four, *Facility Requirements*. Airside facilities are those used during takeoff, landing, taxiing, and parking of aircraft. Landside facilities generally consist of buildings, fuel systems, roadways, and vehicle parking areas.

According to FAA Advisory Circular 150/5070-6B, *Airport Master Plans*, each identified development item's technical feasibility, economic and fiscal soundness, and aeronautical utility should be examined. Ultimately, development recommendations will only be considered that meet the City of Walsenburg and Huerfano County planning needs and those that the city, the county, the FAA and CDOT will be realistically able to implement. Not all development items shown may be eligible or available for FAA or CDOT grant funding.

5.2 Development Concepts

The overall objective of the recommended development plan is to:

1) Define a path for future development that is capable of accommodating the forecasted demand and facility needs of the airport.

2) Evaluate the optimum ways to implement the facility requirements presented in Chapter Four, *Facility Requirements*.

As part of the master plan process, a range of airside and landside alternatives are typically created and evaluated based on design standards, environmental concerns, and financial feasibility for implementing the facility requirements. In other instances, where less development is anticipated, the selection of a preferred future development plan can result from a logical evaluation of the various options resulting from discussions with the sponsor and input from airport users.

The following best planning tenets, as recommended in FAA Advisory Circular 150/5070-6B, *Airport Master Plans*, apply to the evaluation of the development alternatives:

- Conforms to best practices for safety and security
- Conforms to FAA and other appropriate design standards
- Provides for the land use on and off airport
- Allows for forecast growth throughout the planning period

- Provides for growth beyond the planning period
- Provides balance between developmental elements
- Provides flexibility to adjust to unforeseen changes
- Conforms to the local community's strategic vision
- Conforms to relevant local, regional, and state transportation plans
- Is technically and financially feasible
- Is socially and politically feasible
- Satisfies user's needs
- Considers potential environmental impacts

A combination of effective airside and landside planning is essential to the successful development of the airport.

5.3 Airside Development

Airside development is typically the most critical and physically dominant feature of airport development and therefore a focal point of an airport's planning process. This section discusses the airside development alternatives and addresses the needs of the existing and future aviation demand identified in Chapter Four, *Facility Requirement*s.

5.3.1 Runway System

The evaluation of airport needs discussed in Chapter Four, *Facility Requirements*, assessed the current runway system at Spanish Peaks Airfield. Currently, the existing lengths of Runway 9/27 and Runway 2/20 are 4,715 feet and 2,238 feet, respectively.

As was demonstrated in **Table 4-4**, the current length of Runway 9/27 cannot serve 100 percent of the small aircraft fleet at 100 percent useful load nor 75 or 100 percent of the large aircraft fleet at 60 percent and 90 percent useful load. The existing runway length of Runways 9/27 and 2/20 are considered inadequate to accommodate all of the existing large aircraft, including the existing and forecasted design aircraft, the King Air 200 (Runway 9/27) and Cessna 182 (Runway 2/20), at 60 percent useful load.

It is therefore recommended to lengthen Runway 9/27 to 7,400 feet to the west. With a length of 7,400 feet, Runway 9/27 can serve 100 percent of the small aircraft fleet. The Runway Design Code (RDC) B-II on Runway 9/27 should be maintained based on the future forecasted design aircraft, the King Air 200. An analysis of the Runway pavement on Runway 9/27 is in good condition, and standard preventative maintenance is recommended throughout the planning period.

It is recommended to increase the length of Runway 2/20 to 4,000 feet and widen the runway to 60 feet in order to accommodate a larger percentage of small aircraft for use of the runway during high crosswind conditions and meet FAA design criteria. It is recommended to extend Runway 2/20 to the northeast to avoid impacts to Runway 9/27. It is also recommended to pave and light Runway 2/20 in the future to increase utility and enhance safety. It's recommended to maintain The RDC

A-I(Small) on Runway 2/20. Until Runway 2/20 is paved, regular grading of the runway is recommended to maintain a suitable turf runway surface.

The extensions of both Runway 9/27 and 2/20 would also require the construction of aircraft turnarounds at each end of the runway to provide circulation and enhance safety. The recommended runway developments are depicted in **Figure 5-1,** Recommended Airside Development.

Runway 9/27 currently has a 210-foot displaced threshold on the approach end of Runway 9 in order to meet the runway object free area and runway safety area. The FAA allows displaced thresholds to be used when design standards cannot be met, however the FAA does not allow use of displaced thresholds as permanent fix to nonstandard conditions. It is recommended that the displaced threshold be removed or repurposed as part of the new Runway 9 end in the future.

Operational and Safety Considerations
The extension, paving and lighting of Runway 9/27 and 2/20 would increase the utility and enhance safety for airport users during all weather and nighttime conditions.

Land Acquisition
Land acquisition would be required for the runway extensions and to encompass the RPZ's on both ends of Runway 9/27 and Runway 2/20.

Potential Environmental Impacts
The runway extensions would result in minor air quality impacts and an increase in solid waste; however, these impacts would be temporary and occur during construction only. Changes in aircraft fleet mix are not anticipated as a result of the runway extensions.

FAA Funding Eligibility/Justification
Runway extensions may be considered eligible for Airport Improvement Program (AIP) funds.

5.3.2 Taxiway System

Chapter Four, *Facility Requirements*, identified the need to protect for the addition of parallel taxiways to serve both Runway 9/27 and Runway 2/20. The new taxiways would be labeled as Taxiway A for Runway 9/27 with connectors A1 through A6 and Taxiway B for Runway 2/20 with connectors B1 through B4. The construction could be completed in a phased approach with a partial parallel taxiway constructed initially and then ultimately developed into a full-length parallel taxiway. The development of the parallel taxiway for Runway 9/27 would require the relocation of the existing airport access dirt road.

As previously mentioned, bypass taxiways at the approach ends of Runway 9, 27 and 20 would need to be configured for aircraft turnarounds. The future taxiway development is depicted in **Figure 5-1.**

Operational and Safety Considerations
The development of two parallel taxiways would reduce the likelihood of a runway incursion by avoiding direct apron to runway access.

Land Acquisition
The development of parallel taxiways would require additional land acquisition, specifically for the taxiway serving Runway 2/20 and to accommodate the west most portion of the taxiway serving Runway 9/27.

Potential Environmental Impacts
The taxiway construction would result in minor air quality impacts and an increase in solid waste; however, these impacts would be temporary and occur during construction only.

FAA Funding Eligibility/Justification
The taxiway development is considered eligible and justified, if warranted by documented demand, for AIP funds.

5.3.3 Aircraft Parking Apron

Chapter Four, *Facility Requirements*, identified the need to protect for the expansion of the aircraft parking and an area south of the existing apron has been identified for future tie downs in the immediate future. It is also recommended to construct additional aircraft parking apron to the west of the existing pilot lounge and automobile parking area to accommodate forecasted aircraft operations and future hangar development areas. It is recommended to construct dedicated helicopter parking pads and concrete hardstands near the general aviation and transient apron to help prevent damage to the aircraft parking apron. In addition to traditional apron area, it is recommended to protect for areas to park electric aircraft. The development of the aircraft parking apron should occur in phases, as warranted by actual demand. **Figure 5-1** depicts the future apron areas.

Operational and Safety Considerations
The apron development areas would be located outside of the Building Restriction Line (BRL), and Taxiway/Taxilane Object Free Areas (TOFA) and protect for the future development of a full-length parallel taxiway as previously discussed.

Land Acquisition
The apron development areas can be accommodated on existing airport property.

Potential Environmental Impacts
The apron development areas would result in minor air quality impacts and an increase in solid waste; however, these impacts would be temporary and occur during construction only.

FAA Funding Eligibility/Justification
The apron development is considered eligible and justified, if warranted by documented demand, for AIP funds.

5.4 Landside Development

Landside development is typically driven by existing and future airside configuration along with availability and suitability of property available for development. This section discusses the landside development alternatives and addresses the needs of the existing and future aviation demand identified in Chapter Four, *Facility Requirements*.

5.4.1 FBO and Pilot Services

As stated in Chapter Four, *Facility Requirements*, it is recommended to protect for the expansion of the current pilot lounge area to include FBO offices and maintenance facilities. It is recommended to protect for the development of an FBO adjacent to the existing pilots lounge.

Figure 5-2 depicts the future development and supporting FBO infrastructure at the airport.

Operational and Safety Considerations
The FBO development would be located outside of the BRL, Runway Visibility Zone (RVZ) and TOFA.

Land Acquisition
Future FBO development can be accommodated within the existing airport property boundary.

Potential Environmental Impacts
The development of an FBO would result in minor air quality impacts and an increase in solid waste; however, these impacts would be temporary and occur during construction only. However, small levels of solid waste may be generated from the use of the FBO and pilot lounge, and it is recommended that the County implement a recycling program to alleviate the amount of waste generated. The future FBO development would require a negligible increase of energy resources to power the development area, which may include natural gas and electricity. Site grading may be necessary for the development and existing drainage features would need to be accounted for during design to avoid impacts. Additional environmental analysis for the FBO would be necessary to determine all potential impacts.

FAA Funding Eligibility/Justification
FBO development is not considered eligible for AIP funds. The development of an FBO facility would be funded privately.

5.4.2 Hangar Development

As stated in Chapter Four, *Facility Requirements*, it is recommended to identify and protect for additional hangar and infrastructure development. All infrastructure development would occur in multiple phases, as warranted by demand. Development areas should also protect for associated infrastructure, including automobile parking, ramp areas and paved taxilanes. It is recommended to protect for the development of facilities of varying sizes throughout the airfield to accommodate a variety of airport types of uses.

Several areas have been identified for future development. The following points describe the potential development areas. Areas identified for future hangar development include west of the current Pilot Lounge and south of existing box hangars. This area is currently undeveloped and has been identified for the development of standard box hangars varying in size and T-Hangars, with accompanying taxi lanes as well as new access roads and vehicle parking. **Figure 5-2** depicts the future development. All development in this area could be accommodated within existing airport property.

Operational and Safety Considerations
The hangar infrastructure development would be located outside of the BRL, Runway Visibility Zone (RVZ) and TOFA.

Land Acquisition
The future hangar development can be accommodated within the existing airport property.

Potential Environmental Impacts
The hangar infrastructure development would result in minor air quality impacts and an increase in solid waste; however, these impacts would be temporary and occur during construction only. The future hangar development would require a negligible increase of energy resources to power the development area. Site grading may be necessary for the development and existing drainage features would need to be accounted for during design to avoid impacts. Additional environmental analysis for each hangar and building structure would be necessary to determine all potential impacts.

FAA Funding Eligibility/Justification
The hangar development is considered eligible and justified, if warranted by documented demand, for AIP funds; however, would be considered a lower priority project for federal funding. Typically, hangar development is funded privately or with local only funds.

5.4.3 Aviation Fuel Facilities

As identified in Chapter Four, *Facility Requirements*, it is recommended to maintain the existing self-serving fueling facilities. The fuel system should protect for additional fuel grades including a

10,000-gallon UL94 tank at the airport. The airport should also protect for future charging stations for electric aircraft. The future fueling location is depicted in **Figure 5-2.**

Operational and Safety Considerations

The fuel storage tanks and stations would need to be located outside of a 50-foot radius of any structure to protect for National Fire Protection Association guidelines.

Land Acquisition

The self-serve fueling stations could be accommodated on existing airport property.

Potential Environmental Impacts

The self-serve fueling stations would result in minor air quality impacts and an increase in solid waste; however, these impacts would be temporary and occur during construction only. This development would create a negligible increase of energy resources to power and supply the fuel tanks.

FAA Funding Eligibility/Justification

The self-serve fuel station is considered eligible and justified, if warranted by documented demand, for AIP funds.

5.4.4 Aviation Support and Maintenance Equipment and Buildings

It is recommended to protect for the development of a snow removal equipment (SRE) storage building to protect airport owned snore removal equipment from the elements. Development of the SRE building is shown in **Figure 5-2.**

Operational and Safety Considerations

The development of the SRE facility will allow for additional storage of SRE and other airfield maintenance equipment.

Land Acquisition

The development of the SRE building would be accommodated within the existing airport property.

Potential Environmental Impacts

The development of the SRE building would result in minor air quality impacts and an increase in solid waste; however, these impacts would be temporary and occur during construction only.

FAA Funding Eligibility/Justification

The development of the SRE building may be considered eligible and justified for AIP funds; however, would be considered a lower priority project for federal funding.

5.5 Summary of Recommended Development

The recommended development presented in this chapter were derived to accommodate the forecasted aviation demand and the corresponding facility requirements for Spanish Peaks Airfield for the twenty-year planning period. Projects such as pavement maintenance will have to be done in addition to the recommended development. The timing and funding of both maintenance and the recommended development will be further discussed in Chapter Seven, *Implementation and Financial Plan*. The proposed airside and landside development outlined below is depicted in **Figure 5-1** through **5-2**.

The following recommendations were made to accommodate existing and forecasted demand, based on input from the TAC, CDOT and FAA:

- Maintain Runway 9/27 RDC B-II-5000 (King Air 200 design aircraft)
- Maintain Runway 2/20 RDC A-I(Small) (Cessna 182 design aircraft)
- Protect for full length parallel taxiway for Runway 9/27
- Protect for lighting, and development of full-length parallel taxiway for Runway 2/20
- Protect for extending Runway 9/27 to a future length of 7,400'
- Protect for extending Runway 2/20 to a future length of 4,000'
- Protect for widening Runway 2/20 to a future width of 60'
- Remove existing displaced threshold on the approach end of Runway 9
- Maintain instrument approach procedures
- Protect for future FBO and expanded Pilot Lounge facilities
- Protect for additional hangar development
- Protect for future electric aircraft charging stations
- Protect for concrete hardstands and apron
- Protect for additional apron aircraft tiedowns
- Protect for helicopter parking pads
- Protect for dedicated snow removal equipment and storage facility
- Pave vehicle parking and access road

5.6 Environmental Overview

The protection and preservation of the local environment is an essential part of the airport master planning process. Council on Environmental Quality (CEQ) regulation 1501.2 states, "agencies shall integrate the NEPA process with other planning at the earliest possible time to ensure that planning decisions reflect environmental values, avoid delays later in the process, and head off potential conflicts."

Accordingly, the environmental overview was conducted in accordance with FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions,* FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures,* and the FAA's *Environmental Desk*

Reference for Airport Actions, which requires the analysis of the following environmental resource categories prior to project implementation:

- Air Quality, including greenhouse gases (GHGs) and climate
- Biotic Resources/Federally listed Endangered and Threatened Species
- Coastal Barriers and Coastal Zone Management
- Compatible Land Use/Noise
- Construction Impacts
- Cumulative Impacts
- Department of Transportation Act, Section 4(f)
- Energy Supplies, Natural Resources, and Sustainable Design
- Farmlands
- Floodplains
- Hazardous Materials
- Historical, Architectural, Archeological, and Cultural Resources
- Light Emissions and Visual Effects
- Secondary (Induced) Impacts
- Social Impacts/Environmental Justice
- Solid Waste
- Water Quality
- Wetlands
- Wild and Scenic Rivers

FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, describes the types of impacts and thresholds that determine if an impact is considered to be significant. The proposed development projects will require a determination to be made regarding which of the following environmental clearance documents would be required prior to project implementation. These environmental clearance documents include the following:

- Categorical Exclusions (CatEx) – Projects or actions that do not normally require an EA or EIS because they do not individually or cumulatively have a significant effect on the environment.

- Environmental Assessment (EA) – Preparation of a concise document used to describe a proposed project's anticipated environmental impacts and mitigation measures.

- Environmental Impact Statement (EIS) – Preparation of a clear, concise, and appropriately detailed document that provides the FAA, decision makers, and the public with a full and fair discussion of significant environmental impacts of the proposed project and reasonable alternatives.

NEPA analysis is required for any future airport development projects, regardless of the funding source. Ultimately, the FAA will determine whether the proposed development project constitutes

a major federal action subject to an EA or EIS, or whether it is a Categorical Exclusion not expected to have a significant adverse effect on the environment.

5.6.1 Environmental Impacts of Recommended Development

The purpose of an environmental overview is to identify significant thresholds for the resource categories contained in FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures* and FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementation Instructions for Airport Actions.* The environmental overview for Spanish Peaks Airfield is illustrated in **Table 5-3**.

Table 5-3 Environmental Overview for Spanish Peaks Airfield

NEPA Resource Category	Potential Environmental Impacts	Anticipated Impact Level	Supporting Documentation
Air Quality	The U.S. Environmental Protection Agency (EPA) has adopted air quality standards that specify the maximum permissible short-term and long-term concentrations of various air contaminants. The National Ambient Air Quality Standards (NAAQS) consist of primary and secondary standards for six criteria pollutants which include: Ozone (O3), Carbon Monoxide (CO), Sulfur Dioxide (SOx), Nitrogen Oxide (NOx), Particulate matter (PM10), and Lead (Pb). Areas that exceed allowable thresholds for criteria pollutants are designated "non-attainment" areas.	**No impacts** Huerfano County is located within an attainment area. No significant air quality impacts are anticipated to occur as a result of the development shown.	See **Figure 2-20**
Threatened or Endangered Species and Biological Resources	A significant impact to Federally-listed threatened and endangered species would occur when the Fish and Wildlife Service determines that the proposed action would be likely to jeopardize the continued existence of the species in question, or would result in the destruction or adverse modification of Federally-designated critical habitat in the affected area.	**No impacts** The proposed projects are not anticipated to impact plant communities or cause the displacement of wildlife. No critical habitats have been identified for the areas of recommended development at Spanish Peaks Airfield.	See **Table 2-14**
Coastal Barriers and Coastal Zone Management (CZM)	The Airport is not located within or adjacent to a coastal zone.	**No impacts** The airport is located in the state of Colorado, as such coastal resources would not be impacted.	Not Applicable
Compatible Land Use/Noise	**Compatible Land Use**: Federal Aviation Regulations (F.A.R.) Part 150 recommends guidelines for planning land use compatibility within various levels of aircraft noise exposure.	**No impacts** The proposed airport improvements are not	Not Applicable

Table 5-3 Environmental Overview for Spanish Peaks Airfield

NEPA Resource Category	Potential Environmental Impacts	Anticipated Impact Level	Supporting Documentation
	In addition, Advisory Circular 150/5200-33 identifies land uses that are incompatible with safe airport operations because of their propensity for attracting birds or other wildlife, which in turn results in an increased risk of aircraft strikes and damage. Finally, F.A.R. Part 77 regulates the height of structures within the vicinity of the airport. **Noise**: The Yearly Day-Night Average Sound Level (DNL) is used in this study to assess aircraft noise. DNL is the metric currently accepted by the Federal Aviation Administration (FAA), Environmental Protection Agency (EPA), and Department of Housing and Urban Development (HUD) as an appropriate measure of cumulative noise exposure. These three federal agencies have each identified the 65 DNL noise contour as the threshold of incompatibility.	anticipated to result in significant noise impacts.	
Construction Impacts	Significant impacts would most likely occur when unusual circumstances exist (e.g. construction-induced traffic congestion that would substantially degrade air quality) and when the severity of the impact cannot be mitigated below FAA's threshold levels for the affected resource.	**Minor impacts** A temporary increase in particulate emissions and fugitive dust may result from construction activities. The provisions contained in FAA Advisory Circular 150/5370-10H, *Standards for Specifying Construction of Airports,* should be incorporated into all project specifications.	Not Applicable
Cumulative Impacts	The significance threshold for cumulative impacts varies according to the affected resource. Past, present, and reasonably foreseeable future actions trigger the significance threshold for the resource analyzed.	**No impacts** The proposed projects are not anticipated to cause a cumulative impact when considering past, present and foreseeable future projects.	Not Applicable
Department of Transportation (DOT) Act, Section 4(f)	**Section 4(f) Lands**. These include publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, state or local significance, or any land	**No impacts** There are no publicly owned public parks, recreation areas, wildlife and waterfowl refuges of National, State or Local	Not Applicable

Table 5-3 Environmental Overview for Spanish Peaks Airfield

NEPA Resource Category	Potential Environmental Impacts	Anticipated Impact Level	Supporting Documentation
	from a historic site of national, state or local significance.	significance or land from a historic site of National, State or Local significance located on airport property.	
Energy Supplies, Natural Resources, and Sustainable Design	When proposed construction, operation, or maintenance would cause demands that would exceed available or future (project year) natural resource or energy supplies.	**No impacts**	
Farmlands	According to the Farmland Protection Policy Act, the regulation does not apply to land already committed to "urban development or water storage," i.e., airport developed areas, regardless of its importance as defined by the NRCS.	**No impacts** No impacts to farmlands are anticipated.	See **Figure 2-21**
Floodplains	When notable adverse impacts on natural and beneficial floodplain values would occur.	**No impacts** Digital FEMA mapping is not available for the area. However, there is no historical record of flooding occurring on or adjacent to Spanish Peaks Airfield and no flood risk is anticipated.	Not Applicable
Hazardous Materials	The action involves a property on, or eligible for, the National Priority List (NPL).	**No impacts**	Not Applicable
Historical, Architectural, Archaeological, and Cultural Resources	When an action adversely affects a protected property the state and /or tribal Historic Preservation Officer will address alternatives to avoid adverse effects.	**Potential for Impacts** Coordination with the SHPO would be conducted prior to construction.	Not Applicable
Light Emissions and Visual Effects	**For light emissions:** When an action's light emissions create annoyance to or interfere with normal activities. **For visual effects:** When consultation with Federal, State or local agencies, tribes or the public shows these effects cause a disturbance and the agencies state the effect is objectionable.	**Minor impacts** No significant light emissions or visual effects impacts are anticipated as a result of the proposed development.	Not Applicable
Secondary (Induced) Impacts	Induced impacts will normally not be significant except where there are also	**No impacts**	Not Applicable

Table 5-3 Environmental Overview for Spanish Peaks Airfield

NEPA Resource Category	Potential Environmental Impacts	Anticipated Impact Level	Supporting Documentation
	significant impacts in other categories, especially noise, land use, or direct social impacts.		
Socioeconomic Impacts, Environmental Justice, and Children's Environmental Health Risks and Safety Risks	**For socioeconomic issues:** When an action would cause: Extensive relocation, but sufficient replacement housing is unavailable. Extensive relocation of community businesses would cause severe economic hardship for affected communities. Disruption of local traffic patterns that substantially reduce the Levels of Service of roads serving the airport and its surrounding communities. A substantial loss in community tax base. **For Environmental Justice issues:** When an action would cause disproportionately high and adverse human health or environmental effects on minority and low-income populations, a significant impact may occur. **For Children's Health & Safety Risks:** An action causing disproportionate health and safety risks to children may indicate a significant impact.	**Socioeconomic Issues:** **No adverse impacts** **Environmental Justice:** **No impacts** **Children's Health & Safety:** **No impacts**	Not Applicable
Solid Waste	Solid waste generated during future project construction would be contained in designated areas and receptacles and removed once the project is completed. Pollution related to construction activities (i.e. dust) would be minimal and would not adversely affect the Airport.	**Minor impacts** Solid waste would likely be generated during construction of the recommended development. These impacts would only be temporary during construction.	Not Applicable
Water Quality	When an action has the potential to exceed water quality standards, there are water quality problems that cannot be avoided or satisfactorily mitigated, or there would be difficulty in obtaining a permit or authorization, there may be a significant impact.	**No impacts**	Not Applicable

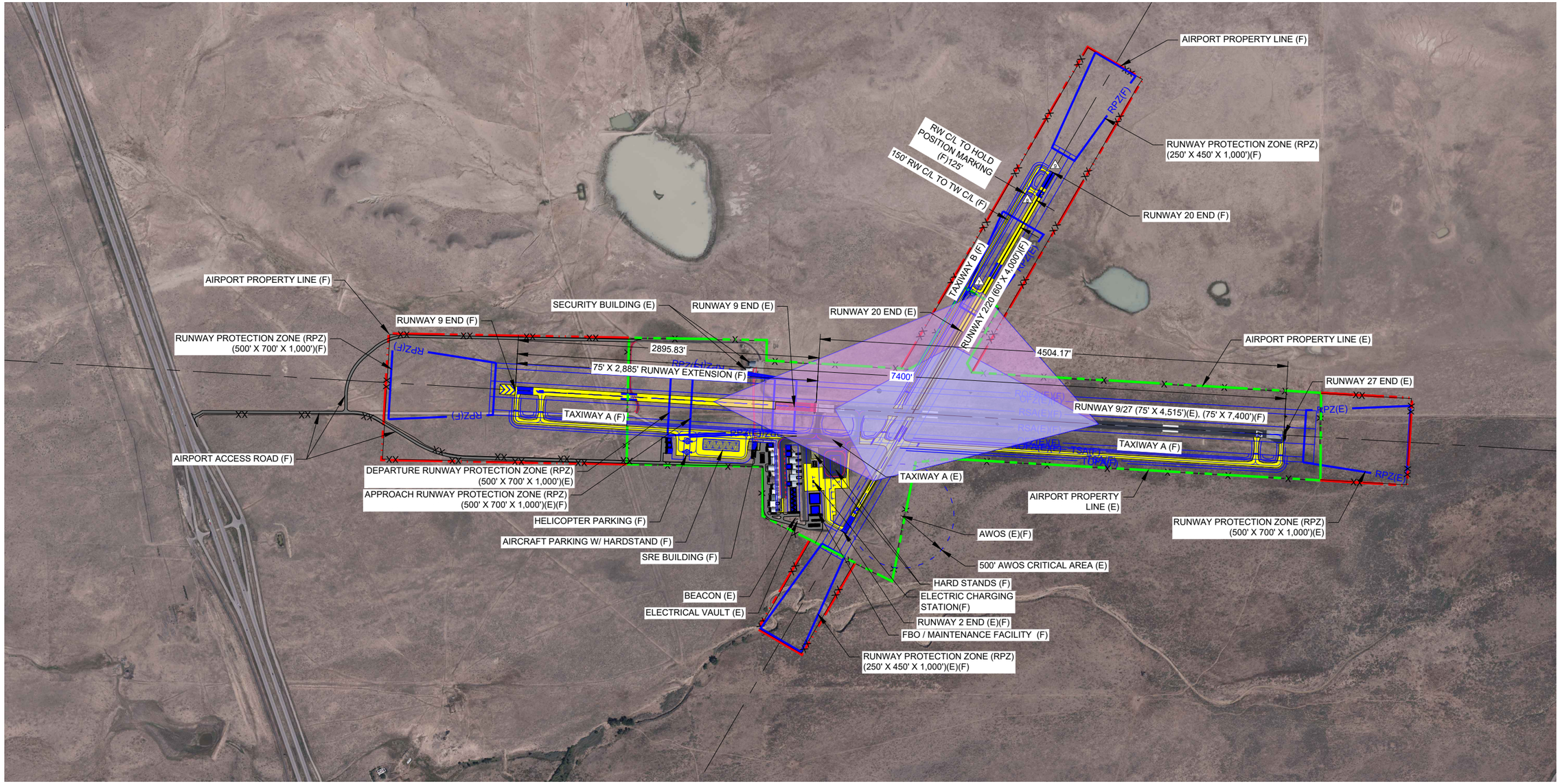
Table 5-3 Environmental Overview for Spanish Peaks Airfield

NEPA Resource Category	Potential Environmental Impacts	Anticipated Impact Level	Supporting Documentation
Wetlands	When an action would: Adversely affect a wetland's function to protect the quality or quantity of a municipal water supply. Substantially alter the hydrology needed to sustain the affected wetland's values and functions or those of a wetland to which it is connected. Substantially reduce the affected wetland's ability to retain floodwaters or storm runoff, thereby threatening public health, safety or welfare. Adversely affect the maintenance of natural systems supporting wildlife and fish habitat or economically important timber, food, or fiber resources of the affected area surrounding wetlands. Promote development of secondary activities or services that would affect the above functions.	**No impacts** The Wetlands Mapper tool provided by the US Fish and Wildlife Service was used to determine the absence of wetlands on airport property.	See **Figure 2-22**
Wild and Scenic Rivers	There are no wild or scenic rivers on or near future project areas.	**No impacts**	Not Applicable

Source: FAA Order 1050.1F, Environmental Impacts: Policies and Procedures, FAA Order 5050.4B, NEPA Implementing Instructions for Airport Projects, & Armstrong Consultants, Inc., 2023

5.6.2 Summary of Potential Environmental Impacts

Table 5-3 provides a summary of the analysis ratings for each of the environmental impact categories with regards to the recommended development. While some categories indicate a potential minor impact, they are all estimated to be below the threshold of significance as described in FAA Order 5050.4B, *NEPA Implementing Instructions for Airport Projects.* It is expected that most recommended development projects would be categorically excluded. More detailed environmental analysis would be conduced for each development item at the time of development.



LEGEND

GRAVEL / TURF / DIRT

CONCRETE

FUTURE AIRFIELD DEVELOPMENT

FUTURE STRUCTURE/FACILITIES (BUILDING)

EXISTING AIRPORT PROPERTY LINE

FUTURE AIRPORT PROPERTY LINE

RVZ(E) RUNWAY VISIBILITY ZONE (RVZ)(E)

RVZ(F) RUNWAY VISIBILITY ZONE (RVZ)(F)

ACCESS ROAD & AUTOMOBILE PARKING (F)

T REMOVAL (F)

HELICOPTER PARKING (F)

N

0 500 1000

SCALE IN FEET

SPANISH PEAKS AIRFIELD

WALSENBURG, COLORADO

5-1 RECOMMENDED AIRSIDE DEVELOPMENT

ARMSTRONG

A LOCHNER COMPANY

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LEGEND

- GRAVEL / TURF / DIRT
- CONCRETE
- FUTURE AIRFIELD DEVELOPMENT
- FUTURE STRUCTURE/FACILITIES (BUILDING)
- EXISTING AIRPORT PROPERTY LINE
- FUTURE AIRPORT PROPERTY LINE
- RVZ(E) — RUNWAY VISIBILITY ZONE (RVZ)(E)
- RVZ(F) — RUNWAY VISIBILITY ZONE (RVZ)(F)
- ACCESS ROAD & AUTOMOBILE PARKING (F)
- REMOVAL (F)
- HELICOPTER PARKING (F)

N

0 100 200

SCALE IN FEET

SPANISH PEAKS AIRFIELD
WALSENBURG, COLORADO

5-2 RECOMMENDED LANDSIDE DEVELOPMENT

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Chapter Six
Airport Layout Plan

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SPANISH PEAKS AIRFIELD (4V1)

WALSENBURG, COLORADO

AIRPORT LAYOUT PLAN

AIP No. 3-08-0079-012-2022

ACI No. 226795

MAY 2024

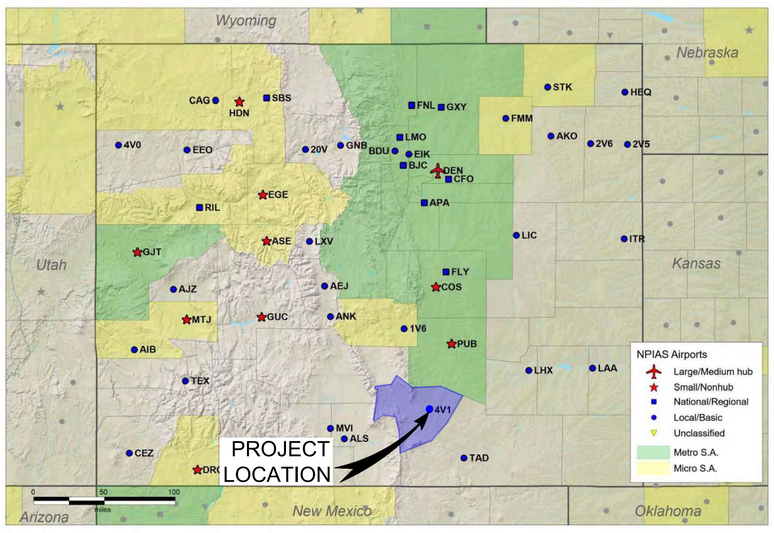
SPONSOR APPROVAL

DRAFT

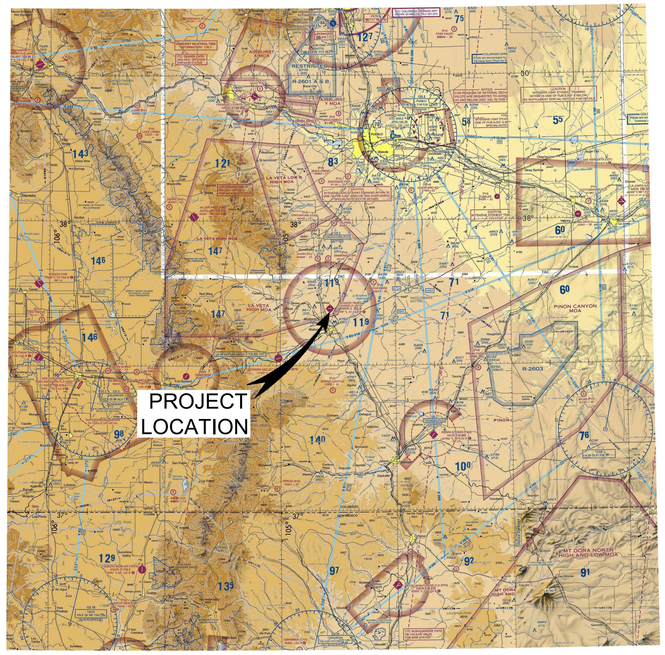
Huerfano County DATE

INDEX TO SHEETS

(E = EXISTING, F = FUTURE)



LOCATION MAP



VICINITY MAP

No.	ACI No.	Date	Revision / Description	File	Drwn.	Chkd.	Apprvd.
0	226795	03/2024	ORIGINAL ISSUE	2295501	GWK	BNB	JZP

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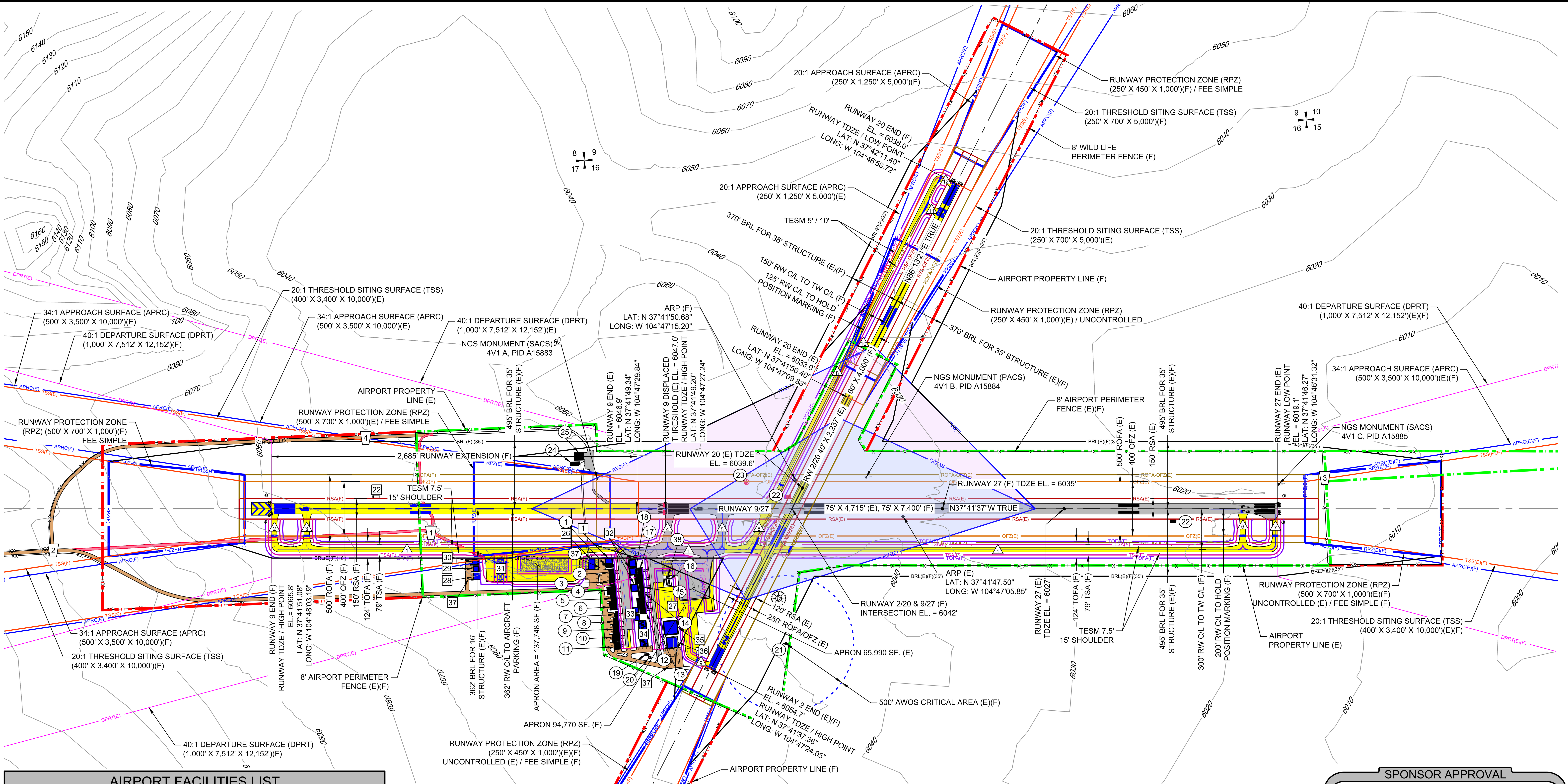
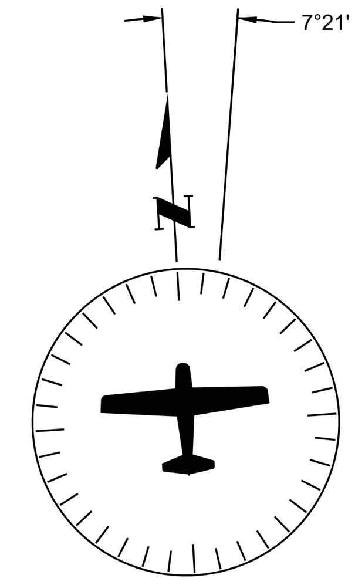
ARMSTRONG
A LOCHNER COMPANY



AIRPORT FACILITIES LIST					
NO.	FACILITY DESCRIPTION	TOP ELEV. (MSL-EST.)	NO.	FACILITY DESCRIPTION	TOP ELEV. (MSL-EST.)
1	TERMINAL BLDG. / PILOT LOUNGE	6066'	20	ELECTRICAL VAULT	6071'
2	HANGAR	6072'	21	AWOS	6084'
3	HANGAR	6082'	22	PAPI	-
4	HANGAR	6073'	23	LIGHTED WIND CONE/ SEGMENTED CIRCLE	6054'
5	HANGAR	6071'	24	PRIVATE RESIDENCE	6059'
6	HANGAR	6079'	25	HANGAR	6066'
7	HANGAR	6069'	26	SRE BUILDING	6066'
8	HANGAR	6075'	27	ELECTRIC CHARGING STATIONS	6071'
9	HANGAR	6078'	28	HANGAR	6071
10	HANGAR	6079'	29	HANGAR	6067'
11	HANGAR	6076'	30	HANGAR	6065'
12	HANGAR	6075'	31	HELICOPTER PARKING	-
13	HANGAR	6077'	32	HANGAR	6073'
14	HANGAR	6077'	33	HANGAR	6077'
15	HANGAR	6074'	34	T-HANGAR	6073'
16	FUEL STORAGE SYSTEM	6069'	35	HANGAR	6092'
17	HANGAR	6070'	36	HANGAR	6079'
18	HANGAR	6074'	37	AUTOMOBILE PARKING	-
19	BEACON	6101'	38	FUEL PUMP SHADE STRUCTURE	6061'

○ EXISTING
□ FUTURE



MAGNETIC NORTH SOURCE:
NOAA GEOPHYSICAL DATA CENTER
MAGNETIC DECLINATION 7°21' EAST
RATE OF CHANGE 0°6' WEST PER YEAR
OBTAINED: 01/23/2024

400 0 400 800
SCALE IN FEET

CRITICAL POINTS						
NO.	OBJECT	GROUND ELEV.	OBJECT HEIGHT	TOP ELEV.	TSS SURFACE (E)(F) ELEV.	APPROACH SURFACE (E)(F) ELEV.
1	ROAD	6051'	15'	6066'	6112'	6085'
2	ROAD	6108'	15'	6123'	6136'	6107'
3	FENCE	6014'	8'	6022'	6036'	6029'
4	ROAD	6051'	15'	6066'	6154'	6103'

* OBJECT ELEVATIONS ARE ESTIMATED AND NOT BASED ON A SURVEY.

TAXIWAY TABLE					
NO.	NAME	WIDTH	NO.	NAME	WIDTH
1	A (F)	35'	7	A6 (F)	35'
2	A1 (F)	35'	8	B (F)	25'
3	A2 (F)	35'	9	B1 (F)	25'
4	B (E) A3 (F)	35'	10	B2 (F)	25'
5	C (E) A4 (F)	35'	11	B3 (F)	25'
6	A5 (F)	35'	12	B4 (F)	25'

LEGEND					
EXISTING	FUTURE	DESCRIPTION	EXISTING	FUTURE	DESCRIPTION
		AIRFIELD DEVELOPMENT			THRESHOLD LIGHTS
		STRUCTURE/FACILITIES (BUILDING)			REIL
		AIRPORT PROPERTY LINE (APL)			VASI/PAPI
RSA(E)	RSA(F)	RUNWAY SAFETY AREA (RSA)			AIRPORT BEACON
OFZ(E)	OFZ(F)	OBSTACLE FREE ZONE (OFZ)			WIND CONE & SEGMENTED CIRCLE
ROFA(E)	ROFA(F)	RUNWAY OBJECT FREE AREA (ROFA)			SUPPLEMENTAL WIND CONE
RPZ(E)	RPZ(F)	RUNWAY PROTECTION ZONE (RPZ)			AWOS
BRL(E)	BRL(F)	BUILDING RESTRICTION LINE (BRL)		N/A	SECTION CORNER
TSA(E)	TSA(F)	TAXIWAY SAFETY AREA (TSA)	N/A	N/A	AIRPORT SIGNAGE
TOFA(E)	TOFA(F)	TAXIWAY OBJECT FREE AREA (TOFA)	4125	N/A	CONTOURS
		AIRPORT REFERENCE POINT (ARP)			ROAD/PARKING
	N/A	PACS/SACS MONUMENT			MARKINGS
RVZ(E)	RVZ(F)	RUNWAY VISIBILITY ZONE (RVZ)	X	XX	FENCING
			N/A		TO BE REMOVED

SPONSOR APPROVAL

DRAFT

Huerfano County DATE

FAA APPROVAL

FAA CONDITIONAL APPROVAL

SUBJECT TO LETTER DATED ____________

FEDERAL AVIATION ADMINISTRATION
DENVER AIRPORTS DISTRICT OFFICE

DATED ____________

CASE NUMBER ____________

ARMSTRONG
A LOCHNER COMPANY

SPANISH PEAKS AIRFIELD
WALSENBURG, COLORADO

AIP No. 3-08-0079-012-2022
AIRPORT LAYOUT PLAN

No.	ACI No.	Date	Revision / Description	File	Drwn.	Chkd.	Apprvd.
0	226795	05/2024	ORIGINAL ISSUE	6795502	GWK	BNB	JZP

AIRPORT LAYOUT PLAN

Sheet: 2 of: 25

RUNWAY DATA

ITEM		RW 9/27 - EXISTING (E)		RW 9/27- FUTURE (F)		RW 2/20- EXISTING (E)		RW 2/20 - FUTURE (F)	
RUNWAY IDENTIFICATION		9	27	9	27	2	20	2	20
RUNWAY DESIGN CODE (RDC)		B-II-5000		B-II-5000		A-I (SMALL)-VIS		A-I (SMALL)-VIS	
DEPARTURE REFERENCE CODE (DPRC)		B-II-5000		B-II-5000		A-I (SMALL)-VIS		A-I (SMALL)-VIS	
SURFACE MATERIAL, PAVEMENT STRENGTH & MATERIAL TYPE	SURFACE MATERIAL	ASPHALT		ASPHALT		TURF		ASPAHLT	
	STRENGTH BY WHEEL LOADING (LBS)	17,000lbs. SWG		17,000lbs. SWG		N/A		12,500lbs. SWG	
	PCN (FOR BEARING STRENGTH OF 12,500 LBS OR GREATER)	5/F/C/Y/T		5/F/C/Y/T		N/A		N/A	
	SURFACE TREATMENT	NONE		NONE		N/A		NONE	
RUNWAY GRADIENT	EFFECTIVE (%)	1.02		1.24		2.61		1.48	
	MAXIMUM (%)	.59		.63		.97		.47	
	LINE OF SIGHT MET (Y OR N)	YES		YES		YES		YES	
PERCENT WIND COVERAGE	A-I / B-I - 10.5 KTS	92.28% (ALL WEATHER)		TBD		79.74% (ALL WEATHER)		TBD	
	A-II / B-II - 13 KTS	95.68% (ALL WEATHER)		TBD		86.74% (ALL WEATHER)		TBD	
	A/B-II, C-I - C-III, D-I - D-III - 16 KTS	98.33% (ALL WEATHER)		TBD		93.25% (ALL WEATHER)		TBD	
RUNWAY DIMENSIONS (FT)		4,715 X 75		7,400 X 75		2,238 X 40		4,000 X 60	
RUNWAY SAFETY AREA (RSA)	WIDTH (FT)	150		150		120		120	
	LENGTH BEYOND RUNWAY END (FT)	300	300	300	300	240	240	240	240
RUNWAY COORDINATES (NAD 83)	RUNWAY END LATITUDE	N 37° 41' 49.34"	N 37° 41' 46.27"	N 37° 41' 51.08"	N 37° 41' 46.27"	N 37° 41' 37.36"	N 37° 41' 56.40"	N 37° 41' 37.36"	N 37°42' 11.40"
	RUNWAY END LONGITUDE	W 104° 47' 29.84"	W 104° 46' 31.32"	W 104° 48' 03.19"	W 104° 46' 31.32"	W 104° 47' 24.05"	W 104° 47' 09.88"	W 104° 47' 24.05"	W 104° 46' 58.72"
	DISPLACED THRESHOLD LAT.	N 37° 41' 49.20"	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	DISPLACED THRESHOLD LONG.	W 104° 47' 27.24"	N/A	N/A	N/A	N/A	N/A	N/A	N/A
RUNWAY ELEVATIONS (NAVD 88)	RUNWAY END (FT)	6046.9	6019.1	6065.8	6019.1	6054.7	6033.0	6054.7	6036.0
	DISPLACED THRESHOLD (FT)	6047.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TOUCHDOWN ZONE (TDZ) (FT)	6047.0	6027.0	6065.8	6035.0	6054.7	6039.6	6054.7	6036.0
	HIGH POINT (FT)	6047.0		6065.8		6054.7		6054.7	
	LOW POINT (FT)	6019.1		6019.1		6033.0		6036.0	
RUNWAY LIGHTING TYPE		MIRL's		MIRL's		N/A		MIRL's	
RUNWAY PROTECTION ZONE (RPZ) (FT)		500 X 700 X 1,000	500 X 700 X 1,000	500 X 700 X 1,000	500 X 700 X 1,000	250 X 450 X 1,000	250 X 450 X 1,000	250 X 450 X 1,000	250 X 450 X 1,000
RUNWAY MARKING TYPE		NON-PRECISION	NON-PRECISION	NON-PRECISION	NON-PRECISION	N/A	N/A	VIS	VIS
14 CFR PART 77 APPROACH SURFACES (APRC)	APPROACH TYPE	NON-PRECISION	NON-PRECISION	NON-PRECISION	NON-PRECISION	VISUAL	VISUAL	VIS	VIS
	VISIBILITY MINIMUMS (FT)	5,000	5,000	5,000	5,000	VISUAL	VISUAL	VISUAL	VISUAL
	APPROACH SURFACE DIMENSIONS (FT)	500 X 3,500 X 10,000	500 X 3,500 X 10,000	500 X 3,500 X 10,000	500 X 3,500 X 10,000	250 X 1,250 X 5,000	250 X 1,250 X 5,000	250 X 1,250 X 5,000	250 X 1,250 X 5,000
	APPROACH SURFACE SLOPE	34:1	34:1	34:1	34:1	20:1	20:1	20:1	20:1
TYPE OF AERONAUTICAL SURVEY REQUIRED FOR APPROACH		VERTICAL		VERTICAL		NONE		NONE	
RUNWAY DEPARTURE SURFACE-40:1 (DPRT) (YES OR N/A)		YES	YES	YES	YES	N/A	N/A	N/A	N/A
RUNWAY OBJECT FREE AREA (ROFA)	WIDTH (FT)	500		500		250		250	
	LENGTH BEYOND RUNWAY END (FT)	300	300	300	300	240	240	240	240
OBSTACLE FREE ZONE (OFZ)	WIDTH (FT)	400		400		250		250	
	LENGTH BEYOND RUNWAY END (FT)	200	200	200	200	200	200	200	200
THRESHOLD SITING SURFACE (TSS)	DIMENSIONS (FT)	400 X 3,400 X 10,000	400 X 3,400 X 10,000	400 X 3,400 X 10,000	400 X 3,400 X 10,000	250 X 700 X 5,000	250 X 700 X 5,000	250 X 700 X 5,000	250 X 700 X 5,000
	SLOPE	20:1	20:1	20:1	20:1	20:1	20:1	20:1	20:1
	PENETRATIONS	NONE	NONE	YES	NONE	YES	NONE	YES	NONE
VISUAL AND INSTRUMENT NAVAIDS		RNAV (GPS)	RNAV (GPS)	RNAV (GPS)	RNAV (GPS)	N/A	N/A	NONE	NONE

TAXIWAY AND TAXILANE DIMENSIONS

TAXIWAYS AND TAXILANES	TAXIWAY A (E)(F)	TAXIWAY CONNECTORS A1-A6 (F)	TAXIWAY B (E)	TAXIWAY C (E)	TAXIWAY CONNECTORS B1-B4 (F)
AIRPLANE DESIGN GROUP (ADG) / TAXIWAY DESIGN GROUP (TDG)	ADG II / TDG 2	ADG II / TDG 2	ADG II / TDG 2	ADG II / TDG 2	ADG I / TDG 1A
TAXIWAY AND TAXILANE WIDTH (FT)	35	35	35	35	25
TAXIWAY AND TAXILANE SAFETY AREA (FT)	79	79	79	79	49
TAXIWAY AND TAXILANE OBJECT FREE AREA (FT)	124 / 110	124 / 110	124 / 110	124 / 110	89
TAXIWAY AND TAXILANE SEPARATION (FT)	101.5	101.5	101.5	101.5	79
TAXIWAY SHOULDER WIDTH / TAXIWAY EDGE SAFETY MARGIN (FT)	15 / 7.5	15 / 7.5	15 / 7.5	15 / 7.5	5 / 10
TAXIWAY AND TAXILANE LIGHTING	MITL's	MITL's	MITL's	MITL's	MITL's

HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983 (NAD 83); VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM 1988 (NAVD 88). ELEVATIONS & RUNWAY END COORDINATES FROM WILSON & COMPANY SURVEY DATA DATED 9/17/2022.

AIRPORT DATA

ITEM		EXISTING (E)	FUTURE (F)
AIRPORT REFERENCE CODE (ARC)		B-II-5000	B-II-5000
MEAN MAX. TEMP OF HOTTEST MONTH (°F) (JULY)		87.5	87.5
AIRPORT ELEVATION (MSL, FT) (NAVD 88) *		6054.7	6065.8
AIRPORT REFERENCE POINT (ARP) COORDINATES (NAD 83)	LATITUDE	N 37°41'47.50"	N 37°41'50.68"
	LONGITUDE	W 104°47'05.58"	W 104°47'15.20"
AIRPORT NAVIGATIONAL AIDS		GPS/RNAV	GPS/RNAV
MISCELLANEOUS FACILITIES		MIRL'S, RETROFLECTORS, REIL's, PAPI's, LIGHTED WIND CONE, SEGMENTED CIRCLE, ROTATING BEACON, LIGHTED AIRFIELD SIGNAGE	MIRL'S, RETROFLECTORS, REIL's, PAPI's, LIGHTED WIND CONE, SEGMENTED CIRCLE, ROTATING BEACON, LIGHTED AIRFIELD SIGNAGE
ARC AND CRITICAL AIRCRAFT	ARC	B-II-5000	B-II-5000
	AIRCRAFT	KING AIR 200	KING AIR 200
	WINGSPAN (FT)	54.50	54.50
	UNDERCARRIAGE WIDTH (FT)	15	15
	APPROACH SPEED (KTS)	98	98
AIRPORT MAGNETIC VARIATION	VARIATION	7°21' E	TBD
	DATE	1/23/2024	TBD
	SOURCE	NOAA	TBD
NPIAS SERVICE LEVEL		GA-LOCAL	GA-LOCAL
STATE EQUIVALENT SERVICE		GA-LOCAL	GA-LOCAL

* ELEVATIONS FROM WILSON & COMPANY SURVEY DATA DATED 9/17/2022.

DECLARED DISTANCES

	RUNWAY OPERATIONAL DIRECTION	TORA	TODA	ASDA	LDA	STOPWAY PROVIDED	CLEARWAY PROVIDED	FAA APPROVAL DATE
EXISTING	9	4,715	4,715	4,715	4,505'	NO	NO	N/A
	27	4,715	4,715	4,505'	4,505'	NO	NO	N/A
FUTURE	9	7,400'	7,400'	7,400'	7,400'	NO	NO	N/A
	27	7,400'	7,400'	7,400'	7,400'	NO	NO	N/A
EXISTING	2	2,238'	2,238'	2,238'	2,238'	NO	NO	N/A
	20	2,238'	2,238'	2,238'	2,238'	NO	NO	N/A
FUTURE	2	4,000'	4,000'	4,000'	4,000'	NO	NO	N/A
	20	4,000'	4,000'	4,000'	4,000'	NO	NO	N/A

MODIFICATION TO STANDARDS APPROVAL

NO.	STANDARD TO BE MODIFIED	EXISTING	APPROVAL DATE	CASE #
		NONE		

ARMSTRONG
A LOCHNER COMPANY

SPANISH PEAKS AIRFIELD
WALSENBURG, COLORADO

AIP No. 3-08-0079-012-2022
AIRPORT LAYOUT PLAN

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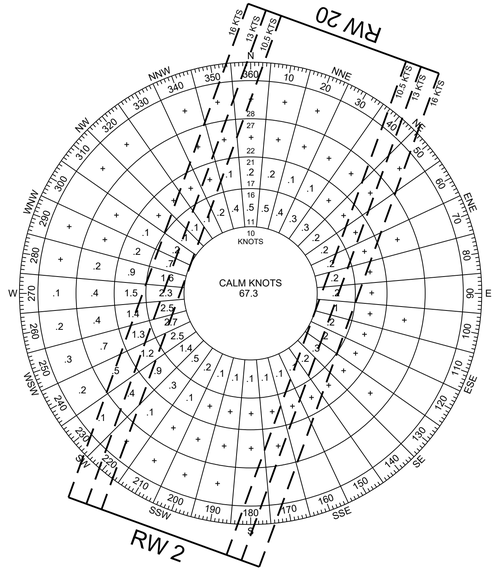
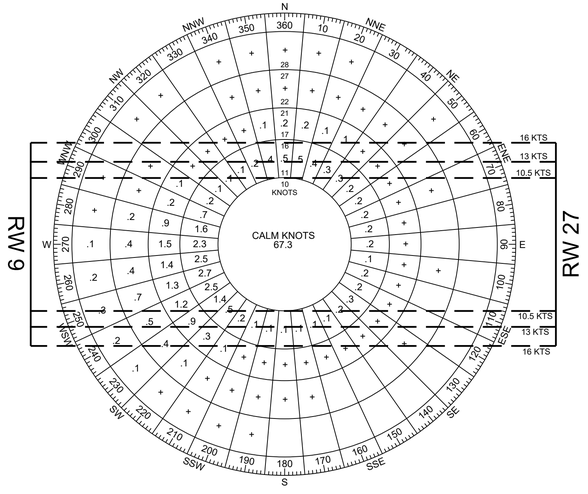
AIRPORT DATA SHEET



ALL WEATHER

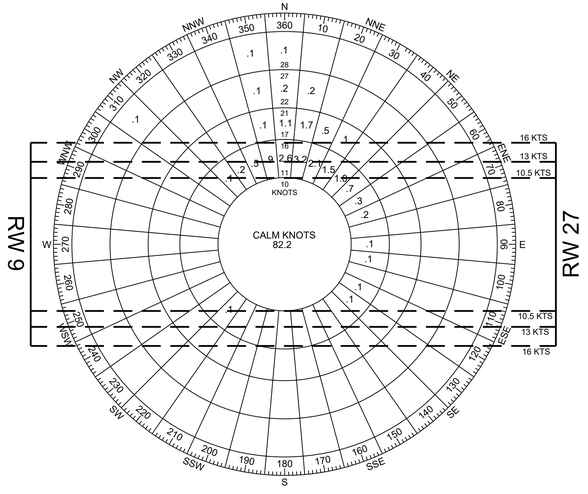


ALL WEATHER

RUNWAY	10.5 KNOTS 13 MPH	13 KNOTS 16 MPH	16 KNOTS 20 MPH
9/27	92.28%	95.68%	98.33%
2/20	79.74%	86.74%	93.25%
COMB.	97.68%	99.30%	99.84%

ALL WEATHER WIND ROSE

WIND DATA SOURCE: KTAD PERRY STOKES AIRPORT, TRINADAD, COLORADO.
(COLLECTION BETWEEN 2011 - 2022).
NUMBER OF OBSERVATIONS: 97,695



IFR

RUNWAY	10.5 KNOTS 13 MPH	13 KNOTS 16 MPH	16 KNOTS 20 MPH
9/27	84.97%	89.94%	95.45%

IFR WIND ROSE

WIND DATA SOURCE: KTAD PERRY STOKES AIRPORT, TRINIDAD, COLORADO. (COLLECTION BETWEEN 2014 - 2022).
NUMBER OF OBSERVATIONS: 11,766

ARMSTRONG
A LOCHNER COMPANY

SPANISH PEAKS AIRFIELD
WALSENBURG, COLORADO

AIP No. 3-08-0079-012-2022
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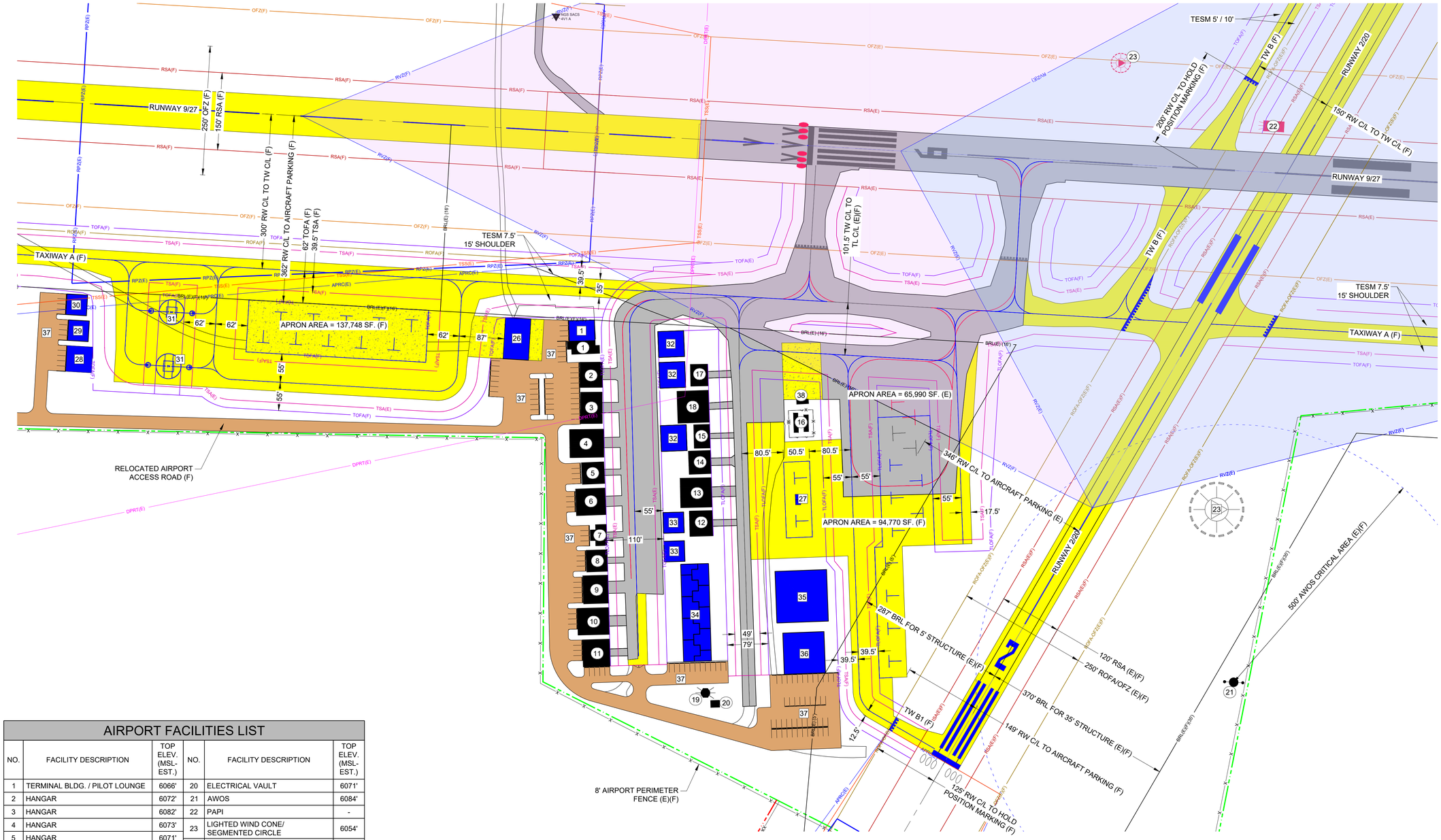
AIRPORT
WIND ROSE
DATA
SHEET

Sheet: 4 of: 25



AIRPORT FACILITIES LIST

NO.	FACILITY DESCRIPTION	TOP ELEV. (MSL-EST.)
1	TERMINAL BLDG. / PILOT LOUNGE	6066'
2	HANGAR	6072'
3	HANGAR	6082'
4	HANGAR	6073'
5	HANGAR	6071'
6	HANGAR	6079'
7	HANGAR	6069'
8	HANGAR	6075'
9	HANGAR	6078'
10	HANGAR	6079'
11	HANGAR	6076'
12	HANGAR	6075'
13	HANGAR	6077'
14	HANGAR	6077'
15	HANGAR	6074'
16	FUEL STORAGE SYSTEM	6069'
17	HANGAR	6070'
18	HANGAR	6074'
19	BEACON	6101'
20	ELECTRICAL VAULT	6071'
21	AWOS	6084'
22	PAPI	-
23	LIGHTED WIND CONE/ SEGMENTED CIRCLE	6054'
24	PRIVATE RESIDENCE	6059'
25	HANGAR	6066'
26	SRE BUILDING	6066'
27	ELECTRIC CHARGING STATIONS	6071'
28	HANGAR	6071
29	HANGAR	6067'
30	HANGAR	6065'
31	HELICOPTER PARKING	-
32	HANGAR	6073'
33	HANGAR	6077'
34	T-HANGAR	6073'
35	HANGAR	6092'
36	HANGAR	6079'
37	AUTOMOBILE PARKING	-
38	FUEL PUMP SHADE SHELTER	6061'

○ EXISTING
□ FUTURE

LEGEND

EXISTING	FUTURE	DESCRIPTION	EXISTING	FUTURE	DESCRIPTION
	ASPHALT CONCRETE	AIRFIELD DEVELOPMENT			THRESHOLD LIGHTS
		STRUCTURE/FACILITIES (BUILDING)			REIL
		AIRPORT PROPERTY LINE (APL)			VASI/PAPI
RSA(E)	RSA(F)	RUNWAY SAFETY AREA (RSA)			AIRPORT BEACON
OFZ(E)	OFZ(F)	OBSTACLE FREE ZONE (OFZ)			WIND CONE & SEGMENTED CIRCLE
ROFA(E)	ROFA(F)	RUNWAY OBJECT FREE AREA (ROFA)			SUPPLEMENTAL WIND CONE
RPZ(E)	RPZ(F)	RUNWAY PROTECTION ZONE (RPZ)			AWOS
BRL(E)	BRL(F)	BUILDING RESTRICTION LINE (BRL)		N/A	SECTION CORNER
TSA(E)	TSA(F)	TAXIWAY SAFETY AREA (TSA)	4125	N/A	CONTOURS
TOFA(E)	TOFA(F)	TAXIWAY OBJECT FREE AREA (TOFA)			ROAD/PARKING
		AIRPORT REFERENCE POINT (ARP)			MARKINGS
	N/A	PACS/SACS MONUMENT	X	XX	FENCING
RVZ(E)	RVZ(F)	RUNWAY VISIBILITY ZONE (RVZ)	N/A		TO BE REMOVED

ARMSTRONG
A LOCHNER COMPANY

SPANISH PEAKS AIRFIELD
WALSENBURG, COLORADO

AIP No. 3-08-0079-012-2022
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TERMINAL AREA DRAWING

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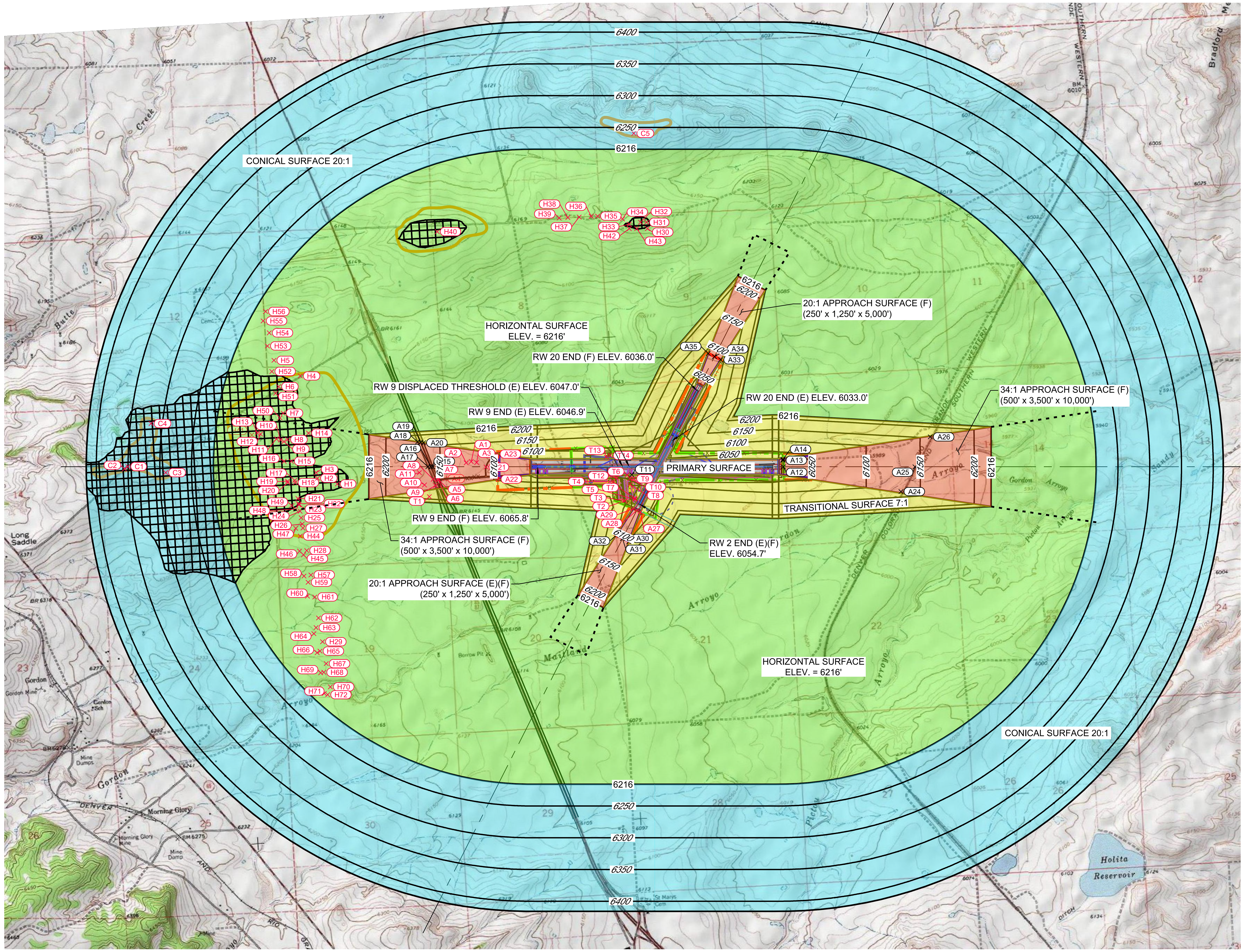


RUNWAYS 9/27 AND 2/20 (E)(F)

SCALE: PER BARSCALE

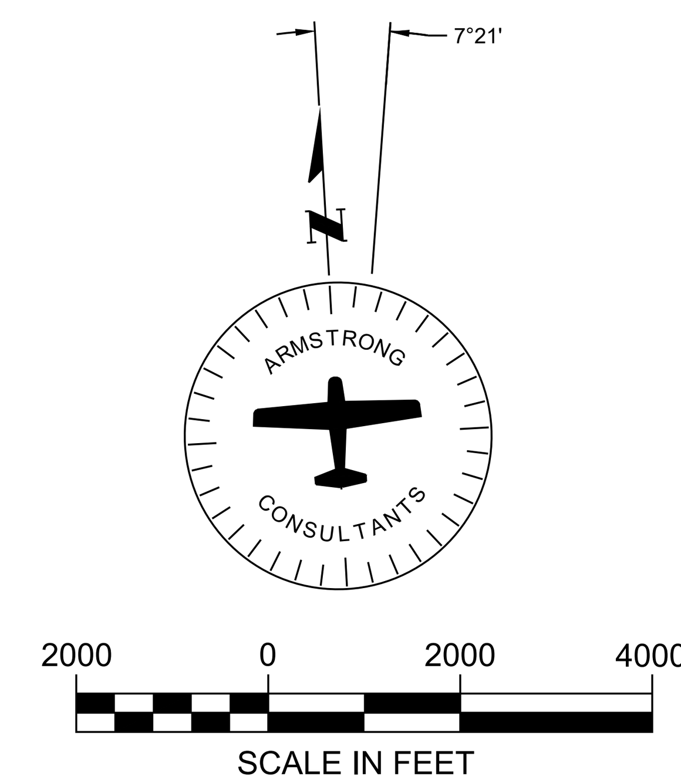
NOTES

A. REFER TO "INNER PORTION OF THE APPROACH SURFACE" DRAWINGS FOR DETAILS ON ANY CLOSE-IN APPROACH OBSTRUCTIONS.

B. AN FAA FORM 7460-1, "NOTICE OF PROPOSED CONSTRUCTION OR ALTERATION" MUST BE SUBMITTED FOR ANY CONSTRUCTION OR ALTERATION (INCLUDING HANGARS AND OTHER ON-AIRPORT AND OFF-AIRPORT STRUCTURES, TOWERS, ETC.) WITHIN 20,000 HORIZONTAL FEET OF THE AIRPORT GREATER IN HEIGHT THAN AN IMAGINARY SURFACE EXTENDING OUTWARD AND UPWARD FROM THE RUNWAY AT A SLOPE OF 100 TO 1 OR GREATER IN HEIGHT THAN 200 FEET ABOVE GROUND LEVEL.

C. APPROACH SURFACES BASED ON ULTIMATE CONDITION.

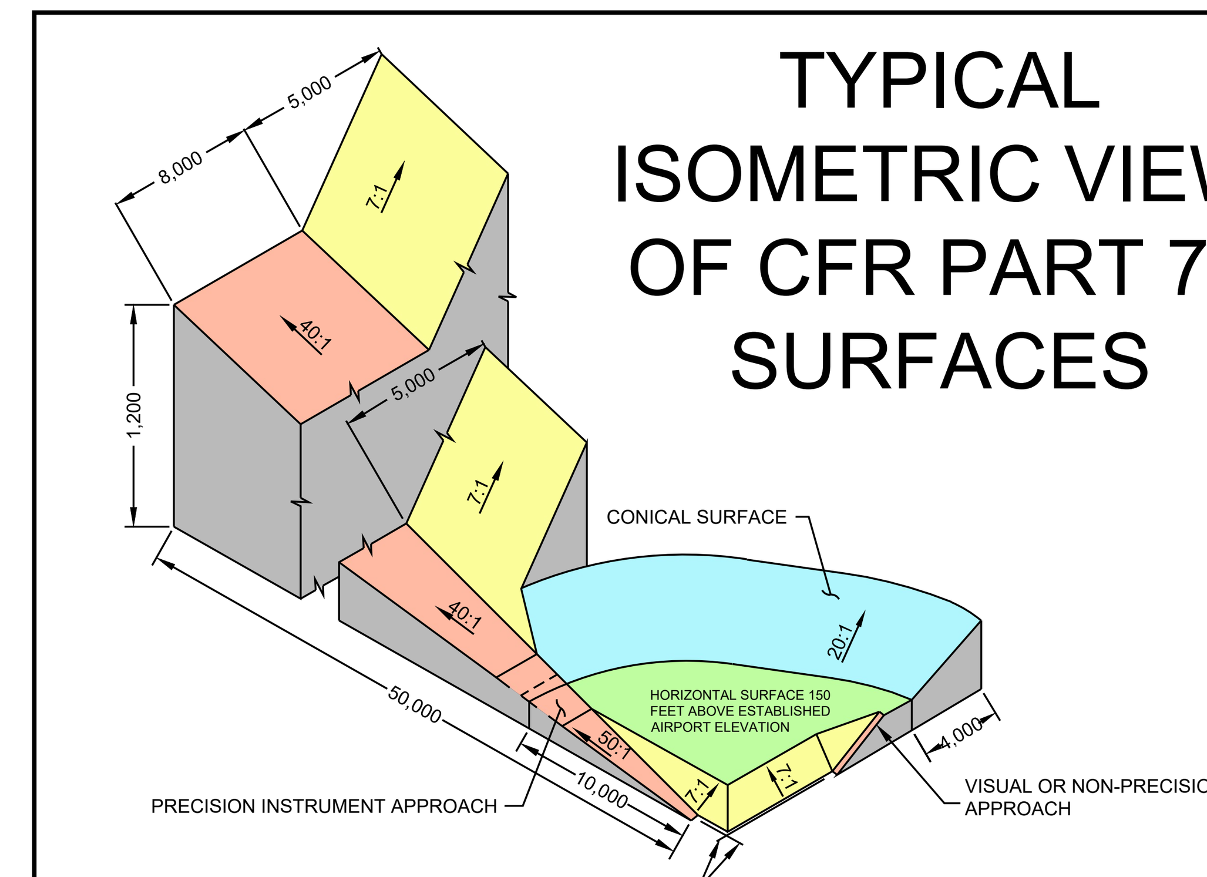
D. OBSTRUCTION INFORMATION WAS DETERMINED USING PREVIOUS OBSTRUCTION SURVEY INFORMATION AND AN INQUIRY OF THE FAA OE/AAA DATABASE.



LEGEND

HORIZONTAL SURFACE	TRANSITIONAL SURFACE
CONICAL SURFACE	APPROACH SURFACE
PRIMARY SURFACE	TERRAIN PENETRATION
OBSTRUCTION AREA	WATER

TYPICAL ISOMETRIC VIEW OF CFR PART 77 SURFACES



ARMSTRONG
A LOCHNER COMPANY

SPANISH PEAKS AIRFIELD
WALSENBURG, COLORADO

AIP No. 3-08-0079-012-2022
AIRPORT LAYOUT PLAN

No.	ACI No.	Date	Revision / Description	File	Drwn.	Chkd.	Apprvd
0	226795	05/2024	ORIGINAL ISSUE	6795504	GWK	BNB	JZP

THE PREPARATION OF THIS DOCUMENT MAY HAVE BEEN SUPPORTED, IN PART, THROUGH THE AIRPORT IMPROVEMENT PROGRAM FINANCIAL ASSISTANCE FROM THE FEDERAL AVIATION ADMINISTRATION AS PROVIDED UNDER TITLE 49 U.S.C., SECTION 47104. THE CONTENTS DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FAA. ACCEPTANCE OF THIS REPORT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED THEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE OR WOULD HAVE JUSTIFICATION IN ACCORDANCE WITH APPROPRIATE PUBLIC LAWS.

14 CFR PART "77" AIRSPACE

Sheet: 6 of: 25

OBSTRUCTION CHART

	ITEM NO.	DESCRIPTION	GROUND ELEVATION (MSL FEET)	TOP ELEVATION (AGIS FEET)	PENETRATION (FEET)	REMARKS
APPROACH	A1	GROUND	6120	6129	+8	SEE NOTE 1
	A2	TANK	6122	6127	+1	SEE NOTE 1
	A3	GROUND	6120	6125	+9	SEE NOTE 1
	A4	ROAD	6135	6154	+8	SEE NOTE 1
	A5	ROAD	6139	6157	+6	SEE NOTE 1
	A6	ROAD	6139	6157	+5	SEE NOTE 1
	A7	ROAD	6140	6156	+4	SEE NOTE 1
	A8	INTERSTATE	6144	6158	+1	SEE NOTE 1
	A9	INTERSTATE	6142	6160	+6	SEE NOTE 1
	A10	UTILITY POLE	6150	6195	+30	SEE NOTE 1
	A11	UTILITY POLE	6155	6204	+35	SEE NOTE 1
	A12	FENCE	6016	6023	-1	SEE NOTE 1
	A13	FENCE	6016	6020	-3	SEE NOTE 1
	A14	FENCE	6015	6019	-4	SEE NOTE 1
	A15	*ROAD	6138	6156	-1	SEE NOTE 1
	A16	*ROAD	6140	6158	-1	SEE NOTE 1
	A17	*ROAD	6143	6160	-1	SEE NOTE 1
	A18	*ROAD	6130	6148	-23	SEE NOTE 1
	A19	*ROAD	6130	6147	-21	SEE NOTE 1
	A20	*ROAD	6130	6147	-18	SEE NOTE 1
	A21	*ROAD (F)	6112	6127	+20	SEE NOTE 1
	A22	*ROAD (F)	6103	6119	+23	SEE NOTE 1
	A23	*ROAD (F)	6089	6103	+6	SEE NOTE 1
	A24	*RAILROAD	5991	6015	-117	SEE NOTE 1
	A25	*RAILROAD	5980	6004	-141	SEE NOTE 1
	A26	*RAILROAD	5983	6005	-154	SEE NOTE 1
	A27	*FENCE	6057	6066	+11	SEE NOTE 1
	A28	*FENCE	6059	6067	+11	SEE NOTE 1
	A29	*FENCE	6060	6069	+13	SEE NOTE 1
	A30	*FENCE	6064	6072	-33	SEE NOTE 1
	A31	*FENCE	6064	6072	-33	SEE NOTE 1
	A32	*FENCE	6060	6068	-37	SEE NOTE 1
	A33	*FENCE	6055	6063	-23	SEE NOTE 1
	A34	*FENCE	6056	6065	-21	SEE NOTE 1
	A35	*FENCE	6058	6066	-20	SEE NOTE 1
CONICAL	C1	ROAD	6431	6452	+101	SEE NOTE 1
	C2	ROAD	6432	6454	+98	SEE NOTE 1
	C3	TREE	6420	6442	+151	SEE NOTE 1
	C4	TREE	6407	6433	+116	SEE NOTE 1
	C5	GROUND	6238	6241	0	SEE NOTE 1
HORIZONTAL	H1	FENCE	6222	6225	+9	SEE NOTE 1
	H2	TREE	6229	6249	+34	SEE NOTE 1

OBSTRUCTION CHART

	ITEM NO.	DESCRIPTION	GROUND ELEVATION (MSL FEET)	TOP ELEVATION (AGIS FEET)	PENETRATION (FEET)	REMARKS
HORIZONTAL	H3	FENCE	6225	6231	+15	SEE NOTE 1
	H4	ROAD	6207	6218	+3	SEE NOTE 1
	H5	UTILITY POLE	6199	6273	+57	SEE NOTE 1
	H6	UTILITY POLE	6225	6299	+83	SEE NOTE 1
	H7	UTILITY POLE	6231	6305	+89	SEE NOTE 1
	H8	UTILITY POLE	6254	6322	+106	SEE NOTE 1
	H9	UTILITY POLE	6259	6311	+96	SEE NOTE 1
	H10	UTILITY POLE	6262	6314	+98	SEE NOTE 1
	H11	UTILITY POLE	6264	6319	+103	SEE NOTE 1
	H12	UTILITY POLE	6276	6336	+120	SEE NOTE 1
	H13	POWER LINE	6280	6335	+119	SEE NOTE 1
	H14	TREE	6239	6251	+35	SEE NOTE 1
	H15	UTILITY POLE	6235	6295	+80	SEE NOTE 1
	H16	UTILITY POLE	6241	6298	+83	SEE NOTE 1
	H17	UTILITY POLE	6237	6296	+80	SEE NOTE 1
	H18	POWER LINE	6233	6295	+79	SEE NOTE 1
	H19	UTILITY POLE	6237	6290	+75	SEE NOTE 1
	H20	POWER LINE	6236	6291	+75	SEE NOTE 1
	H21	POWER LINE	6220	6287	+71	SEE NOTE 1
	H22	UTILITY POLE	6216	6284	+69	SEE NOTE 1
	H23	POWER LINE	6214	6283	+67	SEE NOTE 1
	H24	POWER LINE	6202	6274	+58	SEE NOTE 1
	H25	POWER LINE	6195	6264	+49	SEE NOTE 1
	H26	POWER LINE	6190	6256	+40	SEE NOTE 1
	H27	UTILITY POLE	6187	6250	+34	SEE NOTE 1
	H28	UTILITY POLE	6185	6250	+34	SEE NOTE 1
	H29	UTILITY POLE	6167	6242	+26	SEE NOTE 1
	H30	FENCE	6212	6223	+8	SEE NOTE 1
	H31	FENCE	6220	6228	+12	SEE NOTE 1
	H32	ANTENNA	6220	6333	+118	SEE NOTE 1
	H33	POWER LINE	6219	6253	+37	SEE NOTE 1
	H34	POWER LINE	6204	6241	+25	SEE NOTE 1
	H35	UTILITY POLE	6200	6238	+22	SEE NOTE 1
	H36	UTILITY POLE	6200	6243	+27	SEE NOTE 1
	H37	UTILITY POLE	6195	6226	+11	SEE NOTE 1
	H38	UTILITY POLE	6189	6226	+10	SEE NOTE 1
	H39	UTILITY POLE	6185	6220	+4	SEE NOTE 1
	H40	GROUND	6220	6238	+23	SEE NOTE 1
	H41	GROUND	6284	6281	+66	SEE NOTE 1
	H42	GROUND	6212	6217	+1	SEE NOTE 1
	H43	GROUND	6217	6224	+9	SEE NOTE 1
	H44	*UTILITY POLE	6186	6251	+35	SEE NOTE 1

OBSTRUCTION CHART

	ITEM NO.	DESCRIPTION	GROUND ELEVATION (MSL FEET)	TOP ELEVATION (AGIS FEET)	PENETRATION (FEET)	REMARKS
HORIZONTAL	H45	*UTILITY POLE	6180	6245	+29	SEE NOTE 1
	H46	*UTILITY POLE	6189	6254	+38	SEE NOTE 1
	H47	*UTILITY POLE	6193	6259	+43	SEE NOTE 1
	H48	*UTILITY POLE	6211	6276	+60	SEE NOTE 1
	H49	*UTILITY POLE	6221	6286	+70	SEE NOTE 1
	H50	*UTILITY POLE	6239	6304	+88	SEE NOTE 1
	H51	*UTILITY POLE	6230	6295	+79	SEE NOTE 1
	H52	*UTILITY POLE	6211	6276	+60	SEE NOTE 1
	H53	*UTILITY POLE	6193	6258	+42	SEE NOTE 1
	H54	*UTILITY POLE	6186	6250	+34	SEE NOTE 1
	H55	*UTILITY POLE	6180	6245	+29	SEE NOTE 1
	H56	*UTILITY POLE	6171	6237	+21	SEE NOTE 1
	H57	*UTILITY POLE	6155	6220	+4	SEE NOTE 1
	H58	*UTILITY POLE	6157	6222	+6	SEE NOTE 1
	H59	*UTILITY POLE	6154	6220	+4	SEE NOTE 1
	H60	*UTILITY POLE	6155	6220	+4	SEE NOTE 1
	H61	*UTILITY POLE	6153	6218	+2	SEE NOTE 1
	H62	*UTILITY POLE	6157	6223	+7	SEE NOTE 1
	H63	*UTILITY POLE	6162	6228	+12	SEE NOTE 1
	H64	*UTILITY POLE	6165	6231	+15	SEE NOTE 1
	H65	*UTILITY POLE	6172	6237	+21	SEE NOTE 1
	H66	*UTILITY POLE	6173	6238	+22	SEE NOTE 1
	H67	*UTILITY POLE	6173	6238	+22	SEE NOTE 1
	H68	*UTILITY POLE	6174	6240	+24	SEE NOTE 1
	H69	*UTILITY POLE	6175	6241	+25	SEE NOTE 1
	H70	*UTILITY POLE	6165	6231	+15	SEE NOTE 1
	H71	*UTILITY POLE	6173	6238	+22	SEE NOTE 1
	H72	*UTILITY POLE	6174	6240	+24	SEE NOTE 1
TRANSITIONAL	T1	UTILITY POLE	6147	6187	-3	SEE NOTE 1
	T2	APBN	6059	6097	+1	SEE NOTE 1
	T3	TOP OF ANT	6059	6100	+4	SEE NOTE 1
	T4	UTILITY POLE	6052	6084	+2	SEE NOTE 1
	T5	GROUND	6056	6057	+1	SEE NOTE 1
	T6	GROUND	6049	6049	0	SEE NOTE 1
	T7	GROUND	6056	6057	+2	SEE NOTE 1
	T8	LIGHT POLE	6052	6068	+12	SEE NOTE 1
	T9	GROUND	6049	6049	+1	SEE NOTE 1
	T10	GROUND	6050	6051	+2	SEE NOTE 1
	T11	GROUND	6047	6047	0	SEE NOTE 1
	T12	PARKING LOT	6052	6067	+2	SEE NOTE 1
	T13	TREE	6046	6066	+6	SEE NOTE 1
	T14	UTILITY POLE	6047	6068	+3	SEE NOTE 1

NOTE:

1. SURFACE PENETRATIONS: LOWER, MARK AND LIGHT, REMOVE OR TAKE APPROPRIATE ACTION PER FAA FLIGHT PROCEDURES OFFICE DETERMINATIONS.
2. SEE INNER APPROACH DRAWINGS FOR OBSTRUCTIONS IN RPZ.
3. * = OBJECT ELEVATIONS ARE ESTIMATED AND NOT BASED ON A SURVEY.
4. ALL OTHER OBJECT TOP ELEVATIONS AND LOCATIONS ARE BASED ON A SURVEY BY: WILSON & COMPANY, DATED: 08/19/2021 OR OE/AAA WEBSITE.
5. EST. = ESTIMATED; ELEV. = ELEVATION; HT. = HEIGHT; PEN. = PENETRATION; N/A = NOT APPLICABLE; O.L. = OBSTRUCTION LIGHT; VGS = VERTICAL GUIDANCE SURFACE; APRC = APPROACH SURFACE; TSS = THRESHOLD SITING SURFACE

DEPICTS GROUPS OF LIKE OBJECTS - HIGHEST OBJECT DEPICTED IN PLAN AND PROFILE

ARMSTRONG
A LOCHNER COMPANY

SPANISH PEAKS AIRFIELD
WALSENBURG, COLORADO

AIP No. 3-08-0079-012-2022
AIRPORT LAYOUT PLAN

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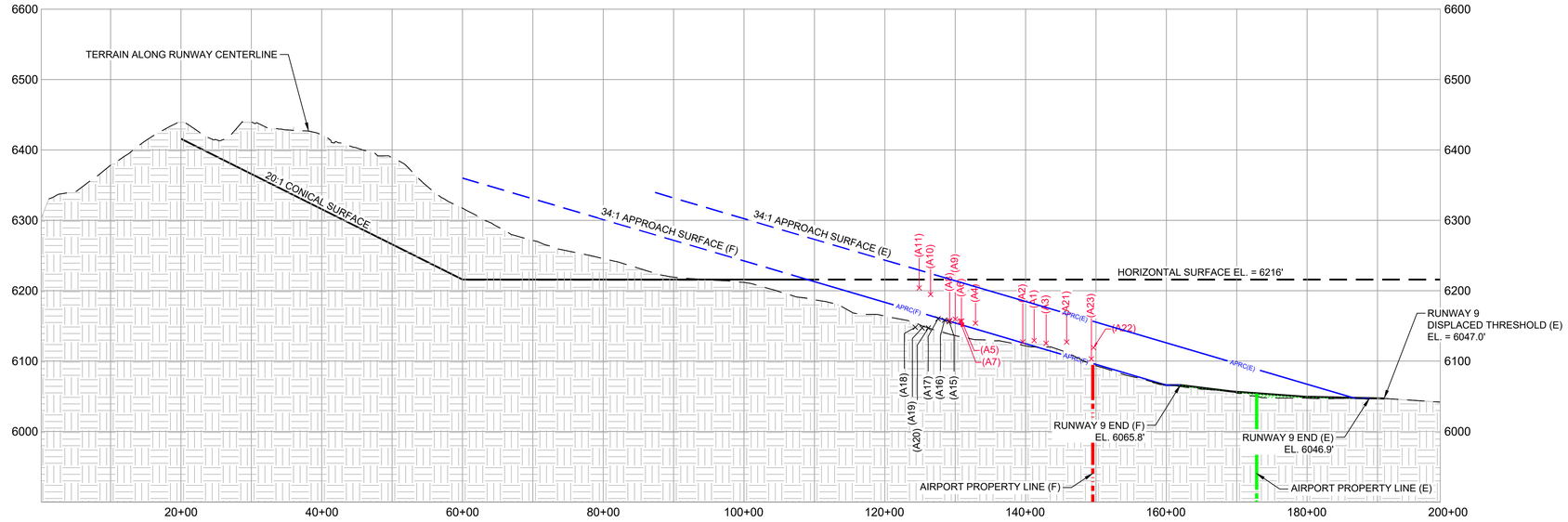
0	226795	05/2024	ORIGINAL ISSUE	6795504	GWK	BNB	JZP

14 CFR
PART "77"
OBSTRUCTION
TABLE

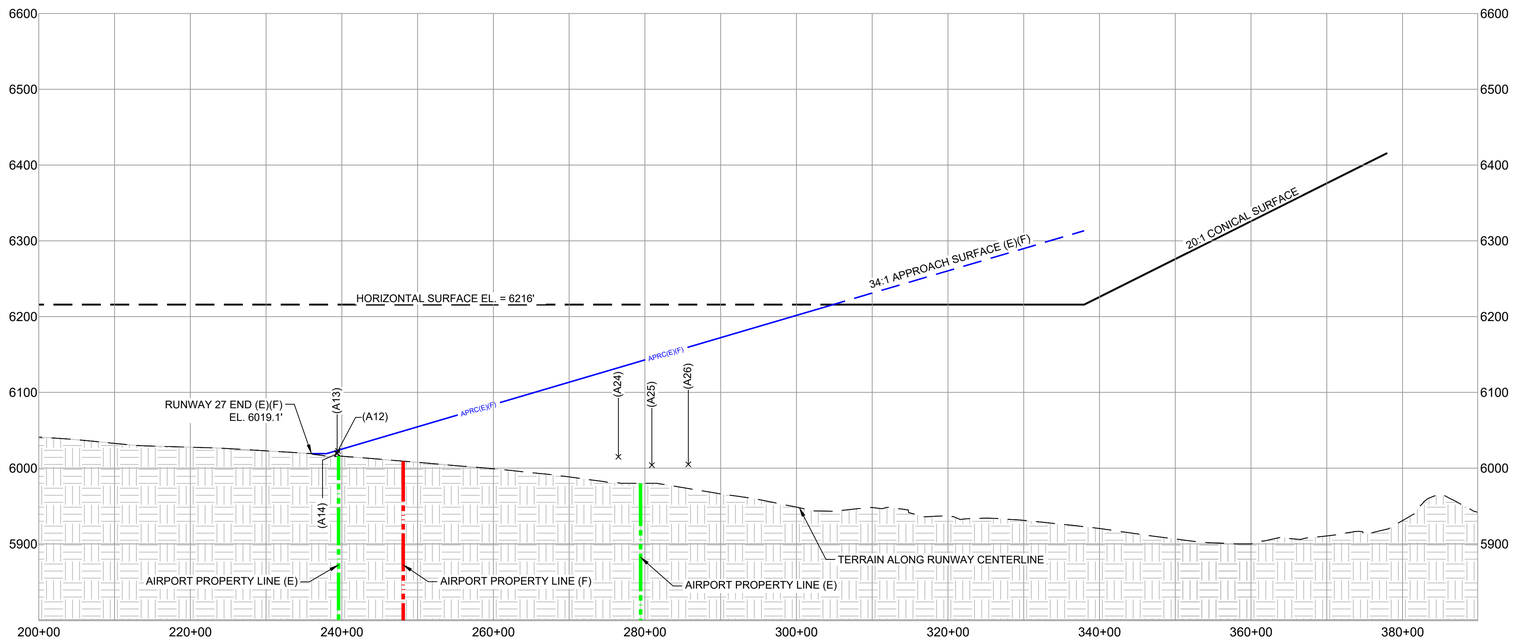
Sheet: 7 of: 25



RUNWAY 9 END PROFILE (F)

PER GRID

CUT / FILL



RUNWAY 27 END PROFILE (E)(F)

PER GRID

ARMSTRONG
A LOCHNER COMPANY

SPANISH PEAKS AIRFIELD
WALSENBURG, COLORADO

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14 CFR
PART "77"
PROFILES

Sheet: 8 of: 25

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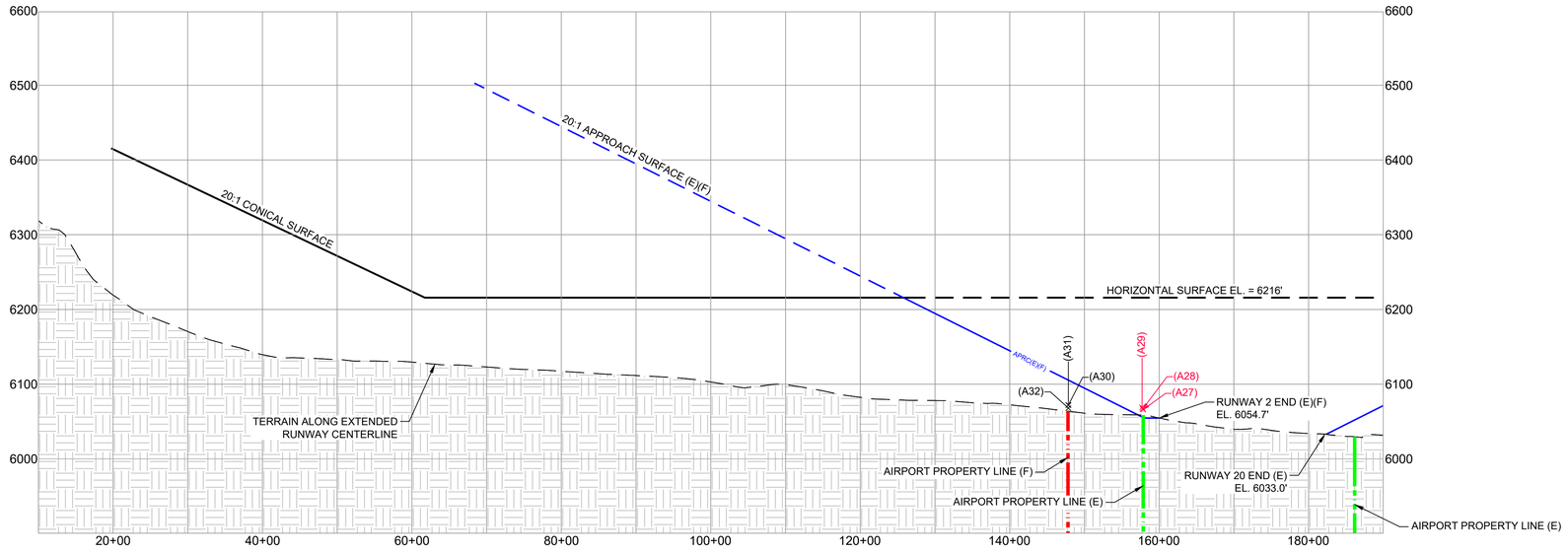

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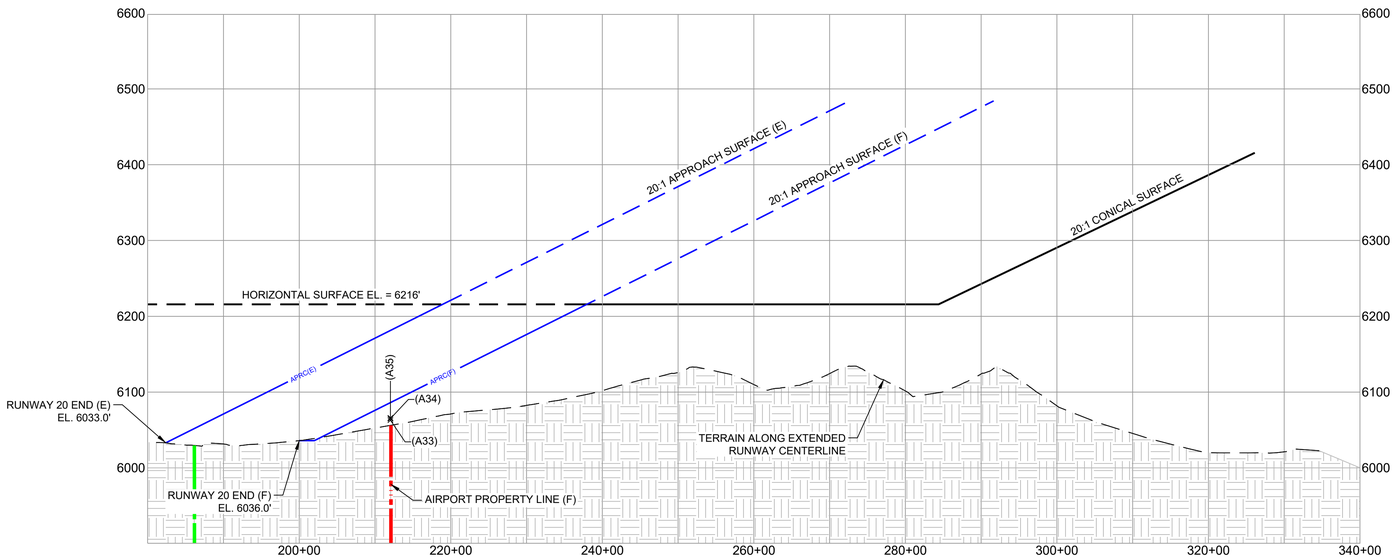
PER GRID



RUNWAY 20 END PROFILE (F)

PER GRID

ARMSTRONG
A LOCHNER COMPANY

SPANISH PEAKS AIRFIELD
WALSENBURG, COLORADO

AIP No. 3-08-0079-012-2022
AIRPORT LAYOUT PLAN

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14 CFR
PART "77"
PROFILES

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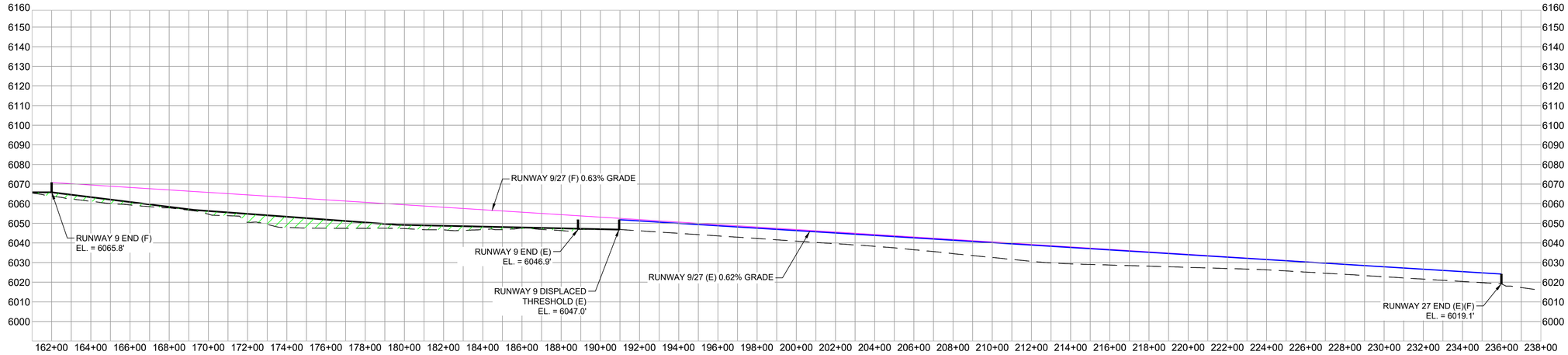
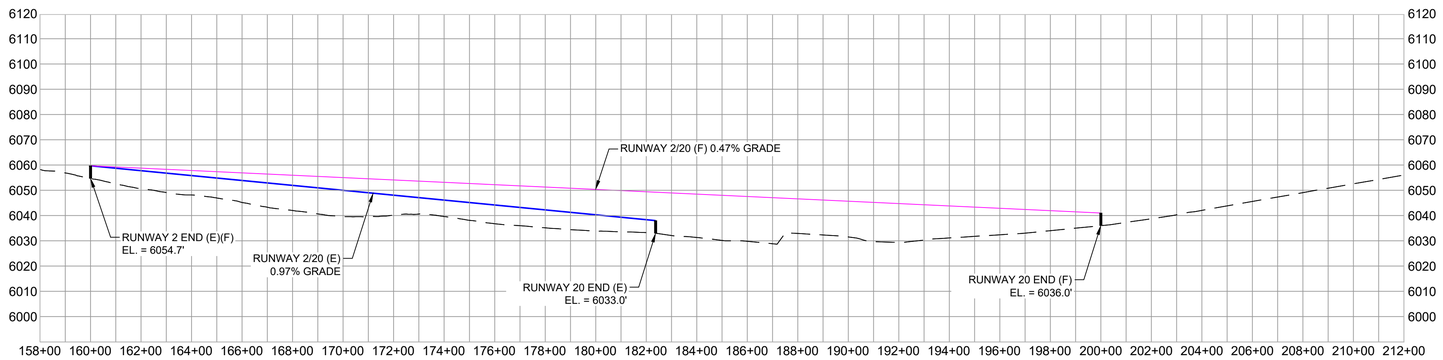


RUNWAY 9/27 LINE OF SIGHT PROFILE (E)(F)

SCALE: PER GRID

EXISTING LINE OF SITE
FUTURE LINE OF SITE



RUNWAY 2/20 LINE OF SIGHT PROFILE (E)(F)

SCALE: PER GRID

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LINE OF SITE DRAWING

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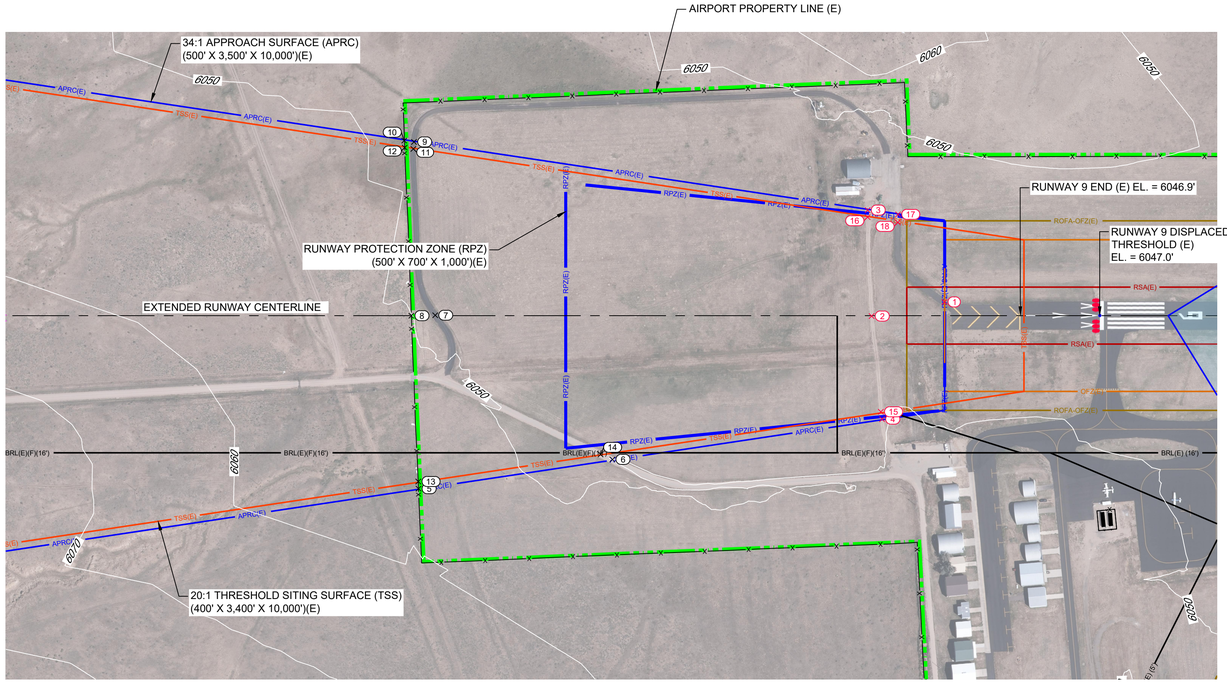
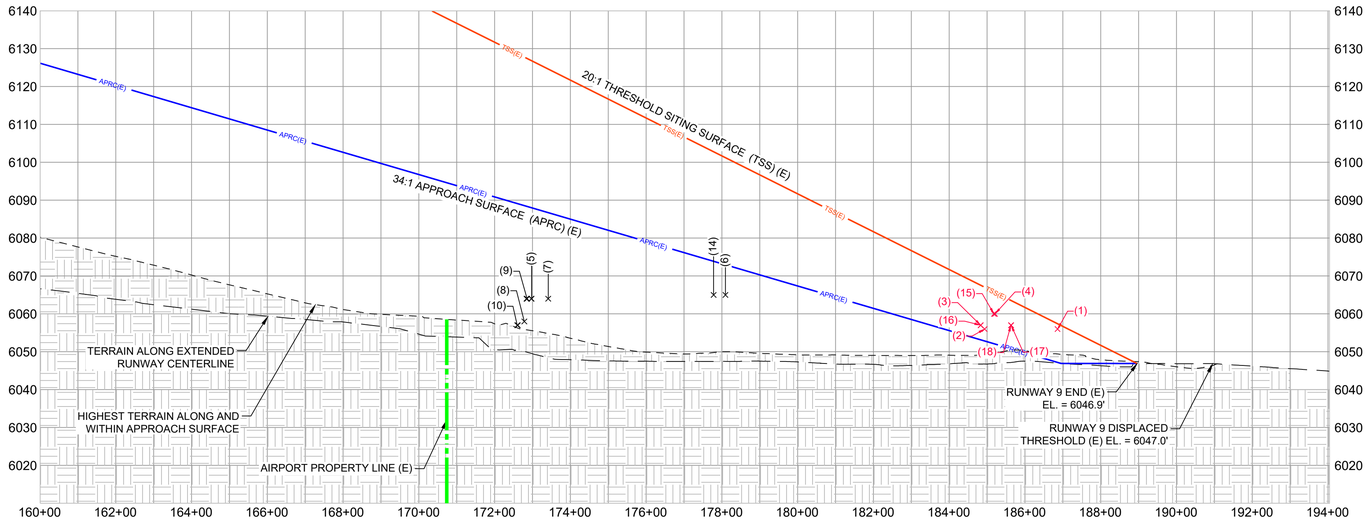


RUNWAY 9 END PLAN VIEW (E)

PER BAR SCALE



RUNWAY 9 END PROFILE VIEW (E)

PER GRID

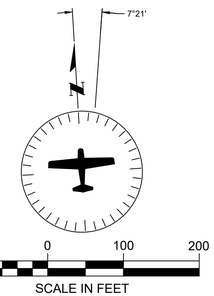
RUNWAY 9 INNER APPROACH OBJECTS TABLE
(34:1 APRC) (20:1 TSS)

OBJECTS WITHIN RUNWAY APRC & TSS SURFACES (E)						
ITEM NO.	DESCRIPTION	EST. OBJECT HEIGHT	TOP ELEV.	APRC SURFACE PEN.	TSS PEN.	REMARKS
1	*ROAD	9	6056	+10	-2	SEE NOTE 1
2	*ROAD	9	6056	+4	-12	SEE NOTE 1
3	*ROAD	10	6057	+5	0	SEE NOTE 1
4	*ROAD	10	6060	+9	0	SEE NOTE 1
5	*FENCE	8	6064	-24	0	N/A
6	*ROAD	15	6065	-8	0	N/A
7	*ROAD	16	6064	-23	-61	N/A
8	*FENCE	8	6058	-31	-70	N/A
9	*ROAD	15	6064	-25	0	N/A
10	*FENCE	8	6057	-32	0	N/A
11	*ROAD	15	6064	-25	-64	N/A
12	*FENCE	8	6057	-32	-72	N/A
13	*FENCE	9	6064	-24	-63	N/A
14	*ROAD	15	6065	-9	-38	N/A
15	*ROAD	10	6060	+9	-6	N/A
16	*ROAD	10	6057	+5	-11	SEE NOTE 1
17	*ROAD	10	6057	+7	0	SEE NOTE 1
18	*ROAD	11	6057	+7	-7	SEE NOTE 1

NOTE: OBJECT ELEVATIONS IN FEET MSL (VERTICAL DATUM NAVD88).
* = OBJECT ELEVATIONS ARE ESTIMATED AND NOT BASED ON A SURVEY.
ALL OTHER OBJECT TOP ELEVATIONS AND LOCATIONS ARE BASED ON A SURVEY BY: WILSON & COMPANY, DATED: 09/17/2022 OR OE/AAA WEBSITE.
0 = OBJECT IS NOT LOCATED WITHIN THIS SURFACE.
= OBJECT PENETRATION LOCATION
EST. = ESTIMATED; ELEV. = ELEVATION; HT. = HEIGHT; PEN. = PENETRATION;
N/A = NOT APPLICABLE; O.L. = OBSTRUCTION LIGHT;
VGS = VERTICAL GUIDANCE SURFACE; APRC = APPROACH SURFACE;
TSS = THRESHOLD SITING SURFACE

NOTE:

1. SURFACE PENETRATIONS: LOWER, MARK AND LIGHT, REMOVE OR TAKE APPROPRIATE ACTION PER FAA FLIGHT PROCEDURES OFFICE DETERMINATIONS.



LEGEND	
EXISTING	DESCRIPTION
	AIRFIELD DEVELOPMENT (ASPHALT)
	STRUCTURE/FACILITIES (BUILDING)
	AIRPORT PROPERTY LINE (APL)
RSA(E)	RUNWAY SAFETY AREA (RSA)
OFZ(E)	OBSTACLE FREE ZONE (OFZ)
ROFA(E)	RUNWAY OBJECT FREE AREA (ROFA)
RPZ(E)	RUNWAY PROTECTION ZONE (RPZ)
BRL(E)	BUILDING RESTRICTION LINE (BRL)
APRC(E)	APPROACH SURFACE
TSS(E)	THRESHOLD SITING SURFACE
VGS(E)	VERTICAL GUIDANCE SURFACE
	THRESHOLD LIGHTS
4125	CONTOURS
	ROAD/PARKING
	MARKINGS
X	FENCE

ARMSTRONG
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RUNWAY 9 INNER APPROACH DRAWING (E)

Sheet: 11 of: 25

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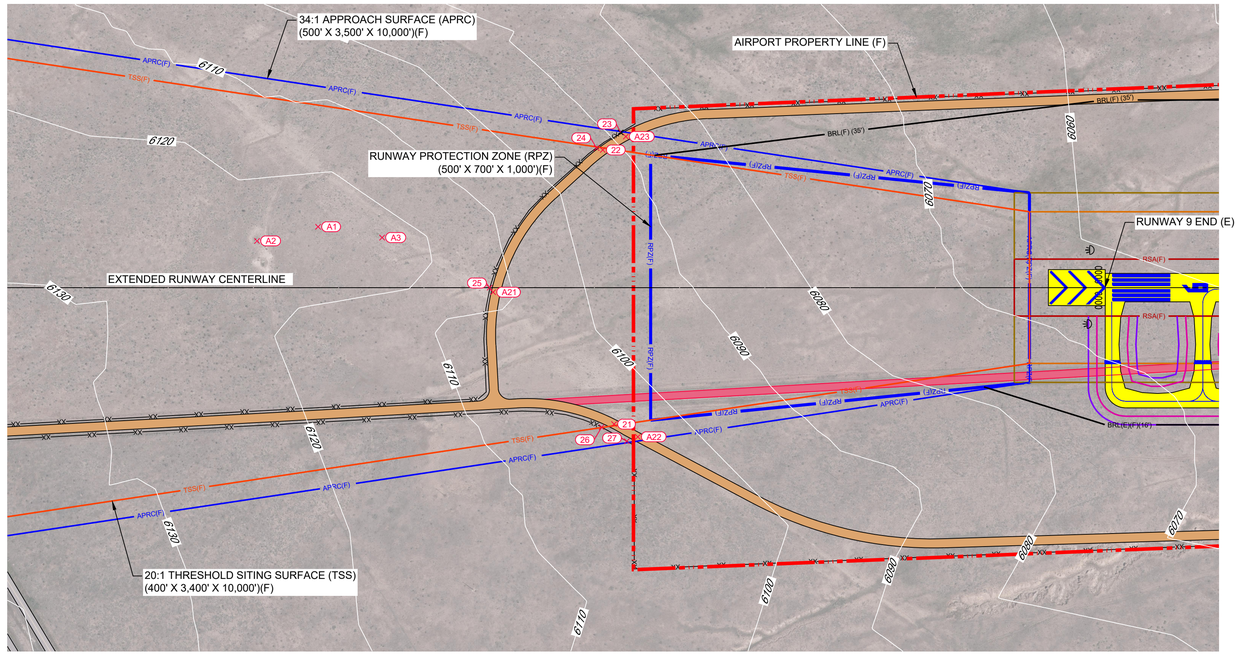
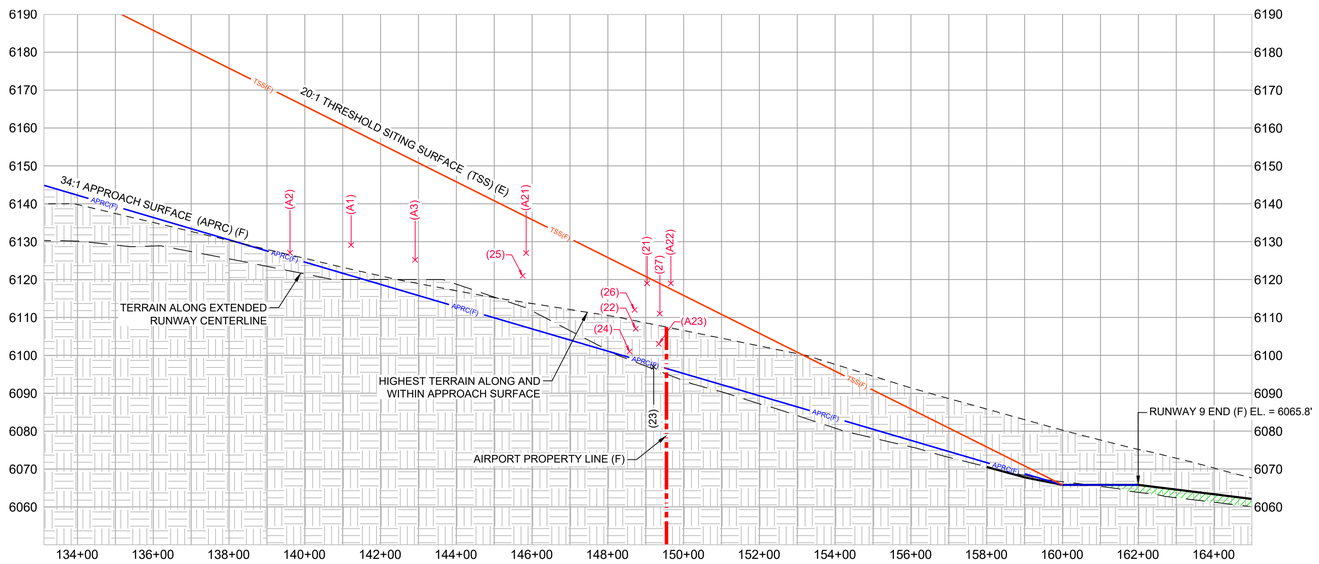


RUNWAY 9 END PLAN VIEW (F)

PER BAR SCALE



RUNWAY 9 END PROFILE VIEW (F)

PER GRID

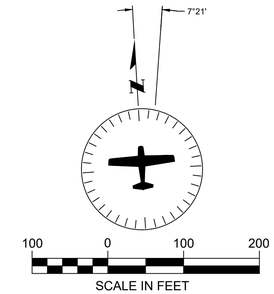
RUNWAY 9 INNER APPROACH OBJECTS TABLE
(34:1 APRC) (20:1 TSS)

OBJECTS WITHIN RUNWAY APRC & TSS SURFACES (F)						
ITEM NO.	DESCRIPTION	EST. OBJECT HEIGHT	TOP ELEV.	APRC SURFACE PEN.	TSS PEN.	REMARKS
21	*ROAD (F)	16	6119	+21	-2	SEE NOTE 1
22	*ROAD (F)	15	6107	+9	-16	SEE NOTE 1
23	*FENCE (F)	8	6097	-1	0	SEE NOTE 1
24	*FENCE (F)	9	6101	+2	-22	SEE NOTE 1
25	*FENCE (F)	8	6121	+14	-17	N/A
26	*FENCE (F)	8	6112	+13	-11	SEE NOTE 1
27	*FENCE (F)	8	6111	+14	0	SEE NOTE 1
A1	GROUND	9	6130	+9	-31	SEE NOTE 1
A2	TANK	5	6128	+2	-41	SEE NOTE 1
A3	GROUND	5	6126	+10	-27	SEE NOTE 1
A21	*ROAD (F)	15	6127	+20	-10	SEE NOTE 1
A22	*ROAD (F)	16	6119	+23	0	SEE NOTE 1
A23	*ROAD (F)	14	6103	+6	0	SEE NOTE 1

NOTE: OBJECT ELEVATIONS IN FEET MSL (VERTICAL DATUM NAVD88).
* = OBJECT ELEVATIONS ARE ESTIMATED AND NOT BASED ON A SURVEY.
ALL OTHER OBJECT TOP ELEVATIONS AND LOCATIONS ARE BASED ON A SURVEY BY: WILSON & COMPANY, DATED: 09/17/2022 OR OE/AAA WEBSITE.
0 = OBJECT IS NOT LOCATED WITHIN THIS SURFACE.
= OBJECT PENETRATION LOCATION
EST. = ESTIMATED; ELEV. = ELEVATION; HT. = HEIGHT; PEN. = PENETRATION; N/A = NOT APPLICABLE; O.L. = OBSTRUCTION LIGHT; VGS = VERTICAL GUIDANCE SURFACE; APRC = APPROACH SURFACE; TSS = THRESHOLD SITING SURFACE

NOTE:

1. SURFACE PENETRATIONS: LOWER, MARK AND LIGHT, REMOVE OR TAKE APPROPRIATE ACTION PER FAA FLIGHT PROCEDURES OFFICE DETERMINATIONS.



LEGEND	
FUTURE	DESCRIPTION
	AIRFIELD DEVELOPMENT (ASPHALT)
	STRUCTURE/FACILITIES (BUILDING)
	AIRPORT PROPERTY LINE (APL)
RSA(F)	RUNWAY SAFETY AREA (RSA)
OFZ(F)	OBSTACLE FREE ZONE (OFZ)
ROFA(F)	RUNWAY OBJECT FREE AREA (ROFA)
RPZ(F)	RUNWAY PROTECTION ZONE (RPZ)
BRL(F)	BUILDING RESTRICTION LINE (BRL)
APRC(F)	APPROACH SURFACE
TSS(F)	THRESHOLD SITING SURFACE
	THRESHOLD LIGHTS
	REIL
	CONTOURS
	ROAD/PARKING
	MARKINGS
	FENCE
	CUT / FILL
	TO BE REMOVED

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SPANISH PEAKS AIRFIELD
WALSENBURG, COLORADO

AIP No. 3-08-0079-012-2022
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RUNWAY 9
INNER
APPROACH
DRAWING
(F)

Sheet: 12 of: 25

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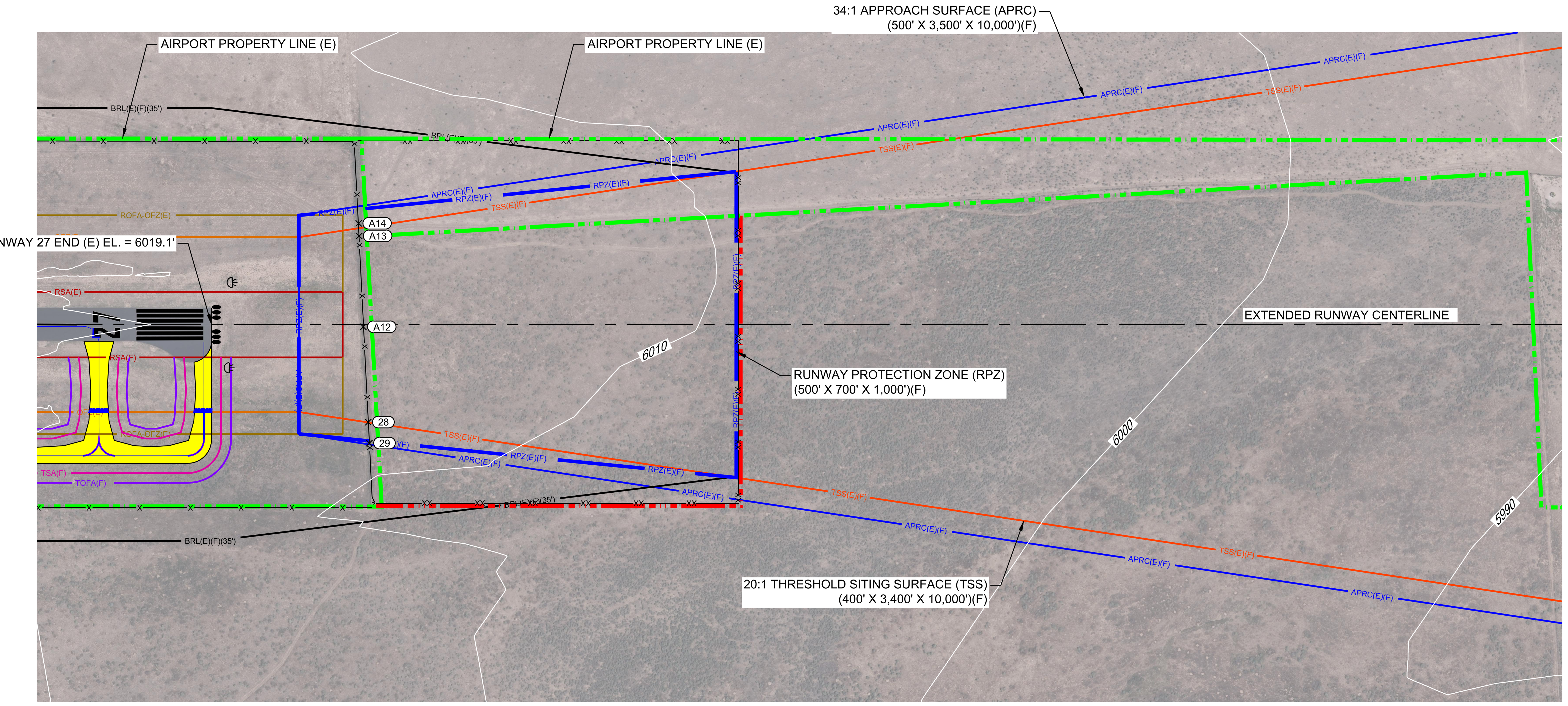
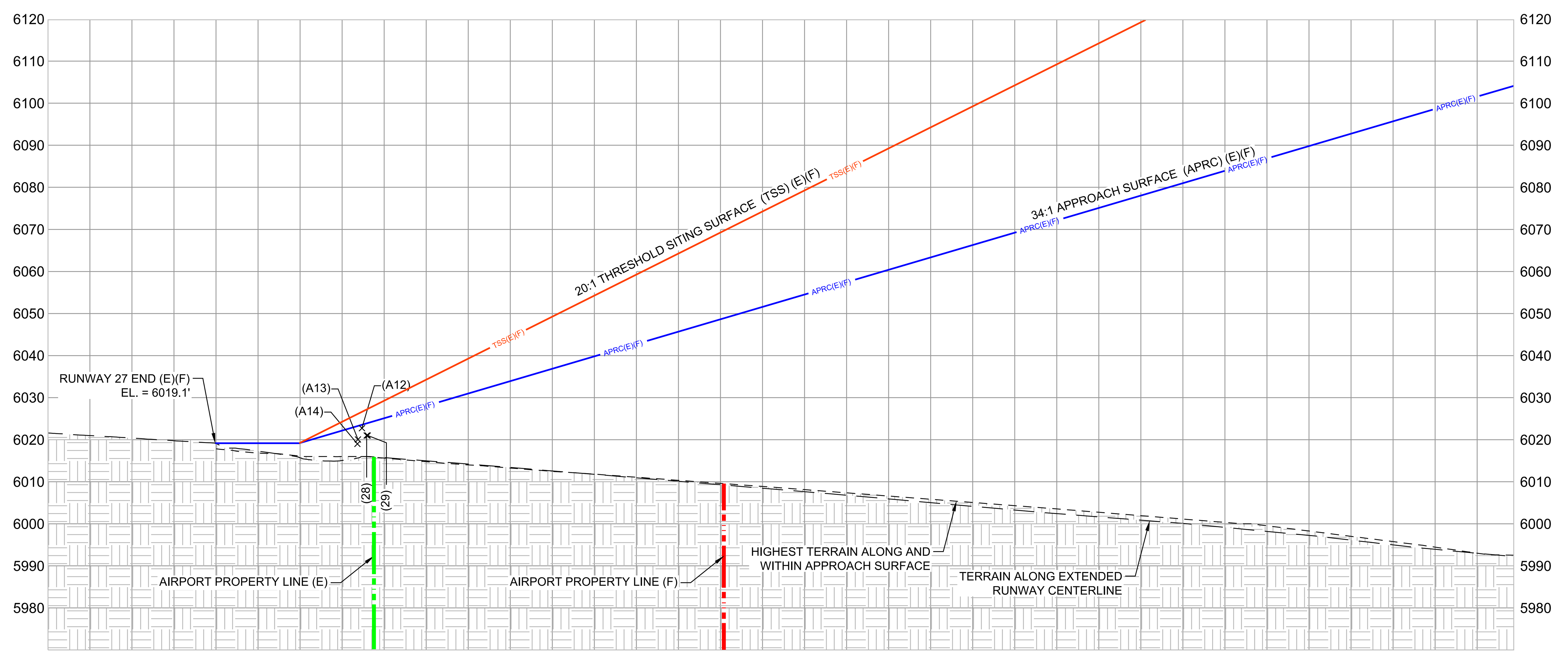


RUNWAY 27 END PLAN VIEW (E)(F)

PER BAR SCALE



RUNWAY 27 END PROFILE VIEW (E)(F)

PER GRID

RUNWAY 27 INNER APPROACH OBJECTS TABLE
(34:1 APRC) (20:1 TSS)

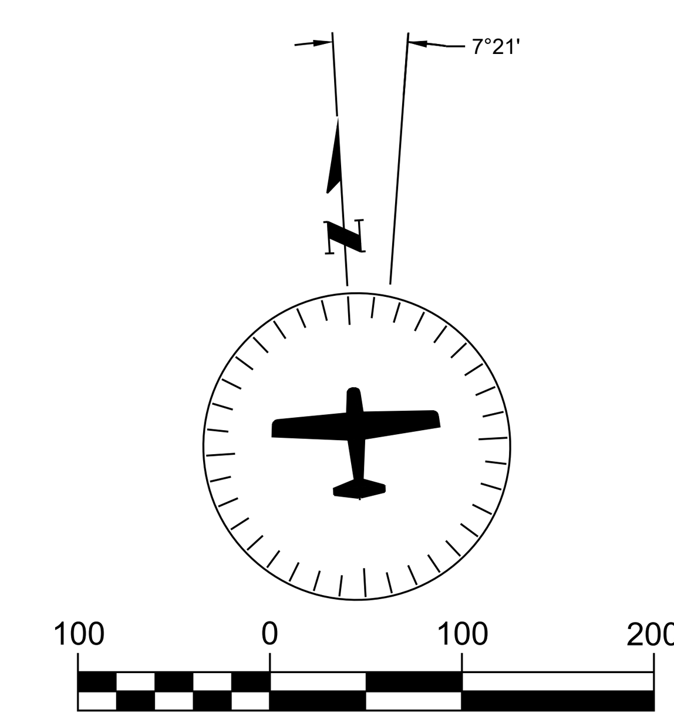
OBJECTS WITHIN RUNWAY APRC & TSS SURFACES (E)(F)							
ITEM NO.	DESCRIPTION	EST. OBJECT HEIGHT	TOP ELEV.	APRC SURFACE PEN. (E)	APRC SURFACE PEN. (F)	TSS PEN.	REMARKS
28	*FENCE	8	6021	-3	-3	-7	N/A
29	*FENCE	9	6021	-3	-3	0	N/A
A12	FENCE	7	6023	-1	-1	-4	N/A
A13	FENCE	5	6021	-4	-3	-6	N/A
A14	FENCE	4	6020	-5	-4	0	N/A

NOTE: OBJECT ELEVATIONS IN FEET MSL (VERTICAL DATUM NAVD88).
* = OBJECT ELEVATIONS ARE ESTIMATED AND NOT BASED ON A SURVEY.
ALL OTHER OBJECT TOP ELEVATIONS AND LOCATIONS ARE BASED ON A SURVEY BY: WILSON & COMPANY, DATED: 09/17/2022 OR OE/AAA WEBSITE.
0 = OBJECT IS NOT LOCATED WITHIN THIS SURFACE.
= OBJECT PENETRATION LOCATION

EST. = ESTIMATED; ELEV. = ELEVATION; HT. = HEIGHT; PEN. = PENETRATION; N/A = NOT APPLICABLE; O.L. = OBSTRUCTION LIGHT; VGS = VERTICAL GUIDANCE SURFACE; APRC = APPROACH SURFACE; TSS = THRESHOLD SITING SURFACE

NOTE:

1. SURFACE PENETRATIONS: LOWER, MARK AND LIGHT, REMOVE OR TAKE APPROPRIATE ACTION PER FAA FLIGHT PROCEDURES OFFICE DETERMINATIONS.



LEGEND		
EXISTING	FUTURE	DESCRIPTION
N/A		AIRFIELD DEVELOPMENT (ASPHALT)
		AIRPORT PROPERTY LINE (APL)
RSA(E)	RSA(F)	RUNWAY SAFETY AREA (RSA)
OFZ(E)	OFZ(F)	OBSTACLE FREE ZONE (OFZ)
ROFA(E)	ROFA(F)	RUNWAY OBJECT FREE AREA (ROFA)
RPZ(E)	RPZ(F)	RUNWAY PROTECTION ZONE (RPZ)
BRL(E)	BRL(F)	BUILDING RESTRICTION LINE (BRL)
APRC(E)	APRC(F)	APPROACH SURFACE
TSS(E)	TSS(F)	THRESHOLD SITING SURFACE
	N/A	THRESHOLD LIGHTS
N/A		REIL
4125	N/A	CONTOURS
N/A		ROAD/PARKING
N/A		MARKINGS
N/A	XX	FENCE

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SPANISH PEAKS AIRFIELD
WALSENBURG, COLORADO

AIP No. 3-08-0079-012-2022
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RUNWAY 27 INNER APPROACH DRAWING (E)(F)

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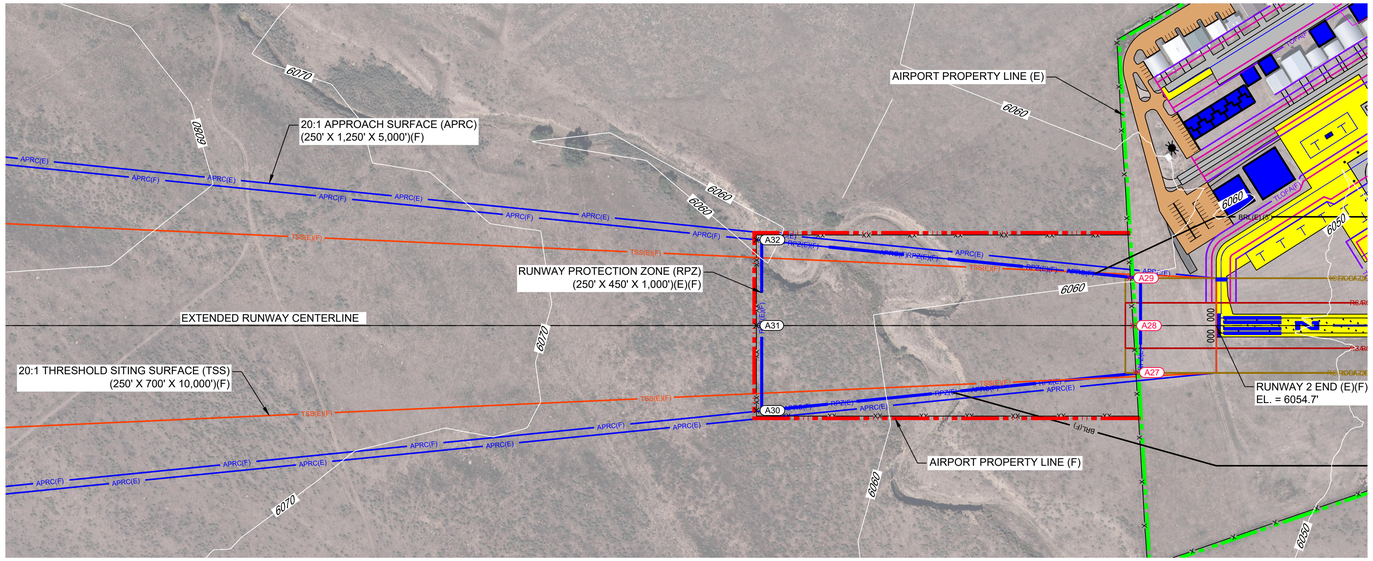
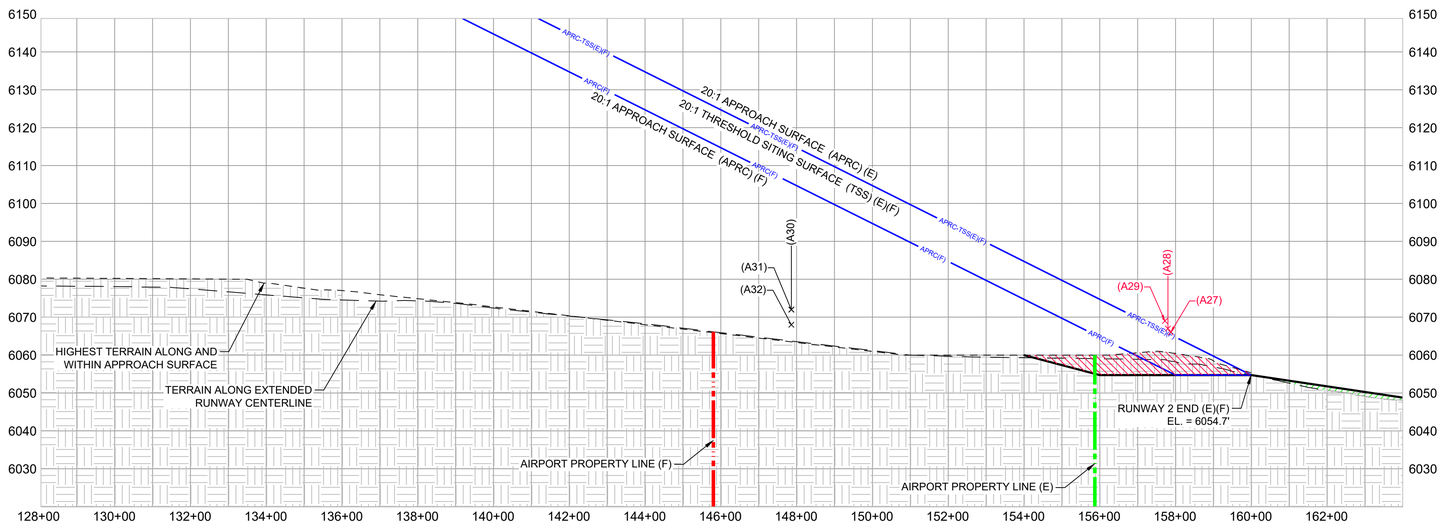


RUNWAY 2 END PLAN VIEW (E)(F)

PER BAR SCALE



RUNWAY 2 END PROFILE VIEW (E)(F)

PER GRID

RUNWAY 2 INNER APPROACH OBJECTS TABLE
(20:1 APRC) (20:1 TSS)

OBJECTS WITHIN RUNWAY APRC & TSS SURFACES (E)(F)							
ITEM NO.	DESCRIPTION	EST. OBJECT HEIGHT	TOP ELEV.	APRC SURFACE PEN. (E)	APRC SURFACE PEN. (F)	TSS PEN.	REMARKS
A27	*FENCE	9	6066	+1	+11	+1	SEE NOTE 1
A28	*FENCE	8	6067	+2	+11	+2	SEE NOTE 1
A29	*FENCE	9	6069	+3	+13	+3	SEE NOTE 1
A30	*FENCE (F)	8	6072	-44	-33	0	N/A
A31	*FENCE (F)	8	6072	-44	-33	-44	N/A
A32	*FENCE (F)	8	6068	-48	-37	0	N/A

NOTE: OBJECT ELEVATIONS IN FEET MSL (VERTICAL DATUM NAVD88).
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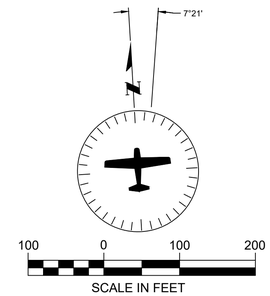
0 = OBJECT IS NOT LOCATED WITHIN THIS SURFACE.
= OBJECT PENETRATION LOCATION
EST. = ESTIMATED; ELEV. = ELEVATION; HT. = HEIGHT; PEN. = PENETRATION;
N/A = NOT APPLICABLE; O.L. = OBSTRUCTION LIGHT; VGS = VERTICAL GUIDANCE SURFACE;
APRC = APPROACH SURFACE; TSS = THRESHOLD SITING SURFACE

NOTE:

1. SURFACE PENETRATIONS: LOWER, MARK AND LIGHT, REMOVE OR TAKE APPROPRIATE ACTION PER FAA FLIGHT PROCEDURES OFFICE DETERMINATIONS.



LEGEND		
EXISTING	FUTURE	DESCRIPTION
N/A		AIRFIELD DEVELOPMENT (ASPHALT)
		AIRPORT PROPERTY LINE (APL)
RSA(E)	RSA(F)	RUNWAY SAFETY AREA (RSA)
OFZ(E)	OFZ(F)	OBSTACLE FREE ZONE (OFZ)
ROFA(E)	ROFA(F)	RUNWAY OBJECT FREE AREA (ROFA)
RPZ(E)	RPZ(F)	RUNWAY PROTECTION ZONE (RPZ)
BRL(E)	BRL(F)	BUILDING RESTRICTION LINE (BRL)
APRC(E)	APRC(F)	APPROACH SURFACE
TSS(E)	TSS(F)	THRESHOLD SITING SURFACE
	N/A	THRESHOLD LIGHTS
N/A		REIL
4125	N/A	CONTOURS
N/A		ROAD/PARKING
N/A		MARKINGS
N/A	XX	FENCE

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SPANISH PEAKS AIRFIELD
WALSENBURG, COLORADO

AIP No. 3-08-0079-012-2022
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RUNWAY 2 INNER APPROACH DRAWING (E)(F)

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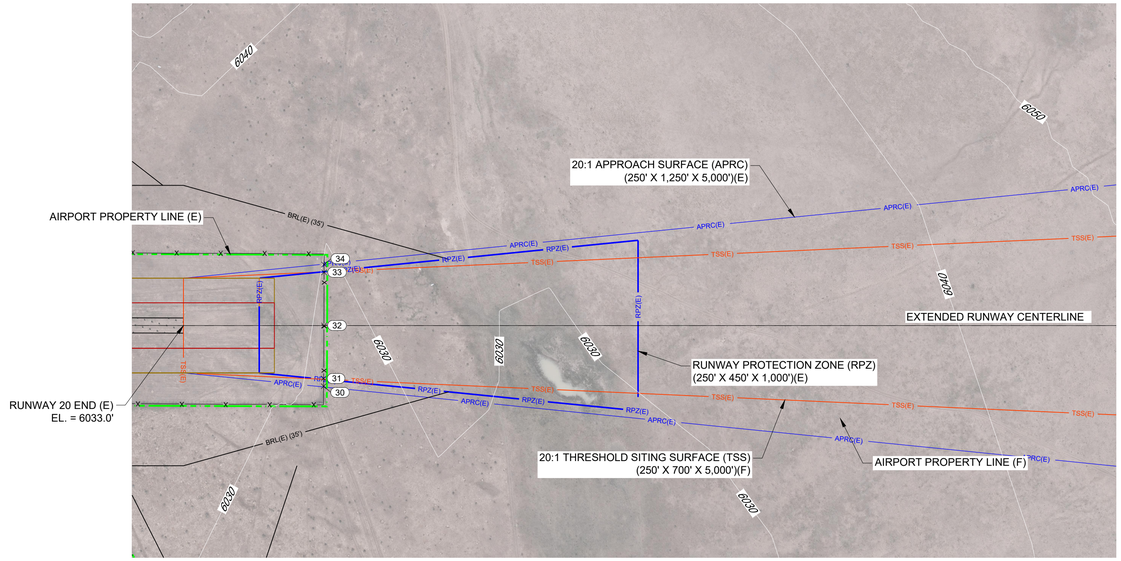
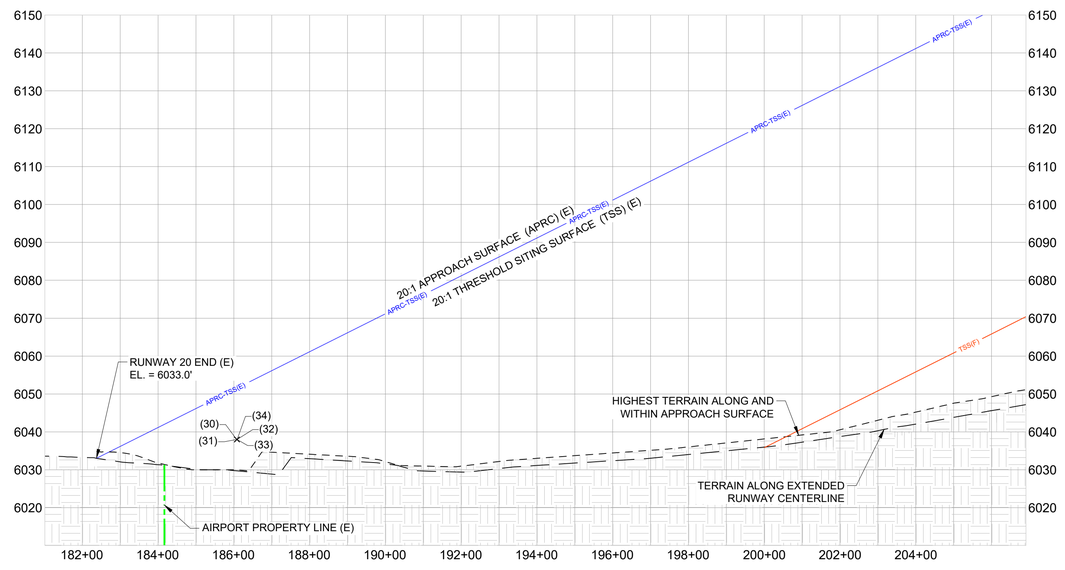


RUNWAY 20 END PLAN VIEW (E)

PER BAR SCALE



RUNWAY 20 END PROFILE VIEW (E)

PER GRID

RUNWAY 20 INNER APPROACH OBJECTS TABLE
(20:1 APRC) (20:1 TSS)

OBJECTS WITHIN RUNWAY APRC & TSS SURFACES (E)						
ITEM NO.	DESCRIPTION	EST. OBJECT HEIGHT	TOP ELEV.	APRC SURFACE PEN.	TSS PEN.	REMARKS
30	*FENCE	9	6038	**-14**	**0**	N/A
31	*FENCE	8	6038	**-14**	**-14**	N/A
32	*FENCE	8	6038	**-14**	**-14**	N/A
33	*FENCE	8	6038	**-14**	**-14**	N/A
34	*FENCE	8	6038	**-14**	**0**	N/A

NOTE: OBJECT ELEVATIONS IN FEET MSL (VERTICAL DATUM NAVD88).
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= OBJECT PENETRATION LOCATION
EST. = ESTIMATED; ELEV. = ELEVATION; HT. = HEIGHT; PEN. = PENETRATION;
N/A = NOT APPLICABLE; O.L. = OBSTRUCTION LIGHT;
VGS = VERTICAL GUIDANCE SURFACE; APRC = APPROACH SURFACE;
TSS = THRESHOLD SITING SURFACE

NOTE:

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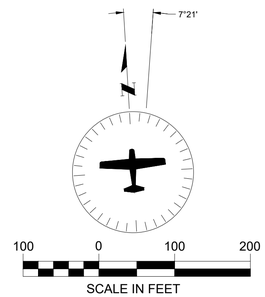

LEGEND	
EXISTING	DESCRIPTION
	AIRFIELD DEVELOPMENT (TURF)
	AIRPORT PROPERTY LINE (APL)
RSA(E)	RUNWAY SAFETY AREA (RSA)
OFZ(E)	OBSTACLE FREE ZONE (OFZ)
ROFA(E)	RUNWAY OBJECT FREE AREA (ROFA)
RPZ(E)	RUNWAY PROTECTION ZONE (RPZ)
BRL(E)	BUILDING RESTRICTION LINE (BRL)
APRC(E)	APPROACH SURFACE
TSS(E)	THRESHOLD SITING SURFACE
4125	CONTOURS
	ROAD/PARKING
X	FENCE

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SPANISH PEAKS AIRFIELD
WALSENBURG, COLORADO

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RUNWAY 20
INNER
APPROACH
DRAWING
(E)

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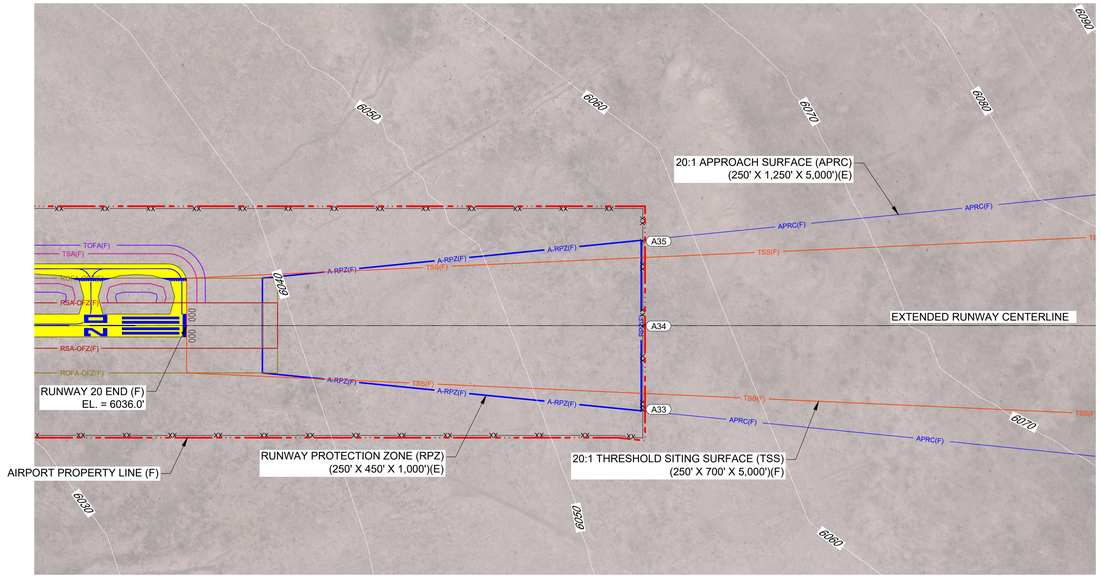
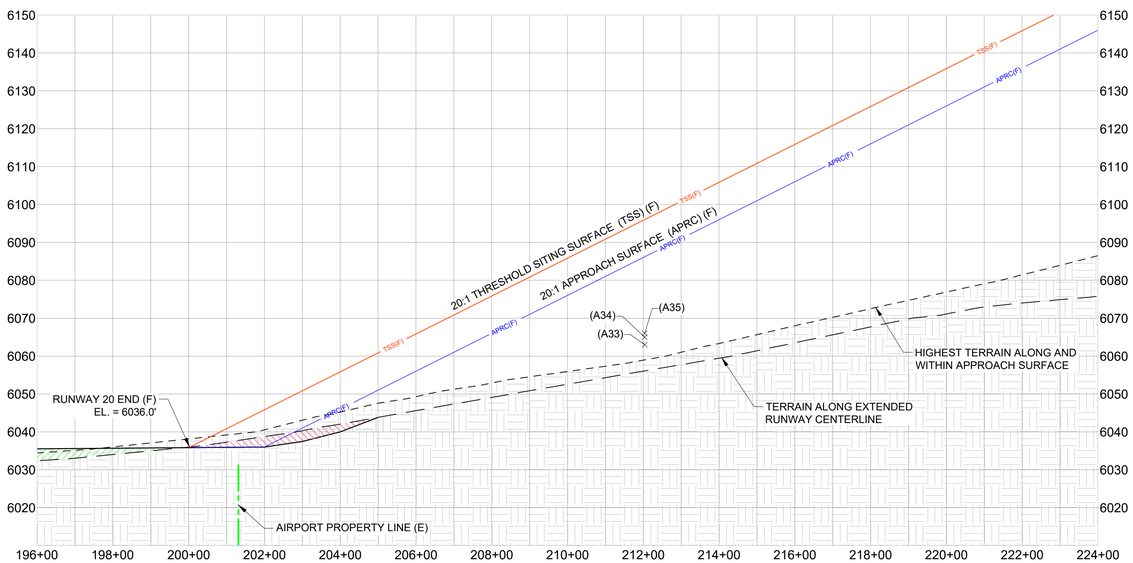


RUNWAY 20 END PLAN VIEW (F)

PER BAR SCALE



RUNWAY 20 END PROFILE VIEW (F)

PER GRID

RUNWAY 20 INNER APPROACH OBJECTS TABLE
(20:1 APRC) (20:1 TSS)

OBJECTS WITHIN RUNWAY APRC & TSS SURFACES (F)						
ITEM NO.	DESCRIPTION	EST. OBJECT HEIGHT	TOP ELEV.	APRC SURFACE PEN.	TSS PEN.	REMARKS
A33	*FENCE	8	6063	**-24**	**0**	N/A
A34	*FENCE	9	6065	**-22**	**-32**	N/A
A35	*FENCE	8	6066	**-21**	**0**	N/A

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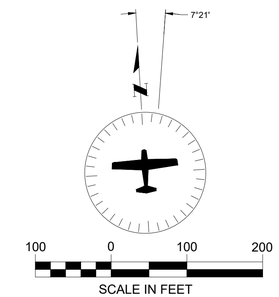
VGS = VERTICAL GUIDANCE SURFACE; APRC = APPROACH SURFACE;
TSS = THRESHOLD SITING SURFACE

NOTE:

1. SURFACE PENETRATIONS: LOWER, MARK AND LIGHT, REMOVE OR TAKE APPROPRIATE ACTION PER FAA FLIGHT PROCEDURES OFFICE DETERMINATIONS.



LEGEND	
FUTURE	DESCRIPTION
	AIRFIELD DEVELOPMENT (ASPHALT)
	AIRPORT PROPERTY LINE (APL)
RSA(F)	RUNWAY SAFETY AREA (RSA)
OFZ(F)	OBSTACLE FREE ZONE (OFZ)
ROFA(F)	RUNWAY OBJECT FREE AREA (ROFA)
RPZ(F)	RUNWAY PROTECTION ZONE (RPZ)
BRL(F)	BUILDING RESTRICTION LINE (BRL)
APRC(F)	APPROACH SURFACE
TSS(F)	THRESHOLD SITING SURFACE
	THRESHOLD LIGHTS
	REIL
	MARKINGS
XX	FENCE
	CUT / FILL

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RUNWAY 20 INNER APPROACH DRAWING (F)

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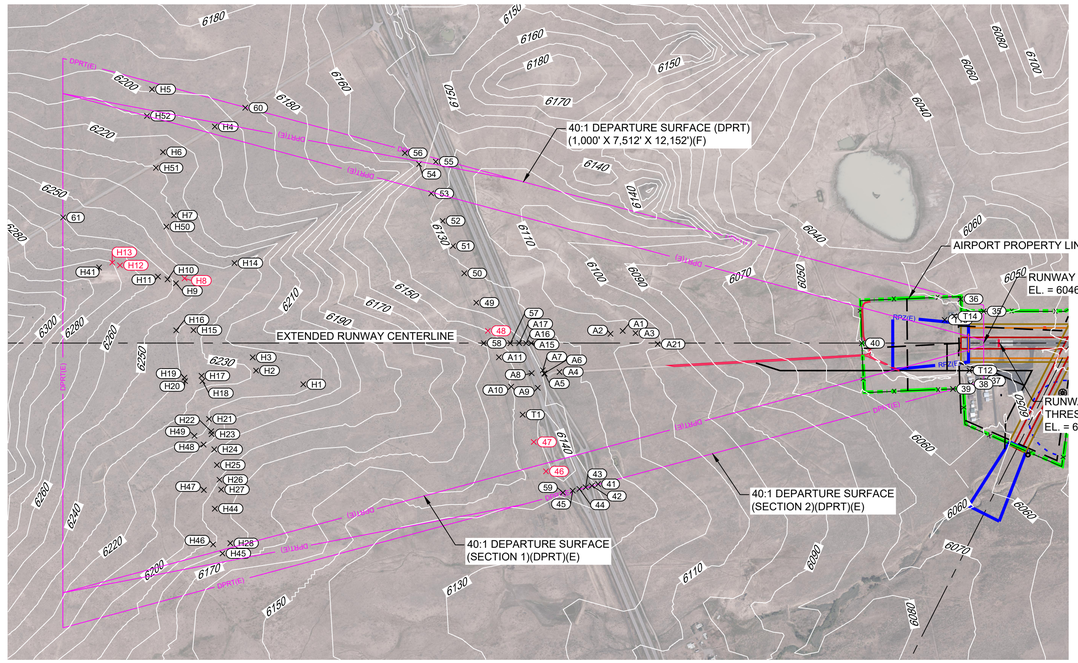
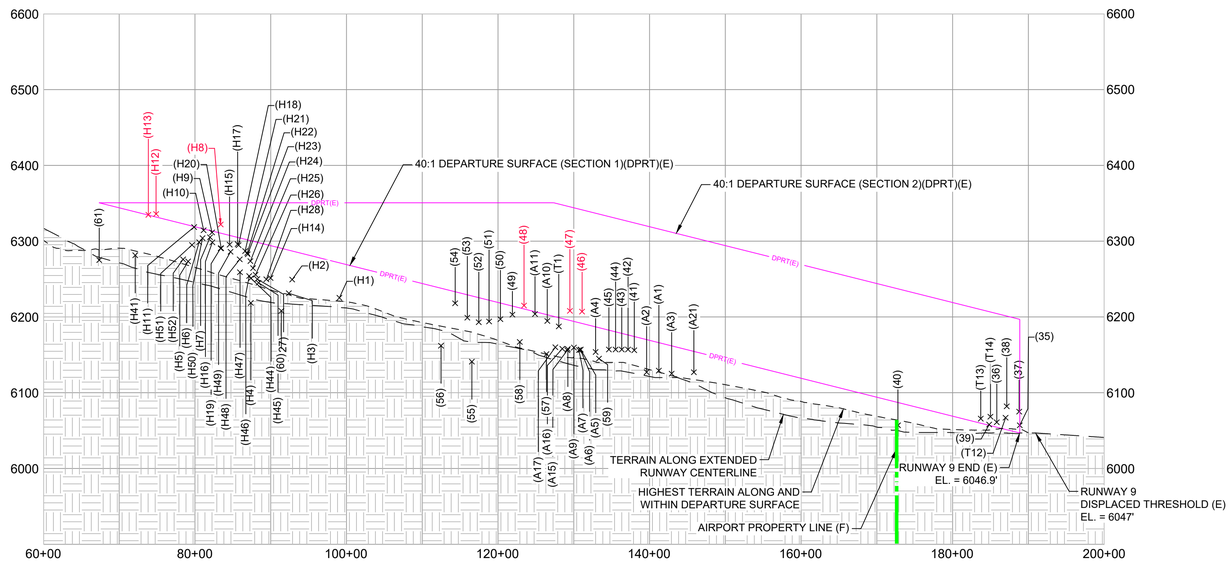


RUNWAY 9 END (E) PLAN

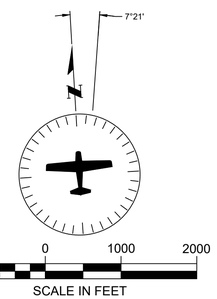
PER BAR SCALE

SEE SHEET 18 FOR RUNWAY 9 DEPARTURE SURFACE OBJECTS TABLE



RUNWAY 9 END (E) PROFILE

PER GRID



LEGEND	
EXISTING	DESCRIPTION
	AIRPORT PROPERTY LINE (APL)
RSA(E)	RUNWAY SAFETY AREA (RSA)
OFZ(E)	OBSTACLE FREE ZONE (OFZ)
ROFA(E)	RUNWAY OBJECT FREE AREA (ROFA)
RPZ(E)	RUNWAY PROTECTION ZONE (RPZ)
BRL(E)	BUILDING RESTRICTION LINE (BRL)
4125	CONTOURS

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RUNWAY 9 DEPARTURE SURFACE DRAWING (E)

Sheet: 17 of: 25

RUNWAY 9 DEPARTURE SURFACE OBJECTS TABLE (40:1 DPRT)

OBJECTS WITHIN RUNWAY DEPARTURE SURFACE (E)					
ITEM NO.	DESCRIPTION	EST. OBJECT HEIGHT	TOP ELEV.	DEPARTURE SURFACE (E) PEN.	REMARKS
35	FENCE	6	6057	**-114**	SEE NOTE 1
36	*FENCE	6	6061	**-140**	SEE NOTE 1
37	BUILDING	21	6075	**-121**	SEE NOTE 1
38	BUILDING	28	6082	**-116**	SEE NOTE 1
39	*FENCE	6	6058	**-143**	SEE NOTE 1
40	*FENCE	7	6057	**-31**	N/A
41	*ROAD	17	6156	**-105**	N/A
42	*ROAD	17	6157	**-104**	N/A
43	*ROAD	17	6157	**-105**	N/A
44	*ROAD	17	6157	**-106**	N/A
45	*ROAD	17	6157	**-107**	N/A
46	*UTILITY POLE	65	6207	**-2**	SEE NOTE 1
47	*UTILITY POLE	66	6208	**+13**	SEE NOTE 1
48	*UTILITY POLE	66	6215	**+5**	SEE NOTE 1
49	*UTILITY POLE	66	6203	**-12**	N/A
50	*UTILITY POLE	65	6197	**-22**	N/A
51	*UTILITY POLE	65	6194	**-28**	N/A
52	*UTILITY POLE	65	6193	**-33**	N/A
53	*UTILITY POLE	65	6199	**-31**	N/A
54	*UTILITY POLE	66	6218	**-68**	N/A
55	*FENCE	4	6141	**-148**	N/A
56	*FENCE	8	6162	**-132**	N/A
57	*FENCE	4	6151	**-53**	N/A
58	*FENCE	9	6167	**-45**	N/A
59	*FENCE	4	6145	**-118**	N/A
60	*ROAD	15	6208	**-113**	N/A
61	*ROAD	15	6275	**-76**	N/A
A1	GROUND	9	6130	**-37**	N/A
A2	TANK	5	6128	**-43**	N/A
A3	GROUND	5	6126	**-37**	N/A
A4	ROAD	18	6154	**-34**	N/A
A5	ROAD	18	6157	**-35**	N/A
A6	ROAD	17	6157	**-36**	N/A
A7	ROAD	17	6157	**-37**	N/A
A8	INTERSTATE	14	6158	**-39**	N/A
A9	INTERSTATE	17	6160	**-35**	N/A
A10	UTILITY POLE	45	6195	**-9**	N/A
A11	UTILITY POLE	48	6204	**-4**	N/A
A15	*ROAD	18	6156	**-41**	N/A
A16	*ROAD	18	6158	**-40**	N/A
A17	*ROAD	17	6160	**-41**	N/A
A21	*ROAD (F)	15	6127	**-28**	N/A
H1	FENCE	3	6226	**-47**	N/A
H2	TREE	20	6250	**-38**	N/A
H3	FENCE	6	6232	**-57**	N/A
H4	ROAD	12	6219	**-99**	N/A
H5	UTILITY POLE	74	6274	**-63**	N/A
H6	UTILITY POLE	74	6299	**-20**	N/A
H7	UTILITY POLE	74	6306	**-9**	N/A
H8	UTILITY POLE	68	6322	**+12**	SEE NOTE 1

OBJECTS WITHIN RUNWAY DEPARTURE SURFACE (E)					
ITEM NO.	DESCRIPTION	EST. OBJECT HEIGHT	TOP ELEV.	DEPARTURE SURFACE (E) PEN.	REMARKS
H9	UTILITY POLE	53	6312	**-2**	N/A
H10	UTILITY POLE	52	6315	**-2**	N/A
H11	UTILITY POLE	54	6319	**-1**	N/A
H12	UTILITY POLE	60	6336	**+4**	SEE NOTE 1
H13	POWER LINE	55	6335	**+1**	SEE NOTE 1
H14	TREE	12	6252	**-43**	N/A
H15	UTILITY POLE	61	6296	**-13**	N/A
H16	UTILITY POLE	57	6299	**-15**	N/A
H17	UTILITY POLE	59	6297	**-9**	N/A
H18	POWER LINE	61	6295	**-10**	N/A
H19	UTILITY POLE	53	6291	**-21**	N/A
H20	POWER LINE	54	6291	**-20**	N/A
H21	POWER LINE	67	6287	**-16**	N/A
H22	UTILITY POLE	69	6285	**-18**	N/A
H23	POWER LINE	69	6283	**-19**	N/A
H24	POWER LINE	72	6274	**-28**	N/A
H25	POWER LINE	70	6265	**-36**	N/A
H26	POWER LINE	66	6256	**-44**	N/A
H27	UTILITY POLE	63	6250	**-49**	N/A
H28	UTILITY POLE	65	6250	**-46**	N/A
H41	GROUND	2	6282	**-58**	N/A
H44	*UTILITY POLE	65	6251	**-50**	N/A
H45	*UTILITY POLE	65	6245	**-61**	N/A
H46	*UTILITY POLE	65	6254	**-48**	N/A
H47	*UTILITY POLE	66	6259	**-46**	N/A
H48	*UTILITY POLE	65	6276	**-29**	N/A
H49	*UTILITY POLE	65	6286	**-22**	N/A
H50	*UTILITY POLE	65	6304	**-13**	N/A
H51	*UTILITY POLE	65	6295	**-26**	N/A
H52	*UTILITY POLE	65	6276	**-48**	N/A
T1	UTILITY POLE	41	6188	**-12**	N/A
T12	PARKING LOT	15	6067	**-71**	SEE NOTE 1
T13	TREE	20	6066	**-31**	SEE NOTE 1
T14	UTILITY POLE	21	6069	**-53**	SEE NOTE 1

NOTE: OBJECT ELEVATIONS IN FEET MSL (VERTICAL DATUM NAVD88).
* = OBJECT ELEVATIONS ARE ESTIMATED AND NOT BASED ON A SURVEY. ALL OTHER OBJECT TOP ELEVATIONS AND LOCATIONS ARE BASED ON A SURVEY BY: WILSON & COMPANY, DATED: 09/17/2022 OR OE/AAA WEBSITE.
0 = OBJECT IS NOT LOCATED WITHIN THIS SURFACE.
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EST. = ESTIMATED; ELEV. = ELEVATION; HT. = HEIGHT;
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VGS = VERTICAL GUIDANCE SURFACE; APRC = APPROACH SURFACE;
TSS = THRESHOLD SITING SURFACE

NOTE:

1. SURFACE PENETRATIONS: LOWER, MARK AND LIGHT, REMOVE OR TAKE APPROPRIATE ACTION PER FAA FLIGHT PROCEDURES OFFICE DETERMINATIONS.

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A LOCHNER COMPANY

SPANISH PEAKS AIRFIELD
WALSENBURG, COLORADO

AIP No. 3-08-0079-012-2022
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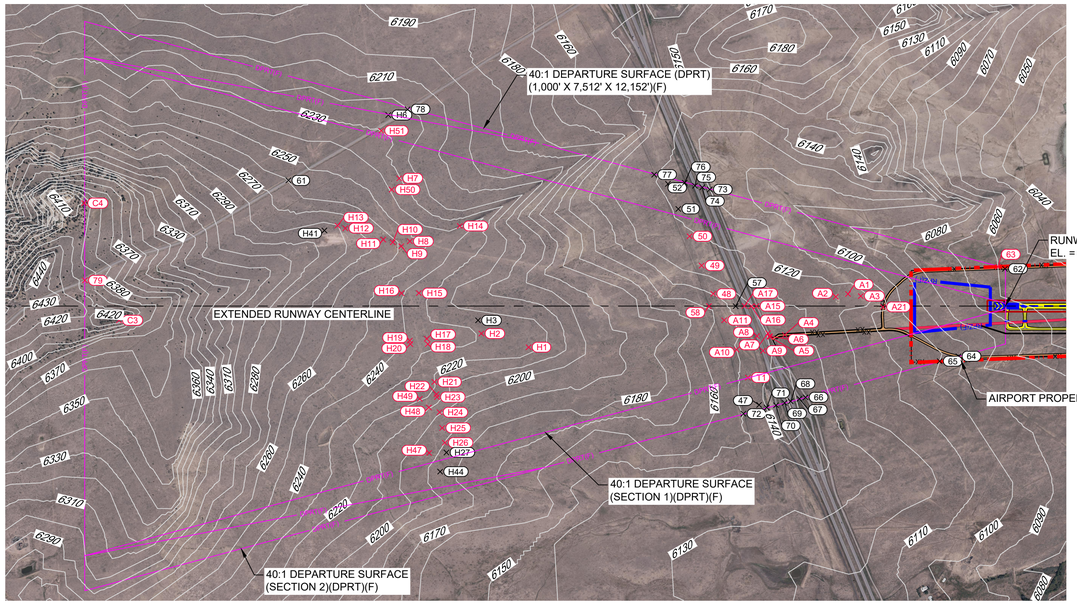
0	226795	05/2024	ORIGINAL ISSUE	6687905DE	GWK	BNB	JZP

RUNWAY 9 DEPARTURE SURFACE DRAWING (E)

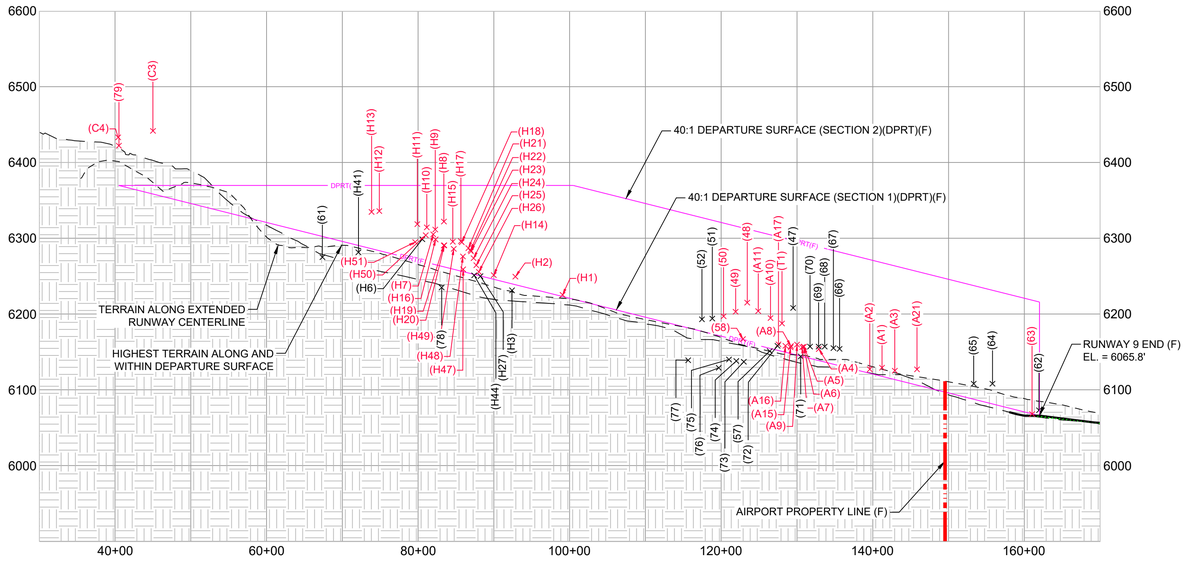
Sheet: 18 of: 25



RUNWAY 9 END (F) PLAN

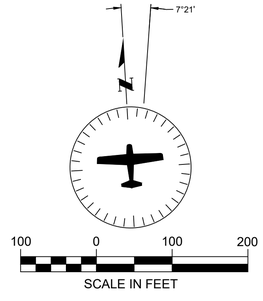
PER BAR SCALE

SEE SHEET 20 THIS SET FOR RUNWAY 9 (F) DEPARTURE SURFACE OBJECTS TABLE



RUNWAY 9 END (F) PROFILE

PER GRID



LEGEND	
EXISTING	DESCRIPTION
	AIRPORT PROPERTY LINE (APL)
RSA(E)	RUNWAY SAFETY AREA (RSA)
OFZ(E)	OBSTACLE FREE ZONE (OFZ)
ROFA(E)	RUNWAY OBJECT FREE AREA (ROFA)
RPZ(E)	RUNWAY PROTECTION ZONE (RPZ)
BRL(E)	BUILDING RESTRICTION LINE (BRL)
4125	CONTOURS

ARMSTRONG
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SPANISH PEAKS AIRFIELD
WALSENBURG, COLORADO

AIP No. 3-08-0079-012-2022
AIRPORT LAYOUT PLAN

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0	226795	05/2024	ORIGINAL ISSUE	2687950SDF	GWK	BNB	JZP

RUNWAY 9 DEPARTURE SURFACE DRAWING (F)

Sheet: 19 of: 25

RUNWAY 9 DEPARTURE SURFACE OBJECTS TABLE (40:1 DPRT)

OBJECTS WITHIN RUNWAY DEPARTURE SURFACE (F)					
ITEM NO.	DESCRIPTION	EST. OBJECT HEIGHT	TOP ELEV.	DEPARTURE SURFACE (F) PEN.	REMARKS
47	*UTILITY POLE	66	6208	**-49**	SEE NOTE 1
48	*UTILITY POLE	66	6215	**+53**	SEE NOTE 1
49	*UTILITY POLE	66	6203	**+37**	SEE NOTE 1
50	*UTILITY POLE	65	6197	**+27**	SEE NOTE 1
51	*UTILITY POLE	65	6194	**-9**	SEE NOTE 1
52	*UTILITY POLE	65	6193	**-80**	SEE NOTE 1
57	*FENCE	4	6151	**-4**	N/A
58	*FENCE	9	6167	**+4**	SEE NOTE 1
61	*ROAD	15	6275	**-28**	N/A
62	*ROAD (F)	15	6073	**-140**	SEE NOTE 1
63	*FENCE (F)	8	6068	**-148**	N/A
64	*ROAD (F)	15	6108	**-116**	SEE NOTE 1
65	*FENCE (F)	8	6108	**-119**	SEE NOTE 1
66	*ROAD	17	6154	**-96**	SEE NOTE 1
67	*ROAD	16	6155	**-96**	SEE NOTE 1
68	*ROAD	17	6157	**-95**	SEE NOTE 1
69	*ROAD	17	6157	**-96**	SEE NOTE 1
70	*ROAD	17	6157	**-98**	SEE NOTE 1
71	*FENCE	4	6144	**-112**	N/A
72	*FENCVE	8	6158	**-102**	SEE NOTE 1
73	*ROAD	17	6137	**-129**	N/A
74	*ROAD	17	6138	**-129**	N/A
75	*ROAD	17	6140	**-128**	N/A
76	*FENCE	4	6129	**-141**	N/A
77	*FENCE	8	6139	**-136**	N/A
78	*ROAD	15	6235	**-81**	N/A
79	*ROAD	16	6422	**+53**	SEE NOTE 1
A1	GROUND	9	6130	**+12**	SEE NOTE 1
A2	TANK	5	6128	**+6**	SEE NOTE 1
A3	GROUND	5	6126	**+12**	SEE NOTE 1
A4	ROAD	18	6154	**+16**	SEE NOTE 1
A5	ROAD	18	6157	**+14**	SEE NOTE 1
A6	ROAD	17	6157	**+13**	SEE NOTE 1
A7	ROAD	17	6157	**+13**	SEE NOTE 1
A8	INTERSTATE	14	6158	**+10**	SEE NOTE 1
A9	INTERSTATE	17	6160	**+14**	SEE NOTE 1
A10	UTILITY POLE	45	6195	**+41**	SEE NOTE 1
A11	UTILITY POLE	48	6204	**+46**	SEE NOTE 1
A14	FENCE	4	6020	**-39**	SEE NOTE 1
A15	*ROAD	18	6156	**+9**	SEE NOTE 1
A16	*ROAD	18	6158	**+9**	SEE NOTE 1
A17	*ROAD	17	6160	**+9**	SEE NOTE 1
A21	*ROAD (F)	15	6127	**+21**	SEE NOTE 1
C3	TREE	22	6442	**+84**	N/A
C4	TREE	26	6434	**0**	SEE NOTE 1
H1	FENCE	3	6226	**+3**	SEE NOTE 1
H2	TREE	20	6250	**+11**	N/A
H3	FENCE	6	6232	**-9**	SEE NOTE 1
H6	UTILITY POLE	74	6299	**-21**	SEE NOTE 1
H7	UTILITY POLE	74	6306	**+40**	SEE NOTE 1

OBJECTS WITHIN RUNWAY DEPARTURE SURFACE (F)					
ITEM NO.	DESCRIPTION	EST. OBJECT HEIGHT	TOP ELEV.	DEPARTURE SURFACE (F) PEN.	REMARKS
H8	UTILITY POLE	68	6322	**+60**	SEE NOTE 1
H9	UTILITY POLE	53	6312	**+47**	SEE NOTE 1
H10	UTILITY POLE	52	6315	**+47**	SEE NOTE 1
H11	UTILITY POLE	54	6319	**+48**	SEE NOTE 1
H12	UTILITY POLE	60	6336	**+53**	SEE NOTE 1
H13	POWER LINE	55	6335	**+49**	SEE NOTE 1
H14	TREE	12	6252	**+6**	SEE NOTE 1
H15	UTILITY POLE	61	6296	**+36**	SEE NOTE 1
H16	UTILITY POLE	57	6299	**+34**	SEE NOTE 1
H17	UTILITY POLE	59	6297	**+40**	SEE NOTE 1
H18	POWER LINE	61	6295	**+39**	SEE NOTE 1
H19	UTILITY POLE	53	6291	**+29**	SEE NOTE 1
H20	POWER LINE	54	6291	**+29**	SEE NOTE 1
H21	POWER LINE	67	6287	**+33**	SEE NOTE 1
H22	UTILITY POLE	69	6285	**+31**	SEE NOTE 1
H23	POWER LINE	69	6283	**+30**	SEE NOTE 1
H24	POWER LINE	72	6274	**+22**	SEE NOTE 1
H25	POWER LINE	70	6265	**+13**	SEE NOTE 1
H26	POWER LINE	66	6256	**+5**	N/A
H27	UTILITY POLE	63	6250	**-1**	N/A
H41	GROUND	2	6282	**-10**	N/A
H44	*UTILITY POLE	65	6251	**-50**	SEE NOTE 1
H47	*UTILITY POLE	66	6259	**+4**	SEE NOTE 1
H48	*UTILITY POLE	65	6276	**+20**	SEE NOTE 1
H49	*UTILITY POLE	65	6286	**+27**	SEE NOTE 1
H50	*UTILITY POLE	65	6304	**+36**	SEE NOTE 1
H51	*UTILITY POLE	65	6295	**+2**	SEE NOTE 1
T1	UTILITY POLE	41	6188	**+37**	

NOTE: OBJECT ELEVATIONS IN FEET MSL (VERTICAL DATUM NAVD88).

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0 = OBJECT IS NOT LOCATED WITHIN THIS SURFACE.

= OBJECT PENETRATION LOCATION

EST. = ESTIMATED; ELEV. = ELEVATION; HT. = HEIGHT;
PEN. = PENETRATION; N/A = NOT APPLICABLE; O.L. = OBSTRUCTION LIGHT;
VGS = VERTICAL GUIDANCE SURFACE; APRC = APPROACH SURFACE;
TSS = THRESHOLD SITING SURFACE

NOTE:

1. SURFACE PENETRATIONS: LOWER, MARK AND LIGHT, REMOVE OR TAKE APPROPRIATE ACTION PER FAA FLIGHT PROCEDURES OFFICE DETERMINATIONS.

ARMSTRONG
A LOCHNER COMPANY

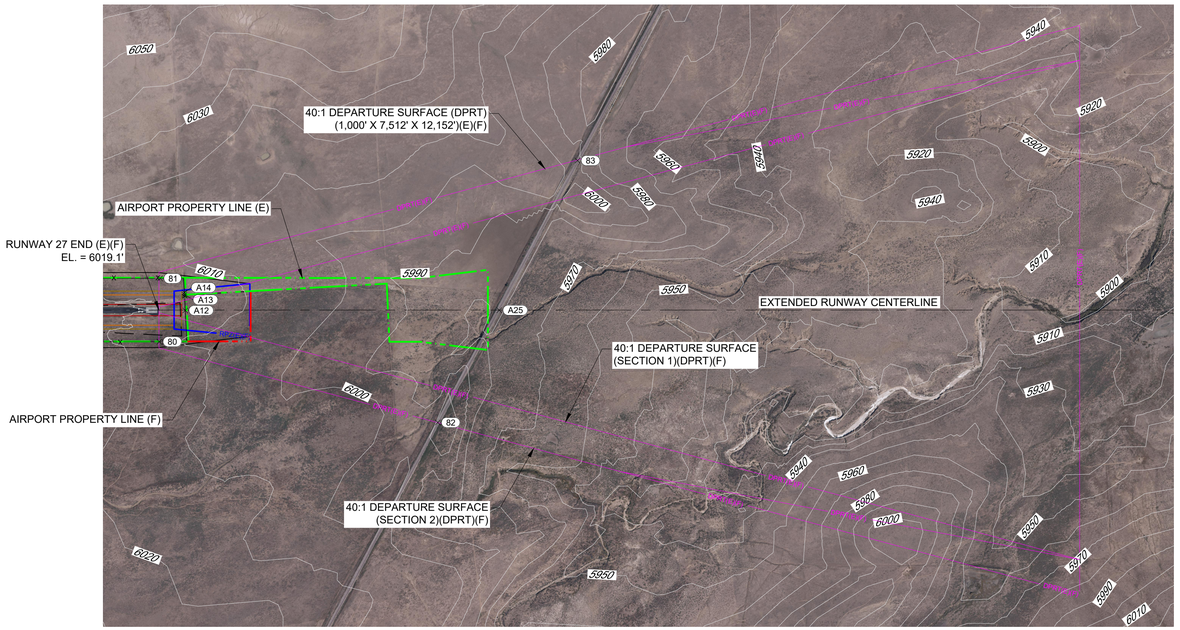
SPANISH PEAKS AIRFIELD
WALSENBURG, COLORADO

AIP No. 3-08-0079-012-2022
AIRPORT LAYOUT PLAN

No.	ACI No.	Date	Revision / Description	File	Drwn.	Chkd.	Apprvd
0	226795	05/2024	ORIGINAL ISSUE	9887935DF	GWK	BNB	JZP

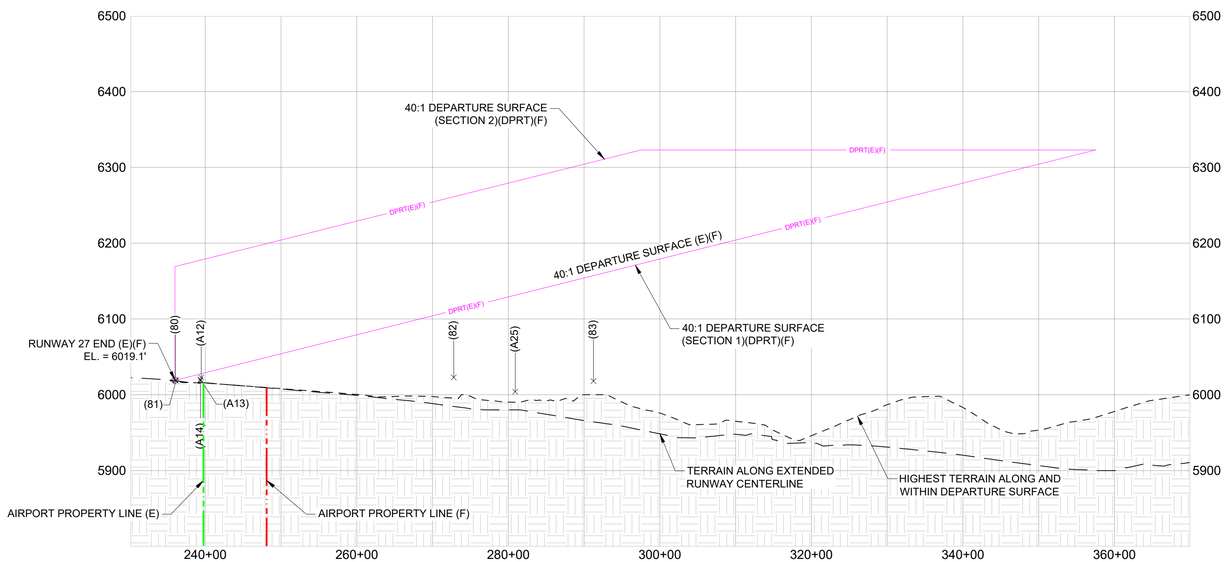
RUNWAY 9 DEPARTURE SURFACE DRAWING (F)

Sheet: 20 of: 25



RUNWAY 27 END (E)(F) PLAN

PER BAR SCALE



RUNWAY 27 END (E)(F) PROFILE

PER GRID

RUNWAY 27 DEPARTURE SURFACE OBJECTS TABLE (40:1 DPRT)

OBJECTS WITHIN RUNWAY DEPARTURE SURFACE (E)(F)					
ITEM NO.	DESCRIPTION	EST. OBJECT HEIGHT	TOP ELEV.	DEPARTURE SURFACE (E)(F) PEN.	REMARKS
80	*FENCE	6	6019	-1	N/A
81	*FENCE	6	6019	-1	N/A
82	*RAIL ROAD	23	6023	-89	N/A
83	*RAIL ROAD	26	6018	-140	N/A
A12	FENCE	7	6023	-6	N/A
A13	FENCE	5	6021	-8	N/A
A14	FENCE	4	6020	-9	N/A
A25	*RAILROAD	24	6004	-128	N/A

NOTE: OBJECT ELEVATIONS IN FEET MSL (VERTICAL DATUM NAVD88).
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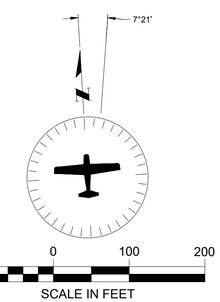
0 = OBJECT IS NOT LOCATED WITHIN THIS SURFACE.
= OBJECT PENETRATION LOCATION
EST. = ESTIMATED; ELEV. = ELEVATION; HT. = HEIGHT; PEN. = PENETRATION; N/A = NOT APPLICABLE; O.L. = OBSTRUCTION LIGHT; VGS = VERTICAL GUIDANCE SURFACE; APRC = APPROACH SURFACE; TSS = THRESHOLD SITING SURFACE

NOTE:

1. SURFACE PENETRATIONS: LOWER, MARK AND LIGHT, REMOVE OR TAKE APPROPRIATE ACTION PER FAA FLIGHT PROCEDURES OFFICE DETERMINATIONS.



LEGEND

EXISTING	DESCRIPTION
	AIRPORT PROPERTY LINE (APL)
RSA(E)	RUNWAY SAFETY AREA (RSA)
OFZ(E)	OBSTACLE FREE ZONE (OFZ)
ROFA(E)	RUNWAY OBJECT FREE AREA (ROFA)
RPZ(E)	RUNWAY PROTECTION ZONE (RPZ)
BRL(E)	BUILDING RESTRICTION LINE (BRL)
4125	CONTOURS

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WALSENBURG, COLORADO

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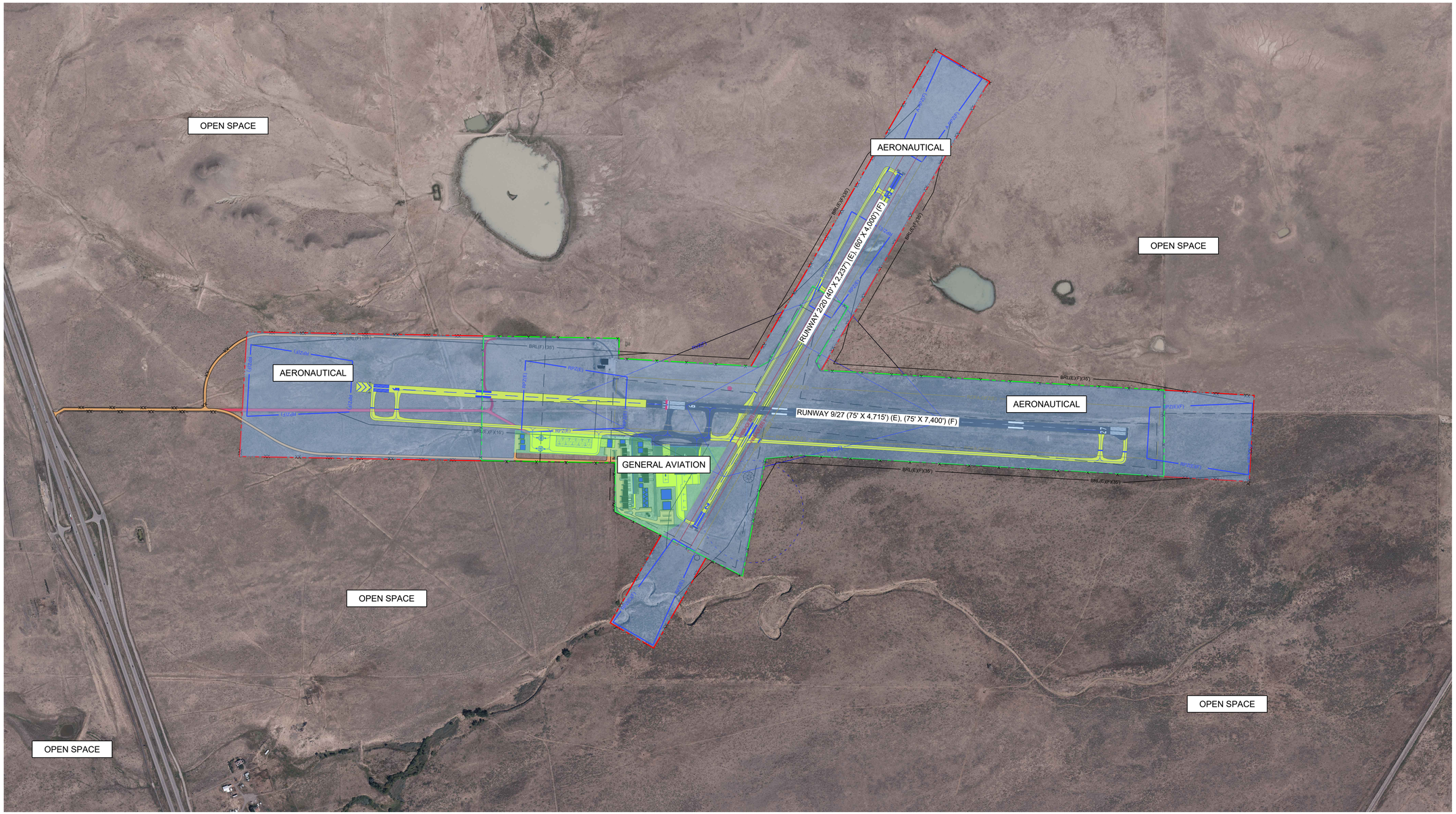
0	226795	05/2024	ORIGINAL ISSUE	8687930DEF	GWK	BNB	JZP

RUNWAY 27 DEPARTURE SURFACE DRAWING (E)(F)

Sheet: 21 of: 25



LEGEND

- AERONAUTICAL
- GENERAL AVIATION

7°21'

500 0 500 1000

SCALE IN FEET

LEGEND		
EXISTING	FUTURE	DESCRIPTION
N/A		AIRFIELD DEVELOPMENT (ASPHALT)
N/A		STRUCTURE/FACILITIES (BUILDING)
		AIRPORT PROPERTY LINE (APL)
RPZ(E)	RPZ(F)	RUNWAY PROTECTION ZONE (RPZ)
RVZ(E)	RVZ(F)	RUNWAY VISIBILITY ZONE (RVZ)
X	XX	FENCING
N/A		ROADS/PARKING
N/A	0000 0000	THRESHOLD LIGHTS
N/A		REIL
N/A		VASI/PAPI
N/A		AIRPORT BEACON
N/A		WIND CONE & SEGMENTED CIRCLE
N/A		AWOS
N/A		LIGHTED WINDCONE
N/A		MARKINGS

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WALSENBURG, COLORADO

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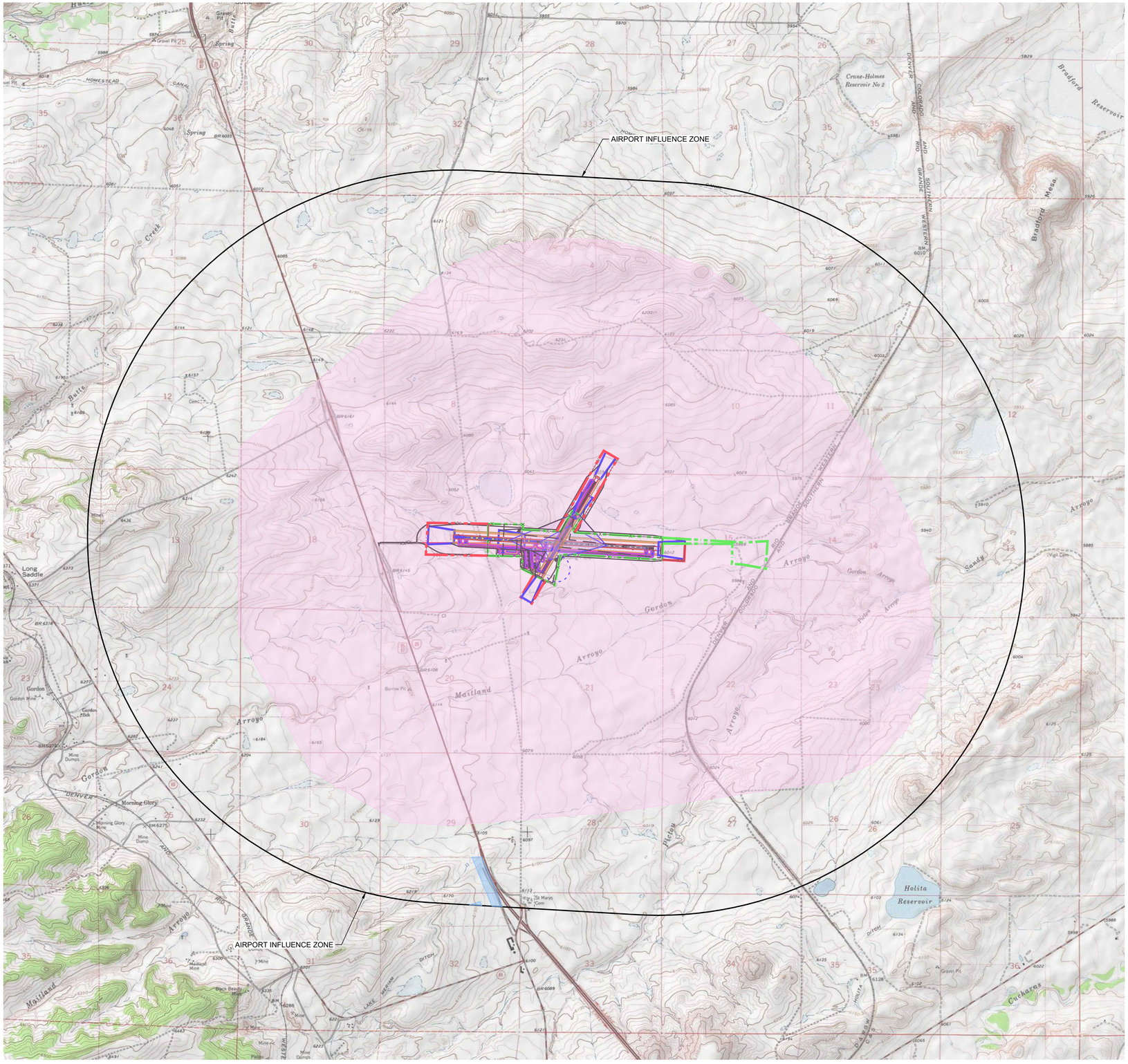
0	226795	05/2024	ORIGINAL ISSUE	6795506	GWK	BNB	JZP

ON AIRPORT LAND USE

Sheet: 22 of: 25

S:_Colorado\Walsenburg\Project Files\Active Projects\226795 Walsenburg-AMP\CAD\dwg\6795506.dwg 5/7/2024 9:16:45 AM GKEHLER



ORDINANCES IN EFFECT

NONE OR PER PLANNER

NOTICE OF PROPOSED CONSTRUCTION

An FAA Form 7460-1, "Notice of Proposed Construction or Alteration" must be submitted for any construction or alteration (including hangars and other on-airport and off-airport structures, towers, etc.) within 20,000 horizontal feet of the airport greater in height than an imaginary surface extending outward and upward from the runway at a slope of 100 to 1 or greater in height than 200 feet above ground level.

NOTES

No landfills within 5 miles of the airport.

No Section 4(F) land affected by the airport.

HUERFANO COUNTY ZONING

CITY OF WALSENBURG

AIRPORT PROTECTION OVERLAY

7°21'

2000 0 2000 4000

SCALE IN FEET

LEGEND

EXISTING	FUTURE	DESCRIPTION
		AIRFIELD DEVELOPMENT (ASPHALT)
		STRUCTURE/FACILITIES (BUILDING)
		GRAVEL / TURF / DIRT
		AIRPORT PROPERTY LINE (APL)
RPZ(E)	RPZ(F)	RUNWAY PROTECTION ZONE (RPZ)
		ROAD/PARKING
		MARKINGS
X	XX	FENCING
N/A		TO BE REMOVED

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SPANISH PEAKS AIRFIELD
WALSENBURG, COLORADO

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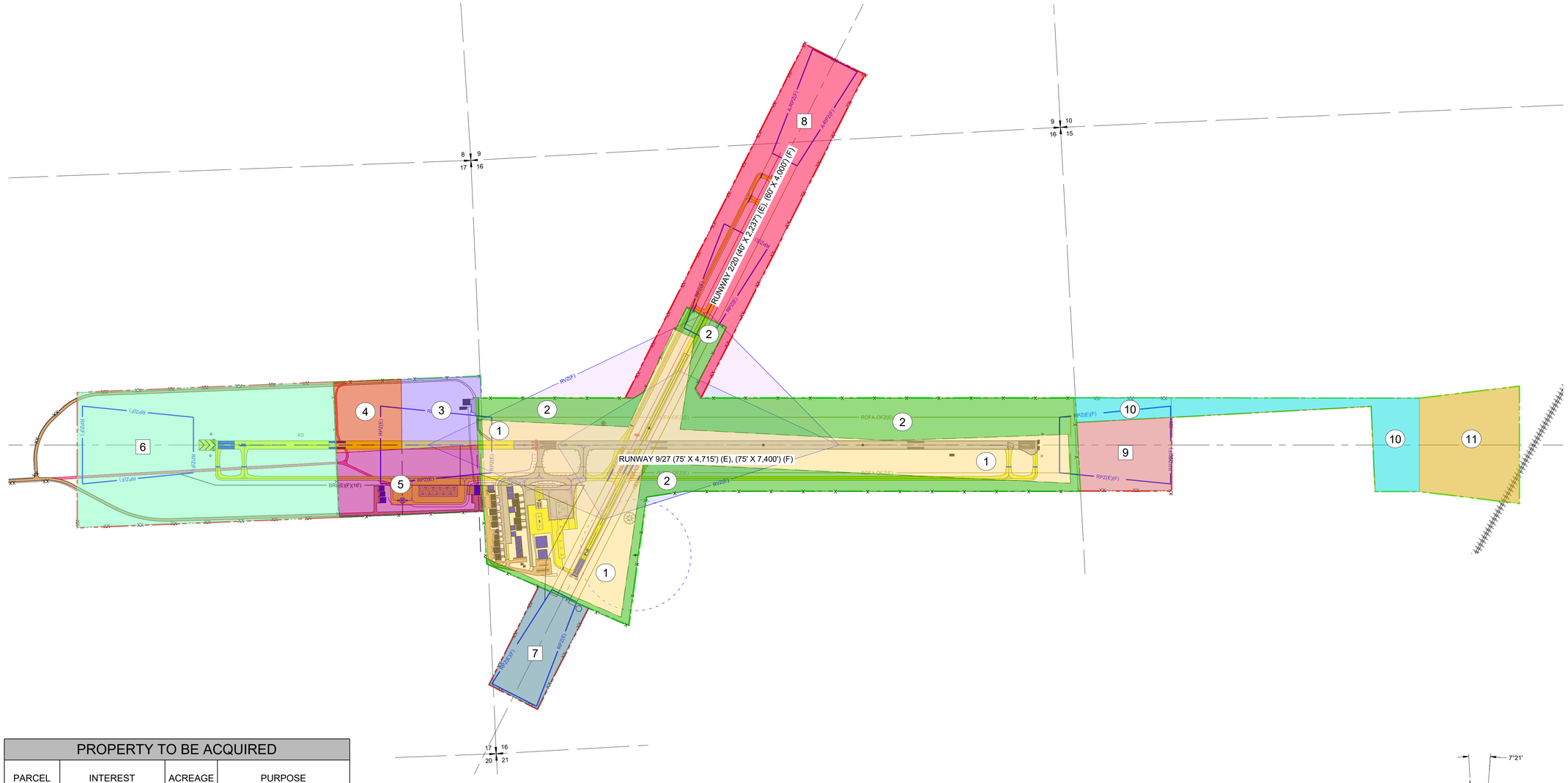
No.	ACI No.	Date	Revision / Description	File	Drwn.	Chkd.	Apprvd
0	226795	05/2024	ORIGINAL ISSUE	6795507	GWK	BNB	JZP

OFF AIRPORT LAND USE

Sheet: 23 of: 25

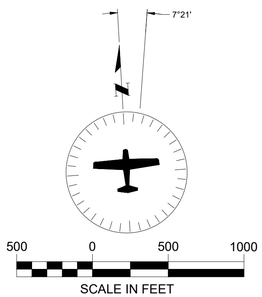


PROPERTY TO BE ACQUIRED

PARCEL	INTEREST	ACREAGE	PURPOSE
6	FEE SIMPLE	±66.0	APPROACH PROTECTION
7	FEE SIMPLE	±12.0	APPROACH PROTECTION
8	FEE SIMPLE	±41.0	APPROACH PROTECTION
9	FEE SIMPLE	±13.0	APPROACH PROTECTION

AIRPORT PROPERTY PARCEL DATA TABLE

PARCEL	ACREAGE	GRANTEE	GRANTOR	PURPOSE	INTEREST	DATE OF RECORDING	BOOK AND PAGE / RECORDING	FAA PROJECT NO.
1	±83.0	SPANISH PEAKS AIRPORT	STATE OF COLORADO LAND BOARD	RIGHT AWAY FOR AIRPORT	FEE	12/1957	261 / 36	--
2	±140.47	SPANISH PEAKS AIRPORT	STATE OF COLORADO LAND BOARD	RIGHT AWAY FOR AIRPORT	EASEMENT	05/07/2013	397420	--
3	±6.0	SPANISH PEAKS AIRPORT	DAVID L. & D.L. MEDSKER	AERONAUTICAL	FEE	--	--	--
4	±8.0	SPANISH PEAKS AIRPORT	DAVID L. & D.L. MEDSKER	AERONAUTICAL	EASEMENT	--	--	--
5	±17.0	SPANISH PEAKS AIRPORT	BEN POTTS	AERONAUTICAL	FEE	11/22/2013	399102	--
10	±17.0	SPANISH PEAKS AIRPORT	BEN POTTS	AERONAUTICAL	TO BE RELEASED	11/22/2013	399102	--
11	±20.0	SPANISH PEAKS AIRPORT	BEN POTTS	AERONAUTICAL	TO BE RELEASED	11/22/2013	399102	--



LEGEND

EXISTING	FUTURE	DESCRIPTION	EXISTING	FUTURE	DESCRIPTION
		AIRFIELD DEVELOPMENT (ASPHALT)			THRESHOLD LIGHTS
		STRUCTURE/FACILITIES (BUILDING)			REIL
		AIRPORT PROPERTY LINE (APL)			VASI/PAPI
RPZ(E)	RPZ(F)	RUNWAY PROTECTION ZONE (RPZ)		N/A	AIRPORT BEACON
RVZ(E)	RVZ(F)	RUNWAY VISIBILITY ZONE (RVZ)		N/A	WIND CONE & SEGMENTED CIRCLE
N/A		TO BE REMOVED		N/A	AWOS
X	XX	FENCING			LIGHTED WINDCONE
		ROADS/PARKING			MARKINGS

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SPANISH PEAKS AIRFIELD
WALSENBURG, COLORADO

AIP No. 3-08-0079-012-2022
AIRPORT LAYOUT PLAN

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0	05/2024	ORIGINAL ISSUE	6795508	GWK	BNB	JZP
ACI No.	226795					

EXHIBIT "A" PROPERTY MAP

AERIAL PHOTOGRAPH FROM WILSON & COMPANY
SURVEY DATED 9/17/2022

SCALE IN FEET
400 0 400 800

7°21'

Sheet 25 of 25

AERIAL PHOTOGRAPH

No.	ACI No.	Date	Revision / Description	File	Drwn.	Chkd.	Apprvd.
0	226795	05/2024	ORIGINAL ISSUE	6795509	GWK	BNB	JZP

SPANISH PEAKS AIRFIELD
WALSENBURG, COLORADO

AIP No. 3-08-0079-012-2022
AIRPORT LAYOUT PLAN

ARMSTRONG
A LOCHNER COMPANY

Chapter Seven

Airport Development and Financial Plan

ARMSTRONG
A LOCHNER COMPANY

Chapter 7 – Airport Development and Financial Plan

7.1 Introduction

A program of recommended airport development has been formulated to guide the systematic development of Spanish Peaks Airfield and to aid the Federal Aviation Administration (FAA) and the airport in allocating funding over the planning period. The recommended airport development plan is based on the facility requirements, as well as the development alternatives, identified earlier in this report.

7.2 Implementation Plan

Future development at Spanish Peaks Airfield, as included in this study, covers a 20-year planning period. Development items are grouped into three phases:

- Phase I is short-term (1-5 years)
- Phase II is medium-term (6-10 years)
- Phase III is long-term (11-20 years)

The phasing of projects (shown on the airport layout plan) assists the airport sponsor in budgetary planning for construction projects. A drawing showing the phasing of each project is included at the end of this Chapter. The sequence in which the projects are completed is important as the ultimate configuration of the airport will require numerous projects. Estimated development costs are included in **Table 7-1** for each of the recommended improvements.

Phase I (1-5 Years) Short-Term Development Items

- A1: Construct Bypass Taxiway on Runway 27 end
- A2: Apron Rehabilitation-Fog and Crack Seal
- A3: Construct SRE Building
- A4: Acquire SRE – Plow with Blower Attachment
- A5: Expand Aircraft Parking Apron- Phase 1
- A6: Land Acquisition to encompass Runway 27 RPZ

Phase II (6-10 Years) Medium-Term Development Items

- B1: Expand Pilot Lounge
- B2: Pave Additional Automobile Parking Area to accommodate Pilots Lounge
- B3: Relocate Airport Access Road
- B4: Expand Aircraft Parking Apron and Construct Concrete Hardstands - Phase 2
- B5: Construct Helicopter Parking Pads
- B6: Construct Parallel Taxiway and Connectors to Runway 9/27 -Phase 1

- B7: Rehabilitate Runway 9/27-Mill, Overlay and Groove
- B8: Airport Master Plan Update with Airport Layout Plan

Phase III (11-20 Years) Long-Term Development Items

- C1: Environmental Assessment for Runway 9/27 Extension
- C2: Land Acquisition for Runway 9/27 Extension
- C3: Extend Length of Runway 9/27 to 7,400'
- C4: Construct Parallel Taxiway and Connectors to Runway 9/27- Phase 2
- C5: Environmental Assessment for Crosswind Runway 2/20 Extension
- C6: Land Acquisition for Crosswind Runway 2/20 Extension
- C7: Pave/Extend Length of Runway 2/20 to 4,000' to the Northeast and Widen to 60'
- C8: Construct Full Length Parallel Taxiway and Connectors to Runway 2/20

Table 7-1 Twenty Year Development Plan

Development Items	FAA Portion +/-90%	Local Portion +/-10%	Total Cost 100%
A1: Construct Bypass Taxiway on Runway 27 end	$674,055	$74,895	$748,950
A2: Apron Rehabilitation-Fog and Crack Seal	$34,720	$3,858	$38,578
A3: Construct SRE Building	$1,491,368	$165,708	$1,657,076
A4: Acquire SRE – Plow with Blower Attachment	$740,025	$82,225	$822,250
A5: Expand Aircraft Parking Apron -Phase 1	$1,579,876	$175,542	$1,755,418
A6: Land Acquisition to Encompass Runway 27 RPZ	$110,700	$12,300	$123,000
Short-Term Subtotal	$4,630,744	$514,528	$5,145,272
B1: Expand Pilot Lounge	$742,500	$82,500	$825,000
B2: Pave Additional Automobile Parking Area to accommodate Pilots Lounge	$50,364	$5,596	$55,960
B3: Relocate Airport Access Road	$1,459,899	$162,211	$1,622,110
B4: Expand Aircraft Parking Apron with Concrete Hardstands- Phase 2	$2,496,414	$277,379	$2,773,793
B5: Construct Helicopter Parking Pads	$625,926	$69,547	$695,473

B6: Construct Parallel Taxiway and Connectors to Runway 9/27-Phase 1	$2,450,506	$272,278	$2,722,784
B7: Rehabilitate Runway 9/27-Mill, Overlay and Groove	$1,684,331	$187,148	$1,871,479
B8: Airport Master Plan Update with Airport Layout Plan	$360,000	$40,000	$400,000
Medium-Term Subtotal	$9,869,940	$1,096,659	$10,966,599
C1: Environmental Assessment for Runway 9/27 Extension	$405,000	$45,000	$450,000
C2: Land Acquisition for Runway 9/27 Extension	$609,525	$67,725	$677,250
C3: Extend Length of Runway 9/27 to 7,400'	$5,730,605	$636,734	$6,367,339
C4: Construct Parallel Taxiway and Connectors to Runway 9/27 - Phase 2	$1,526,062	$169,562	$1,695,624
C5: Environmental Assessment for Crosswind Runway 2/20 Extension	$405,000	$45,000	$450,000
C6: Land Acquisition for Crosswind Runway 2/20 Extension	$106,785	$11,865	$118,650
C7: Pave/Extend Length of Runway 2/20 to 4,000' to the Northeast and Widen to 60'	$4,989,934	$554,437	$5,544,371
C8: Construct Full Length Parallel Taxiway and Connectors to Runway 2/20	$2,112,097	$234,677	$2,346,774
Long-Term Subtotal	$15,885,008	$1,765,000	$17,650,008
20 Year Improvement Plan Total	$30,385,692	$3,376,187	$33,761,879

7.3 Capital Development

Primary funding sources come from the FAA and local contributions. This section will identify and quantify the expected sources of capital funds. As previously indicated, FAA funds represent the majority of expected capital; however, a number of sources are identified and described below.

7.3.1 Federal Aviation Administration

The Airport and Airways Act of 1982 created and authorized the Airport Improvement Program (AIP) to assist in the development of a nationwide system of public-use airports adequate to meet the current projected growth of civil aviation. The Act provides funding for airport planning and development projects at airports included in the National Plan of Integrated Airport Systems (NPIAS).

The FAA Modernization and Reform Act of 2012 includes a federal/local matching ratio of 90 percent for AIP approved projects in the State of Colorado. CDOT may participate up to five percent of the local match. There are three types of FAA funding that may be used for recommended airport improvement projects as described below:

▪ **Entitlement** – For commercial service airports, FAA entitlement funds are "earned" based on the number of annual enplanements. Non-primary commercial service airports with less than 10,000 annual passenger enplanements are eligible for a minimum $150,000 of annual entitlements. A commercial service airport with over 10,000 annual passenger enplanements is considered a Primary commercial service airport and is therefore eligible for a minimum $1,000,000 of annual entitlements. As a general aviation airport included within the NPIAS, Spanish Peaks Airfield is eligible for $150,000 of annual AIP entitlement funds.

▪ **Discretionary** – The discretionary fund consists of the remaining AIP funds left over from entitlement distribution. The discretionary funds can be utilized to fund AIP grant eligible projects and are distributed according to a national prioritization formula.

▪ **State Apportionment** – The FAA also sets aside a certain amount of money per year to be distributed amongst the airports within each state. The state apportionment for Colorado in 2022 was approximately $5 million.

Additionally, the Aviation Safety and Capacity Expansion Act of 1990 authorized the Secretary of Transportation to grant public agencies the authority to impose a Passenger Facility Charge (PFC) to fund eligible airport projects. The initial legislation set the maximum PFC level at $3.00 per enplaned passenger. AIR-21 increased the maximum PFC level from $3.00 to $4.50. In 2018, the FAA Reauthorization Act retained the PFC cap at $4.50. Although the FAA is required to approve PFCs, the program allows for local collection of PFC revenue through the airlines operating at an airport and provides more spending flexibility to airport sponsors.

Grant eligible items typically include airfield and aeronautical related facilities such as runways, taxiways, aprons, lighting, visual aids, and equipment as well as land acquisition, planning and environmental tasks needed to accomplish the improvements. Public use (non-revenue generating) portions of passenger terminals are also grant eligible.

7.3.2 Local Funding

Airport sponsors have several methods available for funding the capital required to meet the local share of development costs. The most common methods involve debt financing (which amortizes the debt over the useful life of the project), force accounts, in-kind service, third-party support and donations.

Bank Financing: Some airport sponsors use bank financing as a means of funding airport development. Generally, two conditions are required. First, the sponsor must show the ability to repay the loan plus interest and second, capital improvements must be less than

the value of the present facility or some other collateral used to secure the loan. These are standard conditions which are applied to almost all bank loan transactions.

General Obligation Bonds: General Obligation bonds (GO) are a common form of municipal bonds whose payment is secured by the full faith credit and taxing authority of the issuing agency. GO bonds are instruments of credit and because of the community guarantee, reduce the available debt level of the sponsoring community. This type of bond uses tax revenues to retire debt and the key element becomes the approval of the voters to a tax levy to support airport development. If approved, GO bonds are typically issued at a lower interest rate than other types of bonds.

Self-liquidating General Obligation Bonds: As with General Obligation bonds, Self-liquidating General Obligation Bonds are secured by the issuing government agency. They are retired, however, by cash flow from the operation of the facility. Providing the state court determines that the project is self-sustaining, the debt may be legally excluded from the community's debt limit. Since the credit of the local government bears the ultimate risk of default, the bond issue is still considered, for the purpose of financial analysis, as part of the debt burden of the community. Therefore, this method of financing may mean a higher rate of interest on all bonds sold by the community. The amount of increase in the interest rate depends, in part, upon the degree of risk of the bond. Exposure risk occurs when there is insufficient net airport operating income to cover the level of service plus coverage requirements, thus forcing the community to absorb the residual.

Revenue Bonds: Revenue Bonds are payable solely from the revenues of a particular project or from operating income of the borrowing agency, such as an airport commission which lacks taxing power. Generally, they fall outside of constitutional and statutory limitations and in many cases do not require voter approval. Because of the limitations on the other public bonds, airport sponsors are increasingly turning to revenue bonds whenever possible. However, revenue bonds normally carry a higher rate of interest because they lack the guarantees of municipal bonds.

Combined Revenue/General Obligation Bonds: These bonds, also known as "Double-Barrel Bonds", are secured by a pledge of back-up tax revenues to cover principal and interest payments in cases where airport revenues are insufficient. The combined Revenue/General Obligation Bond interest rates are usually lower than Revenue Bonds, due to their back-up tax provisions.

Force Accounts, In-kind Service, Donations: Depending on the capabilities of the Sponsor, the use of force accounts, in-kind service, or donations may be approved by the FAA for the Sponsor to provide their share of the eligible project costs. An example of force accounts would be the use of heavy machinery and operators for earthmoving and site preparation of runways or taxiways; the installation of fencing; or the construction of improvements to access roads. In-kind service may include surveying, engineering or other services. Donations may include land or materials such as gravel or water needed

for the project. The values of these items must be verified and approved by the FAA prior to initiation of the project.

Third-Party Support: Several types of funding fall into this category. For example, individuals or interested organizations may contribute portions of the required development funds (Pilot Associations, Economic Development Associations, Chambers of Commerce, etc.). Although not a common means of airport financing, the role of private financial contributions not only increases the financial support of the project, but also stimulates moral support to airport development from local communities. Because of the potential for hangar development, private developers may be persuaded to invest in hangar development. A suggestion would be that the airport authorize long-term leases to individuals interested in constructing a hangar on airport property. This arrangement generates revenue from the airport, stimulates airport activity, and minimizes the Sponsor's capital investment requirements. Another method of third-party support involves permitting a fixed base operator (FBO) to construct and monitor facilities on property leased from the airport. Terms of the lease generally include a fixed amount plus a percentage of revenues and a fuel flowage fee. The advantage to this arrangement is that it lowers the Sponsor's development costs, a large portion of which is building construction and maintenance.

The airport funds all of the cost of capital projects by generating revenue from tenants, users and other sources. These airport funds can come from annual surplus, reserves, or borrowing. While capital projects are usually funded from variety of sources, in the end, Airport contributed funds have a role in almost all projects, particularly as seed money to initiate projects and to provide the match of FAA funds.

Other methods outside the traditional methods mentioned in the above paragraph are potential suppliers of money to construct capital improvements. These include users, tenants, investors, and other sources. Tenants often construct their own facilities, particularly hangar facilities. Airport users such as corporate flight departments sometimes contribute funds for projects and agree to increased rents to recover the costs of improvements. Private capital can also be used for facilities such as general aviation and corporate hangar facilities.

7.4 Pavement Maintenance Plan

Periodic maintenance is necessary to prolong the useful life of the airport pavements. The effects of weather damage, oxidation and usage all contribute to the deterioration of the pavement. The accumulation of moisture in the pavement causes heaving and cracking and is one of the greatest causes of pavement distress. The sun's ultraviolet rays oxidize and break down the asphalt binder in the pavement mix. This accelerates raveling and erosion and can reduce asphalt thickness.

The appropriate pavement maintenance will minimize the effects of weather damage and oxidation. Crack sealing is accomplished to keep moisture from accumulating inside and

underneath the pavement and should be accomplished at least every five years and prior to fog sealing or overlaying the pavements. Fog and slurry seals (fuel resistant) are spread over the entire paved area to replenish the binder lost through oxidation and to seal, rejuvenate and waterproof the pavement. Slurry seals also include an aggregate to increase the friction coefficient of the pavement. Asphalt overlays are accomplished near the end of the useful life of the pavement. A layer of new asphalt is placed over the existing pavement to renew the life of the pavement and to recover lost strength due to deterioration. Unless specially designed, the overlay is not intended to increase the weight bearing capacity of the pavement. Overlays may be supplemented with grooving to increase friction and minimize hydroplaning. Remarking of the pavement is required following a fog seal or overlay.

The recommended pavement maintenance cycle time frames are listed below. It should be noted that the time frames are recommendations only. Actual pavement deterioration will be affected by aircraft operations and weather exposure. Maintenance actions should be programmed as necessary through close monitoring and inspection of the pavements. **Table 7-2** shows the recommended pavement maintenance schedule.

Table 7-2 Pavement Maintenance Schedule

Pavement Maintenance Cycle	Approximate Time Frames
Crack Seal Pavement	0 – 2 years
Crack Seal, Seal Coat and Remark Pavements	3 – 8 years
Overlay Pavement	15 – 18 years

7.5 Financial Plan

The ultimate goal of any airport should be to support its own operation and development through airport generated revenues. Facilities that are self-sustaining can provide services with minimal outside funding and reciprocal influence.

7.5.1 Projected Revenues and Expenditures

Airport operating expenditures typically include insurance, utilities, maintenance, and management costs. Insurance costs include liability insurance for the airport and property insurance for any real property on the airport owned by the airport. Utility expenses primarily consist of power costs to operate airfield lighting and visual aids and water for public use areas. Pavement maintenance consists of crack sealing on an annual basis and seal coating and remarking the pavements every five years. Facility maintenance consists of mowing, snow removal and repair and replacement of parts and equipment such as light bulbs, light fixtures, fences, etc. Management costs include an airport manager and airport support staff.

Airport revenues generally consist of land leases, user fees, fuel flowage fees, and property taxes generated from on-airport improvements. Other revenue generating options include:

Land Leases: Property on the airport that is not devoted to airfield use, vehicle parking or contained within areas required to be cleared of structures may be leased to individual airport users or aviation related businesses. Typically, the individual is provided a long-term lease on which to construct a hangar, business, or other facility.

Hangar Leases: Hangars at the airport owned by the airport sponsor can be leased to private aircraft operators or businesses. Typically, as with land leases, the individual or business is provided with a long-term lease of the hangar. At the termination of the lease, the lessee has the option to renew the lease or cease use of the hangar.

Hangar Rental: The fees are usually established on a monthly basis for based aircraft and on an overnight basis for transient aircraft.

Through-the-Fence Fees: A fee is typically charged to adjacent landowners who are provided access directly from their private parcel to the public use airport facilities. This fee ensures that the level of rates and charges assessed to on-airport users is equitable to off-airport users and that there is not an unfair economic advantage to operating "through-the-fence". Additionally, through-the-fence operators are required to maintain a secure airport perimeter with fencing and/or gates and to construct paved access taxiways to the airport operating areas. However, the FAA generally discourages through-the-fence operations. Therefore, it is anticipated that all aircraft operations will be conducted from on airport and therefore will not generate through-the-fence fees. In lieu of through-the-fence fees, these aircraft would generate tie-down fees or land lease revenue from hangars.

There are currently no through-the-fence operations taking place at Spanish Peaks Airfield and it is recommended the airport refrain from establishing any in the future.

Fuel Flowage Fee: This fee is typically imposed on all aircraft fuels delivered to the airport and would include all fuels used by aircraft including AvGas and Jet-A. Fuel flowage fees are applied to the FBO who provides fueling at the airport.

Fuel Markup Fee: This fee is typically charged by the on-airport fuel provider, in this case the FBO. The fee is applied to each gallon of fuel sold at the airport and covers the costs associated with providing fuel.

Commercial Activity Fee: This fee is imposed on commercial activities operating "for profit" at the airport. Typical commercial activities may include FBO's, maintenance services, air taxi or charter services, automobile rental, sky diving, restaurants, retail or other goods and services which may be provided at the airport. This fee would be in addition to any applicable land lease.

Non-Aeronautical Revenue Generating Land Lease: The lease is for land that is located on airport property but that is not required for existing or future airport development. The lease for these areas must be set up at fair market value and all revenue generated from these leases must remain within the airport fund.

7.5.2 Recommendations

The most effective means of increasing revenue at the airport is to accommodate existing unmet demand and to continue to attract new and additional users. Practical strategies for increasing revenues at the Spanish Peaks Airfield are listed below:

- Provide ground leases for aircraft storage hangars;
- Focus on attracting additional general aviation and corporate tenants;
- Accommodate non-aeronautical revenue generating land uses as demand warrants.

Increasing aircraft storage hangars at the airport would result in not only in increased direct revenues generated through property leases but would also produce indirect revenue through increased use of airport services and facilities. Locations for additional box hangars have been identified on the Terminal Area Drawing (TAD) of the Airport Layout Plan (ALP).

7.6 Community Support

While it is certainly advantageous for an airport to support itself, the indirect and intangible benefits of the airport to the community's economy and growth must be considered. People are directly or indirectly employed by the airport or by businesses that utilize the airport. As airport activity increases, it is probable that employment on the airport will also grow throughout the planning period, as the need for operational staff, maintenance crews and other operators becomes more apparent. Other community benefits involve business growth and economic development that is enhanced by the availability of air transportation. Clients and suppliers of area businesses will profit from the future airport improvements as air transportation helps to facilitate tourism. Increased tourism generates revenues from taxes and stimulates the local economy as visitors consume the goods and services provided by local entities. Spanish Peaks Airfield is especially situated in an area likely to benefit from air transport and tourism, due to its proximity to Lathrop State Park and other Spanish Peaks national landmarks. Spanish Peaks Airfield in a prime position to utilize the area's natural beauty to capitalize on the trends in the aviation industry and to maximize the benefits the airport provides to the community.

7.7 Continuous Planning Process

Airport planning is a continuous process that does not end with the completion of a major project. The fundamental issues upon which this master plan is based are expected to remain valid for several years; however, several variables, such as based aircraft, annual

aircraft operations and socioeconomic conditions are likely to change over time. The continuous planning process necessitates that the sponsor consistently monitors the progress of the airport in terms of growth in based aircraft and annual operations, as this growth is critical to the timing and need for new airport facilities. The information obtained from this monitoring process will provide the data necessary to determine if the development schedule should be accelerated, decelerated, or maintained as scheduled.

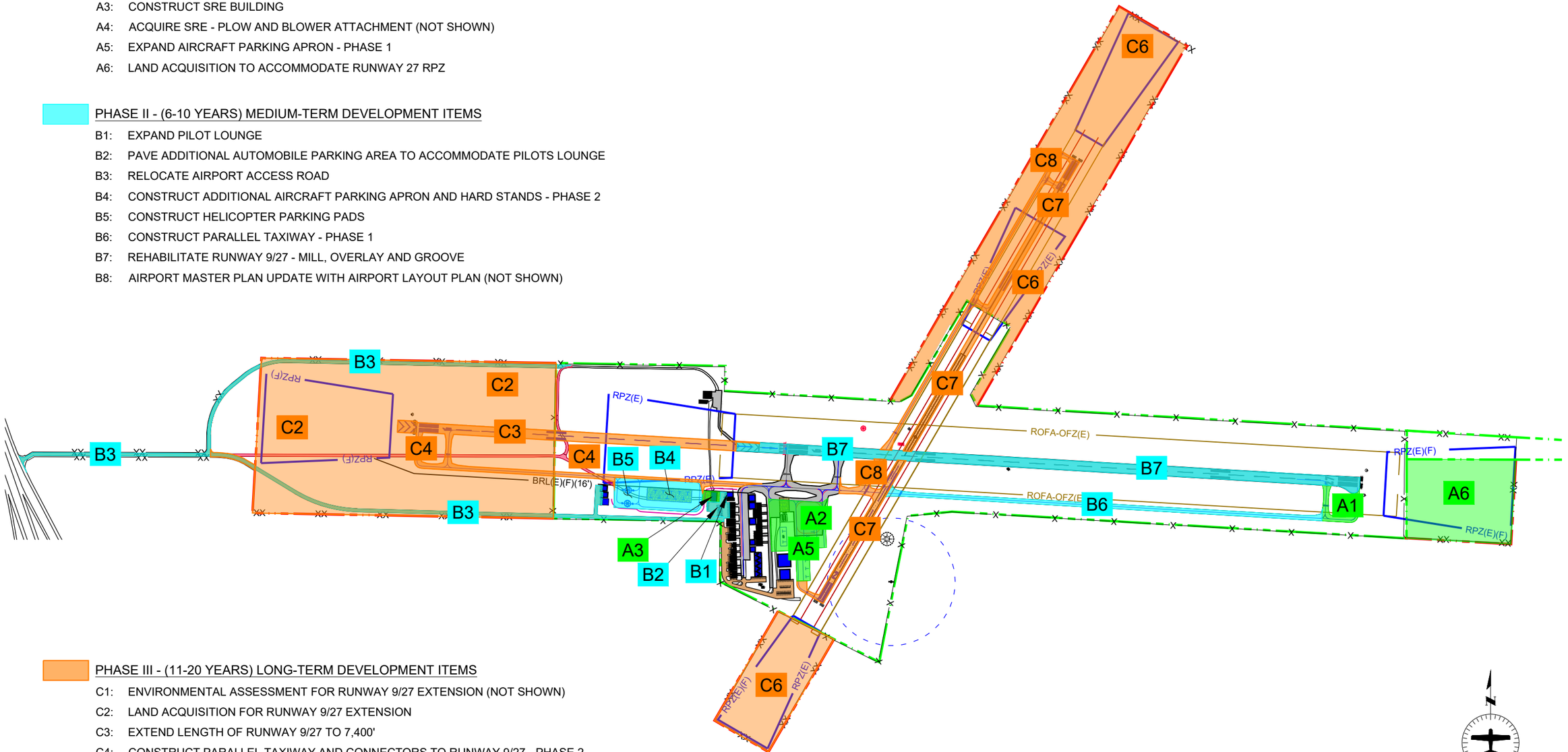
Periodic updates of the Airport Layout Plan, Capital Improvement Plan and Airport Master Plan are recommended to document physical changes to the airport, review changes in aviation activity and to update improvement plans for the airport. The primary goal of this Airport Master Planning effort is to develop a safe and efficient airport that will meet the demands of aviation users and stimulate economic development in the community. The continuous airport planning process is a valuable tool in achieving that goal.

PHASE I - (1-5 YEARS) SHORT-TERM DEVELOPMENT ITEMS

A1: CONSTRUCT BYPASS TAXIWAY ON RUNWAY 27 END
A2: APRON REHABILITATION - FOG AND CRACK SEAL
A3: CONSTRUCT SRE BUILDING
A4: ACQUIRE SRE - PLOW AND BLOWER ATTACHMENT (NOT SHOWN)
A5: EXPAND AIRCRAFT PARKING APRON - PHASE 1
A6: LAND ACQUISITION TO ACCOMMODATE RUNWAY 27 RPZ

PHASE II - (6-10 YEARS) MEDIUM-TERM DEVELOPMENT ITEMS

B1: EXPAND PILOT LOUNGE
B2: PAVE ADDITIONAL AUTOMOBILE PARKING AREA TO ACCOMMODATE PILOTS LOUNGE
B3: RELOCATE AIRPORT ACCESS ROAD
B4: CONSTRUCT ADDITIONAL AIRCRAFT PARKING APRON AND HARD STANDS - PHASE 2
B5: CONSTRUCT HELICOPTER PARKING PADS
B6: CONSTRUCT PARALLEL TAXIWAY - PHASE 1
B7: REHABILITATE RUNWAY 9/27 - MILL, OVERLAY AND GROOVE
B8: AIRPORT MASTER PLAN UPDATE WITH AIRPORT LAYOUT PLAN (NOT SHOWN)



PHASE III - (11-20 YEARS) LONG-TERM DEVELOPMENT ITEMS

C1: ENVIRONMENTAL ASSESSMENT FOR RUNWAY 9/27 EXTENSION (NOT SHOWN)
C2: LAND ACQUISITION FOR RUNWAY 9/27 EXTENSION
C3: EXTEND LENGTH OF RUNWAY 9/27 TO 7,400'
C4: CONSTRUCT PARALLEL TAXIWAY AND CONNECTORS TO RUNWAY 9/27 - PHASE 2
C5: ENVIRONMENTAL ASSESSMENT FOR CROSSWIND RUNWAY 2/20 EXTENSION (NOT SHOWN)
C6: LAND ACQUISITION FOR CROSSWIND RUNWAY 2/20 EXTENSION
C7: PAVE / EXTEND LENGTH OF RUNWAY 2/20 TO 4,000' TO THE NORTHEAST AND WIDEN TO 60'
C8: CONSTRUCT FULL LENGTH PARALLEL TAXIWAY AND CONNECTORS TO RUNWAY 2/20

SPANISH PEAKS AIRFIELD
WALSENBURG, COLORADO

FINANCIAL PLAN

ARMSTRONG
A LOCHNER COMPANY

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Appendix A

Environmental Overview and Documentation

ARMSTRONG

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Colorado Ecological Services Field Office
Denver Federal Center
P.O. Box 25486
Denver, CO 80225-0486
Phone: (303) 236-4773 Fax: (303) 236-4005
http://www.fws.gov/coloradoES
http://www.fws.gov/platteriver

In Reply Refer To: January 19, 2022
Consultation Code: 06E24000-2022-SLI-0450
Event Code: 06E24000-2022-E-01128
Project Name: Spainish Peaks Airfield, Walsenburg, CO

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds
- Wetlands

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Colorado Ecological Services Field Office
Denver Federal Center
P.O. Box 25486
Denver, CO 80225-0486
(303) 236-4773

Project Summary

Consultation Code: 06E24000-2022-SLI-0450
Event Code: Some(06E24000-2022-E-01128)
Project Name: Spainish Peaks Airfield, Walsenburg, CO
Project Type: ** OTHER **
Project Description: Report needed for Airport consultation
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@37.69621565,-104.78445063848395,14z

Counties: Huerfano County, Colorado

Endangered Species Act Species

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Canada Lynx *Lynx canadensis* Population: Wherever Found in Contiguous U.S. There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3652	Threatened

Fishes

NAME	STATUS
Greenback Cutthroat Trout *Oncorhynchus clarkii stomias* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2775	Threatened

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

THERE ARE NO FWS MIGRATORY BIRDS OF CONCERN WITHIN THE VICINITY OF YOUR PROJECT AREA.

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?
The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?
To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?
Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects
For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical

Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?
If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report
The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Wetlands

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

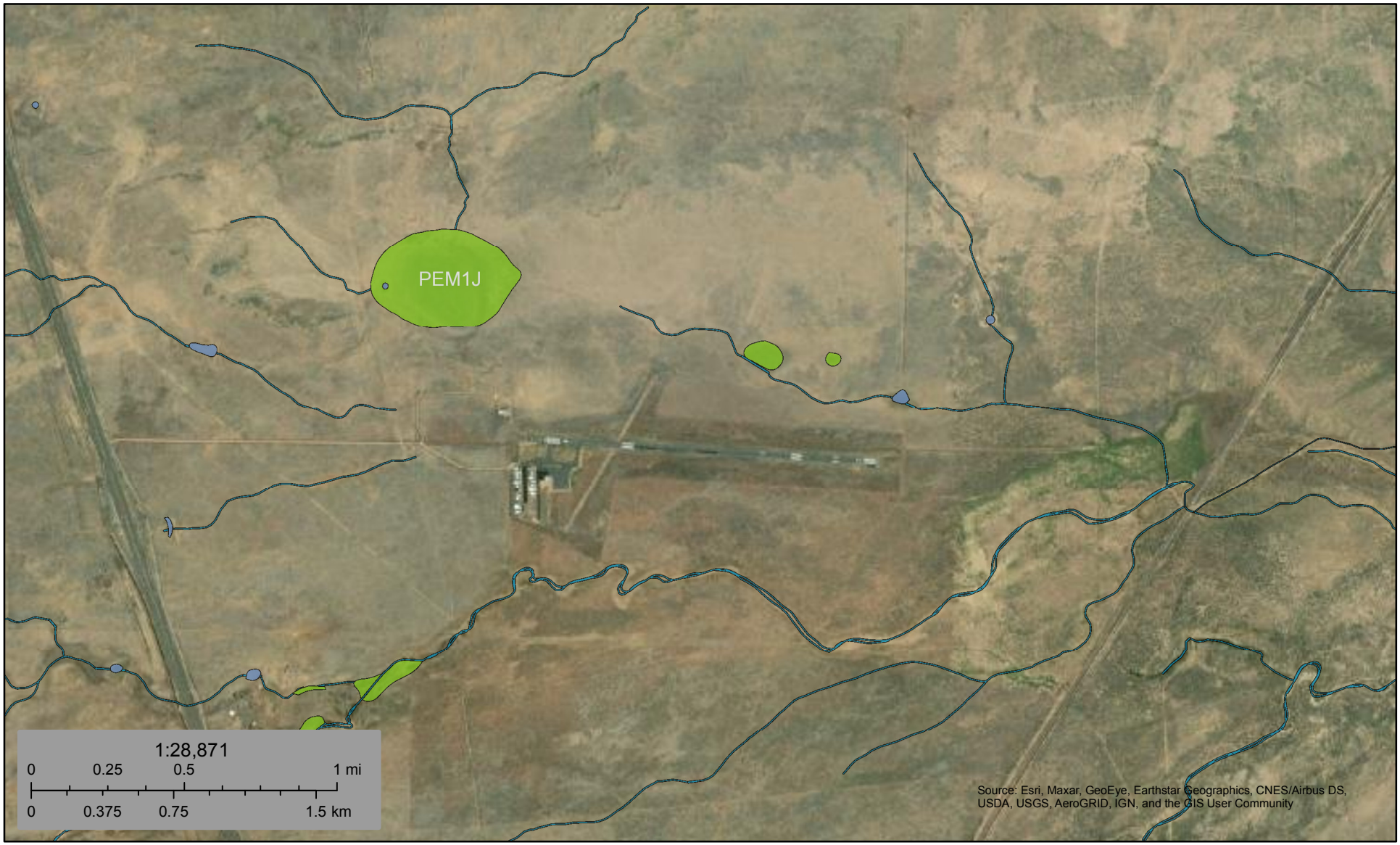
Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

WETLAND INFORMATION WAS NOT AVAILABLE WHEN THIS SPECIES LIST WAS GENERATED. PLEASE VISIT HTTPS://WWW.FWS.GOV/WETLANDS/DATA/MAPPER.HTML OR CONTACT THE FIELD OFFICE FOR FURTHER INFORMATION.

U.S. Fish and Wildlife Service

National Wetlands Inventory

Spanish Peaks Airfield



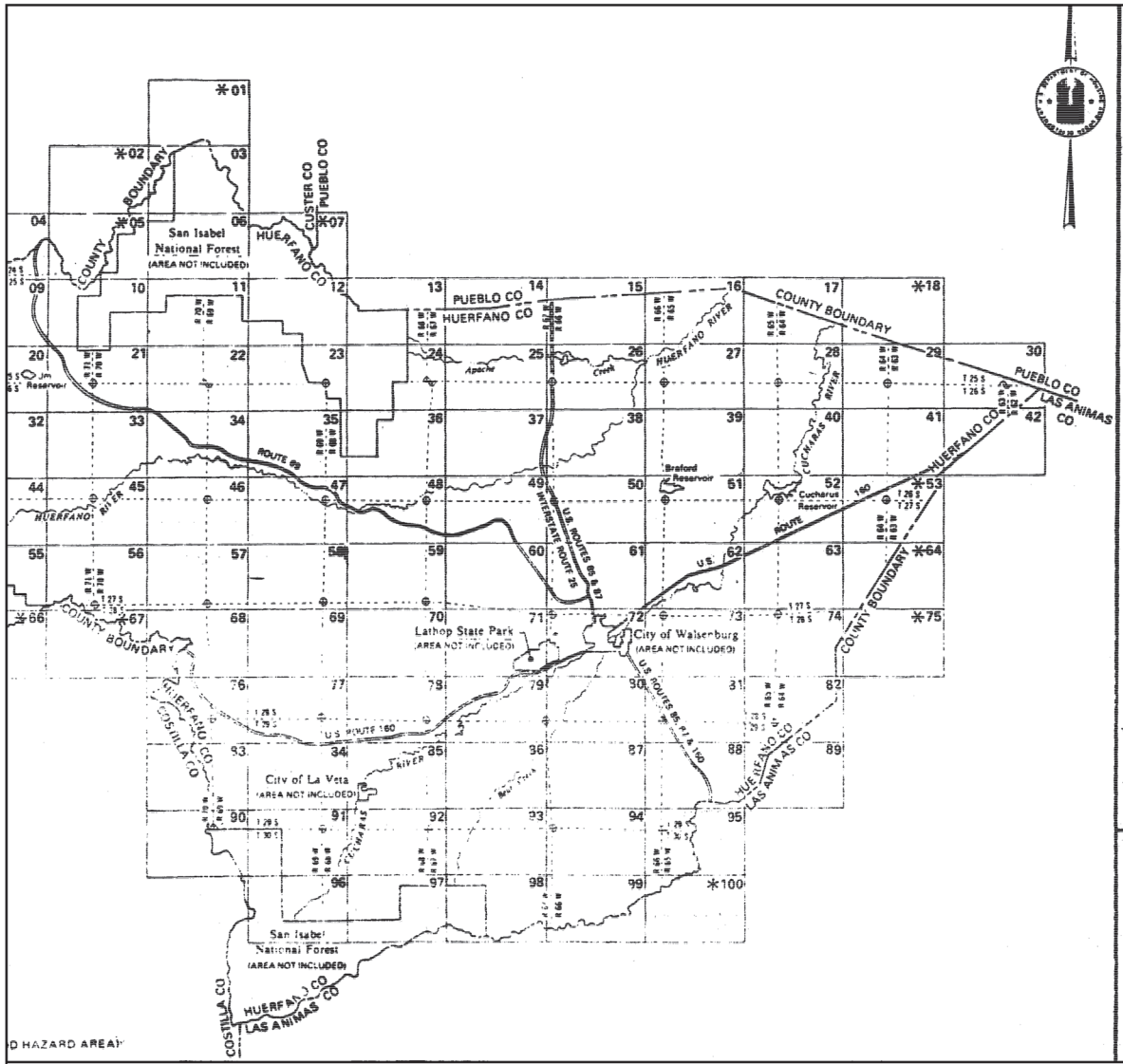
January 19, 2022

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper



D HAZARD AREA)

LEGEND

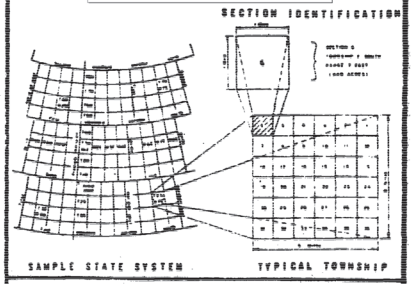
SPECIAL FLOOD HAZARD AREA — ZONE A

Note: These maps may not include all Special Flood Hazard Areas in the community. After a more detailed study, the Special Flood Hazard Areas shown on these maps may be modified, and other areas added.

CONSULT NFIA SERVICING COMPANY OR LOCAL INSURANCE AGENT OR BROKER TO DETERMINE IF PROPERTIES IN THIS COMMUNITY ARE ELIGIBLE FOR FLOOD INSURANCE.

INITIAL IDENTIFICATION DATE:
NOVEMBER 22, 1977

CONVERTED BY LETTER
EFFECTIVE 10/1/86



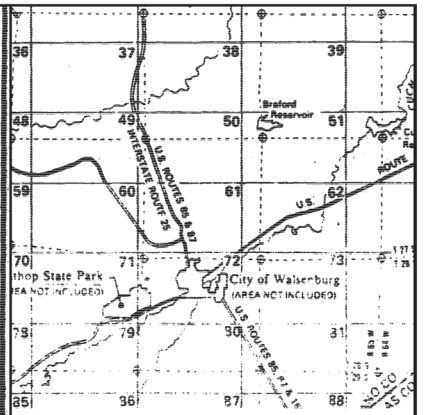
DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

FLOOD HAZARD BOUNDARY MAP H - 01-100

MAP INDEX

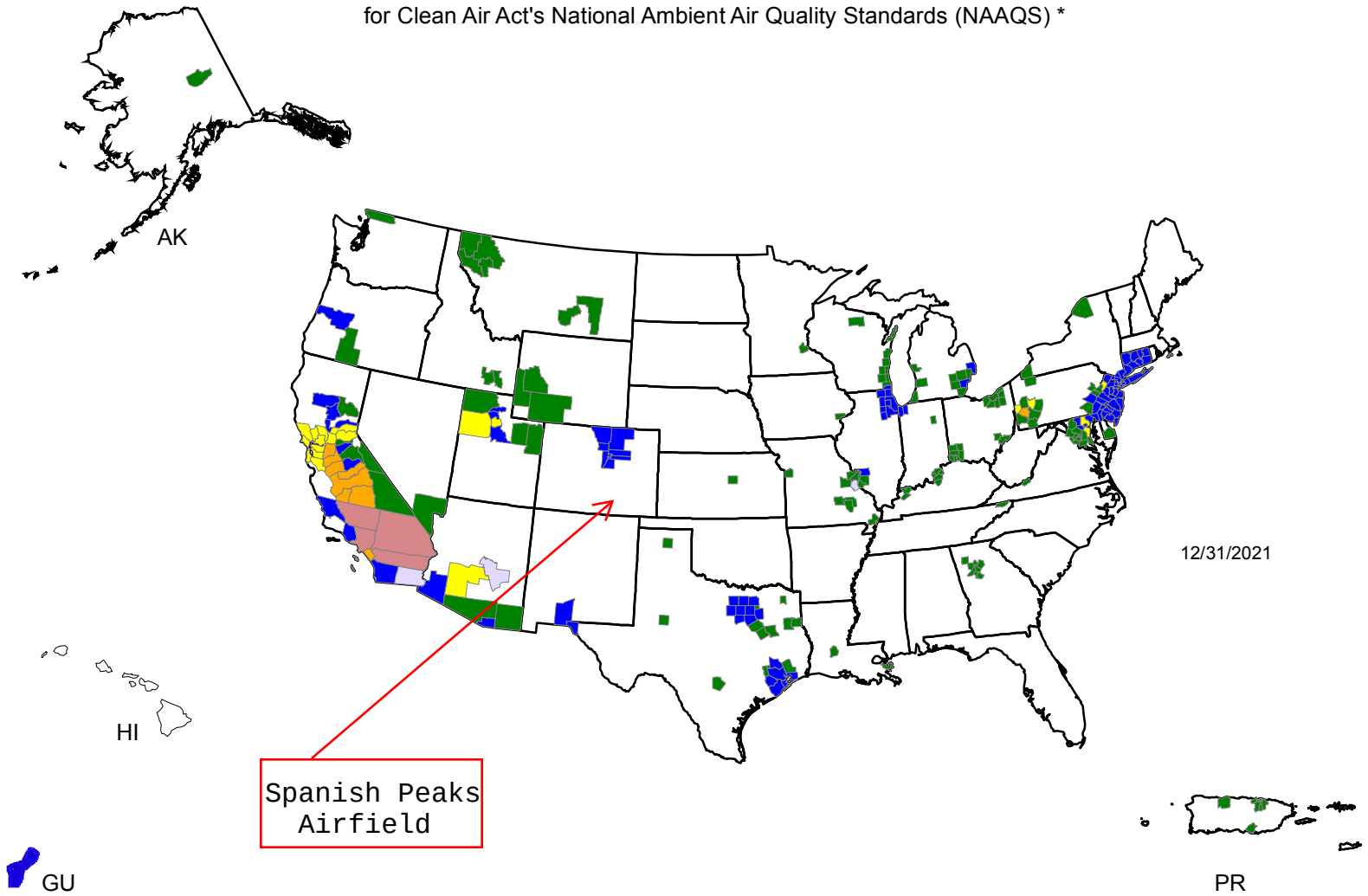
HUERFANO CO., CO
(UNINC. AREA)

COMMUNITY NO. 080205A B



Counties Designated "Nonattainment"

for Clean Air Act's National Ambient Air Quality Standards (NAAQS) *



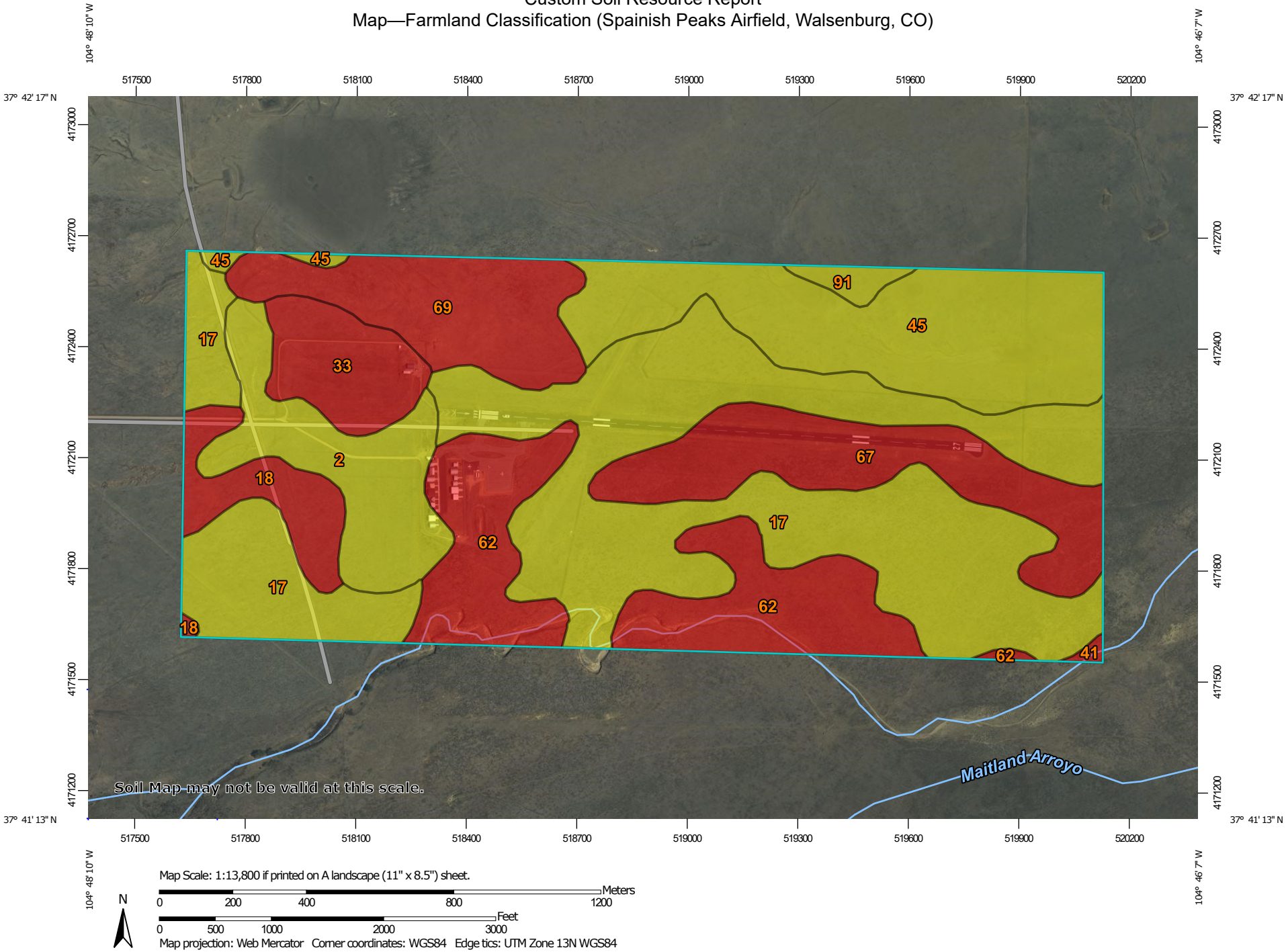
Legend **

- County Designated Nonattainment for 6 NAAQS Pollutants
- County Designated Nonattainment for 5 NAAQS Pollutants
- County Designated Nonattainment for 4 NAAQS Pollutants
- County Designated Nonattainment for 3 NAAQS Pollutants
- County Designated Nonattainment for 2 NAAQS Pollutants
- County Designated Nonattainment for 1 NAAQS Pollutant

* The National Ambient Air Quality Standards (NAAQS) are health standards for Carbon Monoxide, Lead (1978 and 2008), Nitrogen Dioxide, 8-hour Ozone (2008), Particulate Matter (PM-10 and PM-2.5 (1997, 2006 and 2012), and Sulfur Dioxide.(1971 and 2010)

** Included in the counts are counties designated for NAAQS and revised NAAQS pollutants. Revoked 1-hour (1979) and 8-hour Ozone (1997) are excluded. Partial counties, those with part of the county designated nonattainment and part attainment, are shown as full counties on the map.

Custom Soil Resource Report
Map—Farmland Classification (Spainish Peaks Airfield, Walsenburg, CO)



MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

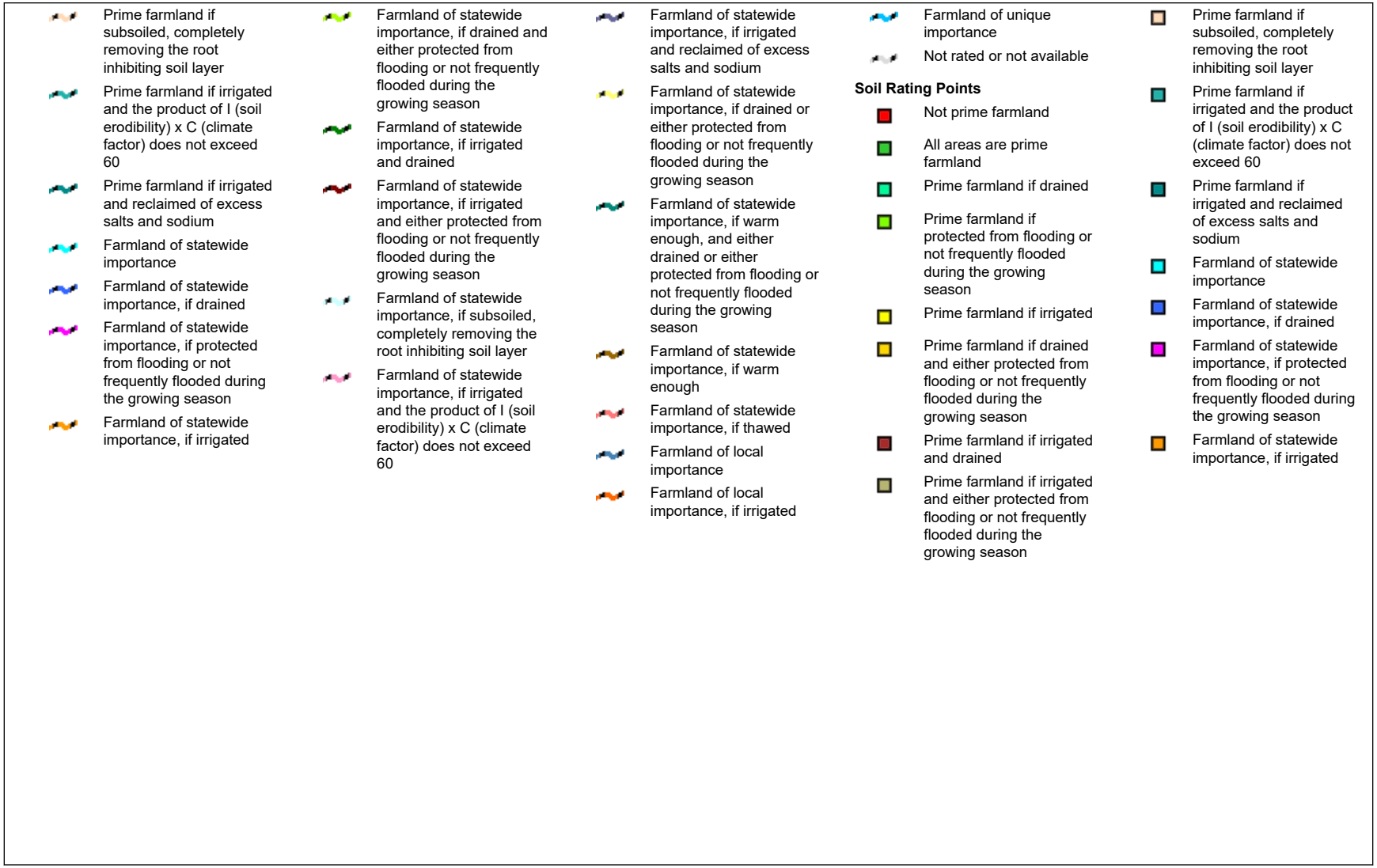
Soils

Soil Rating Polygons

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of statewide importance, if drained
- Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated
- Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated and drained
- Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
- Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough
- Farmland of statewide importance, if thawed
- Farmland of local importance
- Farmland of local importance, if irrigated
- Farmland of unique importance
- Not rated or not available

Soil Rating Lines

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season


Prime farmland if subsoiled, completely removing the root inhibiting soil layer
Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Prime farmland if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance
Farmland of statewide importance, if drained
Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated
Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated and drained
Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if warm enough
Farmland of statewide importance, if thawed
Farmland of local importance
Farmland of local importance, if irrigated
Farmland of unique importance
Not rated or not available
Soil Rating Points
Not prime farmland
All areas are prime farmland
Prime farmland if drained
Prime farmland if protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated
Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
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Farmland of statewide importance
Farmland of statewide importance, if drained
Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated

- Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated and drained
- Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
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- Farmland of statewide importance, if warm enough
- Farmland of statewide importance, if thawed
- Farmland of local importance
- Farmland of local importance, if irrigated
- Farmland of unique importance
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Huerfano County Area, Colorado
Survey Area Data: Version 18, Aug 31, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 31, 2020—May 18, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Appendix B

FAA Forecast Approval Letter

From: Sweeney, John (FAA)
To: Carl Young
Cc: Melanie Bounds; Brooke Barber; Justin Pietz
Subject: [EXTERNAL] Forecast Approval
Date: Tuesday, September 19, 2023 12:56:36 PM
Attachments: image003.png

U.S. Department of Transportation
Federal Aviation Administration

Northwest Mountain Region
Colorado · Idaho · Montana · Oregon · Utah
Washington · Wyoming

Denver Airports District Office
26805 E. 68th Ave., Suite 224
Denver, CO 80249

September 19, 2023

Carl Young
Huerfano County
401 Main Street
Walsenburg, CO 81089

Spanish Peaks Airfield
Walsenburg, CO
AIP: 3-08-0079-014-2022
Forecast Approval

Dear Mr. Young:

The Federal Aviation Administration (FAA) reviewed forecast information for the subject airport. The forecast was received August 14, 2023. FAA approves the attached forecast. The FAA also approves King Air 200 for the existing and future critical aircraft. We found the forecast to be supported by reasonable planning assumptions and current data. Your forecast appears to be developed using acceptable forecasting methodologies.

The approval of the forecast and critical aircraft does not automatically constitute a commitment on the part of the United States to participate in any development recommended in the master plan or shown on the ALP. All future development will need to be justified by current activity levels at the time of proposed implementation. [*See FAA Order 5100.38D, Airport Improvement Program, Paragraph 3-12, for ADO options.*] Further, the approved forecasts may be subject to additional analysis or the FAA may request a sensitivity analysis if this data is to be used for environmental or Part 150 noise planning purposes.

Accordingly, FAA approval of this forecast does not constitute justification for future projects. Justification for future projects will be made based on activity levels at the time the project is requested for development. Documentation of actual activity levels meeting planning activity levels will be necessary to justify AIP funding for eligible projects.

If you have questions, please call me at 303-342-1263.

Sincerely,

John Sweeney,
Community Planner
Denver ADO

Appendix C

Public Involvement

ARMSTRONG

SPANISH PEAKS AIRFIELD
AIRPORT MASTER PLAN

TECHNICAL ADVISORY COMMITTEE KICK-OFF MEETING

September 1st, 2022
10:00 A.M. – 12:00 P.M.
Walsenburg, Colorado

MEETING SUMMARY

Purpose: Present an overview of the Airport Master Plan's (AMP) objectives and project status to the Technical Advisory Committee (TAC) and receive feedback pertaining to the Airport Master Plan process.

An Airport Master Plan kick-off meeting was held on September 1st, 2022 to provide the TAC with an overview of the AMP process, objectives, and current project status. Attendance at the meeting included representatives from Huerfano County, Airport Management and Operations, Airport tenants and operators, community members and Armstrong Consultants, Inc. among others. The meeting attendees are outlined below.

Attendees:

Justin Pietz, Armstrong Consultants
Brooke Barber, Armstrong Consultants
Dylan Peterson, Armstrong Consultants
Dustin Hribar, Huerfano County
Carl Young, Huerfano County
Sarah Jardis, Huerfano County Tourism Board
Ken Felix, Airport Tenant
Jim Littlefield, Huerfano County Economic Development
Lonnie Brown, Huerfano County Planning and Zoning
Bill Hix, Airport Tenant

The purpose of the meeting was to discuss the following:

- **AMP Objectives and Overview**

  A brief overview of the objectives of the AMP was provided. This includes a determination of future aviation demand, evaluation of Federal Aviation Administration (FAA) design standards, prioritizing future airside and landside development and ensuring the airport complements local/regional development. The deliverables from the AMP includes a narrative document outlining the 20-year plan of development and goals for the Spanish Peaks Airfield. Also included is the Airport Layout Plan (ALP) drawing set which provides a graphical depiction of the recommended layout.

- **TAC Role**
  An overview of the role of the TAC and how it will contribute to the AMP process was provided. The TAC will perform multiple functions throughout the AMP which includes: assisting the Consultant Team with the plan development, communicating issues and concerns, acting as a liaison to the community, providing feedback on Working Papers and, input for the overall planning process.

- **AMP Process**
  A breakdown of the AMP process was presented to provide an understanding of the progression of the project from start to finish. The process follows the FAA Advisory Circular for Airport Master Planning. Elements of the planning study includes an Airport Inventory, FAA approved forecast, Facility Requirements, and Recommended Development. The Recommended Development is a critical element of the plan, as it entails public involvement (TAC meeting number 2) and is driven by financial and environmental considerations. With the approval of the alternatives, the ALP drawing set, financial and capital improvement chapter will be incorporated the draft AMP. The Master Plan process usually takes 12-18 months to complete but review periods can affect the timeline of the project.

  The Airport Master Plan project is currently in the investigation phase. Data and information are currently being collected to develop the Draft Working Paper 1 (WP1). When the draft WP1 is complete, it will be distributed to the TAC, Colorado Department of Transportation (CDOT) and the FAA for review and input.

- **Technical Aspects of the AMP**
  An overview of the technical aspects of the AMP that determine design standards, including the Runway Design Code (RDC) Airport Reference Code (ARC) were explained. The presentation further detailed runway design standards that are prescribed by the FAA and are driven by the designated RDC's at the Airport. The current RDC for the primary Runway 9/27 is B-II-5000 and A/B-I (Small)-VIS for Runway 2/20 which includes operations by single-engine piston, multi-engine piston, turbo-prop, and jet aircraft. The three components of RDC B-II-5000 were explained as: (1) Aircraft Approach Category (AAC), (2) Aircraft Design Group (ADG) and (3) instrument approach visibility minimums.

  Other planning considerations that will be detailed during the AMP process include: Future RDC/ARC, aircraft operations, factors influencing aviation demand, future landside configuration and needs, future hangar location and sizes, and potential environmental impacts.

- **Factors to be Taken into Consideration for the AMP**
  Focus will be given to: (1) local, regional and national trends affecting aviation demand and the impact on the Airport; (2) economic and population growth; (3) capitalizing on overflow air traffic for the surrounding airports.

- **Next Steps**
  The draft WP1 is currently underway and will be distributed to the TAC, CDOT, and FAA for review and comment.

- **Comments and Questions**
  Throughout the presentation, further questions/discussion were addressed for clarification and guidance. The following are the topics that were discussed:

  - Clarification on FAA's policy on Caretaker living on airport property was discussed; noting that Caretaker house on property can be occupied if individual living there is designated and paid by the County as the Caretake of the property.
  - Airport tenants expressed concern of needing a working courtesy vehicle to provide transient pilots access to the local community. Options for storing the vehicle were discussed.
  - Comments were made regarding the addition of hardstands and a staging area for the frequent rotary-winged aeromedical operations utilizing airport facilities.
  - Discussion from Airport Tenants and County Staff indicate that there is a great deal of interest in hangar development at the Airport. Discussion was had regarding the protocol for processing those requests.

Meeting Sign-In Sheet

Spanish Peaks Airfield- Airport Master Plan Walsenburg, CO Kick-Off Meeting	Meeting Date: September 1st, 2022 (10:00 AM)

Name	Affiliation/Company	Phone	E-mail
Justin Pietz	Armstrong Consultants	970-242-0101	jpietz@armstrongconsultants.com
Brooke Barber	Armstrong Consultants	970-242-0101	bbarber@armstrongconsultants.com
Dylan Peterson	Armstrong Consultants	970-242-0101	dpeterson@armstrongconsultants.com
Dustin Hribar	Huerfano County	719-429-1892	dhribar@huerfano.us
Carl Young	Huerfano County	719 225 3890	cyoung@huerfano.us
Sarah Jardis	HC TOURISM Board	970.376.3434	sarahjardis@gmail
Ken Felix	Tenant	903-520-4783	kjkbcaptain@AOL.com
Jim Littlefield	HC ECON. DEV, BOD	719-332-0170	jim.littlefield@USCG.COM
Lonnie Brown	HC Planning & Zone	719-989-0655	lonnie039.lb@gmail.com
Bill Fix	Tenant.	719-989-8654	bfix@juno.com.

ARMSTRONG
A LOCHNER COMPANY

SPANISH PEAKS AIRFIELD
AIRPORT MASTER PLAN

RECOMMENDED DEVELOPMENT MEETING

October 16th, 2023
2:00 P.M. – 3:00 P.M.
Walsenburg, Colorado

MEETING SUMMARY

Purpose: Present the Airport Master Plan's (AMP) recommended development exhibits to Spanish Peaks Airfield Technical Advisory Committee (TAC) and garner feedback pertaining to the recommended development.

A Technical Advisory Committee recommended development meeting was held on October 16th, 2023 to determine the recommended development to be carried forward onto the Airport Layout Plan (ALP). Attendance at the meeting comprised of representatives from the Town of Walsenburg, Huerfano County, Airport staff, Airport users, and Armstrong, airport consultants.

Attendees:

Justin Pietz, Armstrong
Brooke Barber, Armstrong
Dylan Peterson, Armstrong
Carl Young, Huerfano County
Sarah Jardis, Huerfano County Tourism Board
Jim Littlefield, Huerfano County Economic Development
Lonnie Brown, Huerfano County Planning and Zoning
Ken Felix, Airport Tenant
Bill Hix, Airport Tenant
Dustin Hribar, Huerfano County
Karl Sporleder, County Commissioner
Robert Gilbert, Huerfano County

The purpose of the meeting was to discuss the following:

- **AMP Overview**
  A brief overview of the AMP objectives was provided. These topics were discussed at length during the September 1st, 2022 kick-off meeting. The objectives of an AMP and the purpose the document serves for the airport's future development was discussed. The AMP is shown to be a document which provides a twenty-year plan of development and ALP drawings which would serve as a graphical depiction of the existing and future layout of the airport. Additionally, the document discusses the overall goals of Spanish Peaks Airfield and the overall community. Among these objectives are: determination of future aviation demand, evaluation of complying with Federal Aviation Administration (FAA) design standards, prioritizing future airside and landside development and ensuring the airport complements local/regional development.

- **AMP Project Status**
  The analysis and evaluation of the existing and future airport facility needs has been completed. As a result of the discussions from this meeting, the ALP can be developed utilizing input from the TAC. Refined cost estimates and a phasing plan are being developed for the selected preferred alternatives and presented in the Draft AMP Report. All comments on the previous working papers have been revised. Additional comments will be solicited for the Draft AMP Report and ALP and will be revised into the Final Report.

- **Runway Design Standards**
  A brief overview of the existing Runway Design Standards, which provide various areas and zones surrounding each runway and must be protected in order to safely accommodate airport operations, was provided. The plan recommends to maintain the existing Runway Design Code (RDC) of B-II with 1-mile visibility minimums for Runway 9/27 and A-I (Small) with visual visibility minimums for Runway 2/20.

- **Recommended Development and Options for Development**
  The recommended development proposed as a part of the AMP is done to accomplish the following: (1) update airfield configuration to meet current FAA design guidelines; (2) provide an efficient airfield layout; (3) avoid or minimize impacts to surrounding communities; and (4) protects for recommended airside/landside improvements. It was noted that the recommended development does not require development to occur or provide environmental clearance for the proposed development. It was reiterated that the recommended development shown in the final ALP is not absolute and would only occur if documented demand exists and is flexible to meet the needs and desires of the community.

  The following recommendations and proposed development at the Spanish Peaks Airfield were discussed:

  - Airside:

    - Maintain Runway 9/27 RDC B-II-5000 (King Air 200 design aircraft)
    - Maintain Runway 2/20 RDC A-I(Small) (Cessna 182 design aircraft)
    - Protect for full length parallel taxiway for Runway 9/27
    - Remove existing displaced threshold on the approach end of Runway 9
    - Maintain instrument approach procedures
    - Protect for extending Runway 9/27 to a future length of 7,400'
    - Protect for extending Runway 2/20 to a future length of 4,000'

- Protect for widening Runway 2/20 to a future width of 60'
- Protect for lighting, paving and full-length parallel taxiway on Runway 2/20

- Landside:

  - Protect for expanded FBO facilities
  - Protect for additional hangar development areas
  - Protect for future electric aircraft charging station
  - Protect for concrete hardstands and apron
  - Protect for additional apron aircraft tiedowns
  - Protect for helicopter parking pads
  - Protect for dedicated snow removal equipment and storage facility
  - Pave vehicle parking areas and access road

- **Next Step**
  Armstrong will develop the narrative report to accompany the recommended development exhibits and develop planning level cost estimates and a phasing plan. The FAA/CDOT/TAC will review and comment on the Recommended Development chapter, the Draft AMP and ALP, as they are released. Final comments regarding the Draft AMP and ALP will be solicited and included in the Final Report. Following the release of the Draft AMP a public open house meeting will be scheduled to receive input from the community on the plans for the airport.

- **Comments and Questions**
  Throughout the presentation, further questions/discussion were addressed for clarification and guidance. The following are the topics that were discussed:

  - Two alternatives were presented for Runway 9/27 extension- a west and east extension. Ultimately, the west extension was selected as the preferred alternative. Both options require land acquisition.
  - Discussion was had regarding current land ownership to both the east and west of the airport, and feasibility of future land acquisition for airport use. This information was taken into consideration when selecting the preferred alternative.
  - Requests were made to protect for additional apron expansion and aircraft tie-downs.

Appendix D

Acronyms

Acronyms/Abbreviations

14 CFR PART 77	Title 14 Code of Federal Regulations Part 77 Safe, Efficient Use, and Preservation of the Navigable Airspace
AAC	Aircraft Approach Category
AC	Advisory Circular
ACIP	Airport Capital Improvement Plan
ADG	Airplane Design Group
AFFF	Aqueous Film Forming Foam
AGIS	Airports Geographic Information Systems
AGL	Above ground level
AHPA	Archeological and Historic Preservation Act of 1974
AIP	Airport Improvement Program
ALP	Airport layout plan
AMP	Airport master plan
AOPA	Aircraft Owners and Pilots Association
APMS	Airport Pavement Management System
ARC	Airport Reference Code
ARFF	Aircraft rescue and fire fighting
ARP	Airport reference point
ARTCC	Air route traffic control center
ASDA	Accelerate-stop distance available
ASOS	Automated surface observing system
ASV	Annual service volume
ATC	Air traffic control
ATIS	Automatic Terminal Information Service
AWOS	Automated Weather Observing System
AWSS	Automated Weather Sensor System
CAA	Clean Air Act
CAGR	Compound annual growth rate
CATEX	Categorical exclusion
CDOT	Colorado Department of Transportation
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CIP	Capital Improvement Plan
CMG	Cockpit-to-Main Gear
Db	Decibel
DES	Department of Economic Security
DNL	Day-Night Average Sound Level
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency

ESA	Endangered Species Act
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulation
FBO	Fixed Base Operator
FEMA	Federal Emergency Management Agency
FSS	Flight Service Station
GA	General Aviation
GPS	Global Positioning System
IAP	Instrument Approach Procedure
ICAO	International Civil Aviation Organization
IFR	Instrument Flight Rules
ILS	Instrument Landing System
LDA	Landing Distance Available
LED	Light Emitting Diode
LPV	Localizer/Lateral Performance with Vertical Guidance
Medevac	Air Medical Evacuation
MGW	Main Gear Width
MIRL	Medium Intensity Runway Lights
MITL	Medium Intensity Taxiway Lights
MOA	Military Operations Area
MSL	Mean Sea Level
MTOW	Maximum Takeoff Weight
MTR	Military Training Route
NAAQS	National Ambient Air Quality Standards
NAS	National Airspace System
NAVAIDS	Navigational Aids
NDB	Non-Directional Beacon
NextGen	Next Generation Air Transportation System
nm	Nautical Miles
NOAA	National Oceanic and Atmospheric Administration
NOTAM	Notice to Airmen
NPIAS	National Plan of Integrated Airport Systems
NRCS	National Resources Conservation Services
NRHP	National Register of Historic Places
OFA	Object Free Area
OFZ	Obstacle Free Zone
OPBA	Operations Per Based Aircraft
PAPI	Precision Approach Path Indicator
PCI	Pavement Condition Index
PM	Particulate Matter

RDC	Runway Design Code
REIL	Runway End Identifier Lights
RIASP	Regional Integrated Airport System Planning
RNAV	Area Navigation
ROFA	Runway Object Free Area
RPZ	Runway Protection Zone
RSA	Runway Safety Area
RVR	Runway Visual Range
SHPO	State Historic Preservation Office
SIASP	Statewide Integrated Airport System Planning
SIP	State Implementation Plan
SPCC	Spill Prevention, Control and Countermeasure
SWPPP	Storm Water Pollution Prevention Plan
TAC	Technical Advisory Committee
TACAN	Tactical Air Navigation
TAD	Terminal Area Drawing
TAF	Terminal Area Forecast
TDG	Taxiway Design Group
TESM	Taxiway Edge Safety Margin
TODA	Takeoff Distance Available
TOFA	Taxiway Object Free Area
TORA	Takeoff Run Available
TSA	Taxiway Safety Area
TSA	Transportation Security Administration
TSS	Threshold Siting Surface
U.S.	United States
UAS	Unmanned Aerial System
USDA-NCRS	U.S. Department of Agriculture - Natural Conservation Resource Service
USDOT	U.S. Department of Transportation
USFWS	U.S. Fish and Wildlife Service
VFR	Visual Flight Rules
VHF	Very High Frequency
VOR/DME	VHF Omnidirectional Range/Distance Measuring Equipment
VORTAC	VHF Omnidirectional Range/Tactical Area Navigation
WAAS	Wide Area Augmentation System
WHA	Wildlife Hazard Assessment

Appendix E

Glossary of Terms

Glossary of Terms

100-year flood - A term used to simplify the definition of a flood that statistically has a 1-percent chance of occurring in any given year.

100LL AvGas - A common form of aviation gasoline used in spark-ignited internal combustion engines to propel aircraft.

Above ground level (AGL) - A height measured with respect to the underlying ground surface.

Accelerate-Stop Distance Available (ASDA) - The distance required to accelerate with all engines operating, have an engine failure or other event at least one second before V_1, reconfigure for stopping and bring the airplane to a stop using maximum wheel braking with speed brakes extended.

Advisory Circular 150/5060-5, *Airport Capacity and Delay* - A Federal Aviation Administration Advisory Circular explaining how to compute capacity and aircraft delay for airport planning and design.

Advisory Circular 150/5070-6B, *Airport Master Plans* - A Federal Aviation Administration Advisory Circular providing guidance for the preparation of airport master plans that range in size and function from small general aviation to large commercial service facilities.

Advisory Circular 150/5200-33B, *Hazardous Wildlife Attractants On or Near Airports* - A Federal Aviation Administration Advisory Circular providing guidance on certain land uses that have the potential to attract hazardous wildlife on or near public use airports.

Advisory Circular 150/5210-6D, *Aircraft Fire and Rescue Facilities and Extinguisher Agents* - A Federal Aviation Administration Advisory Circular providing guidance on aircraft fire extinguishing agents and provides an acceptable methodology for complying with Title 14, Code of Federal Regulations, Part 139, Certification of Airports.

Advisory Circular 150/5300-13A, *Airport Design* - A Federal Aviation Administration Advisory Circular providing standards and recommendations for the geometric layout and engineering design of runways, taxiways, aprons, and other facilities at civil airports.

Advisory Circular 150/5325-4B, *Runway Length Requirements for Airport Design* - A Federal Aviation Administration Advisory Circular providing design standards and guidelines for determining recommended runway lengths.

Advisory Circular 150/5370-10F, *Standards for Specifying Construction of Airports* - A Federal Aviation Administration Advisory Circular providing standards for the construction of airports.

Advisory Circular 150/5380-6B, *Guidelines and Procedures for Maintenance of Airport Pavements* - A Federal Aviation Administration Advisory Circular providing guidelines and procedures for maintaining rigid and flexible airport pavements.

Air medevac (medevac) - Transportation or evacuation of a person by an aircraft for medical treatment.

Air Traffic Control (ATC) - Personnel and equipment concerned with monitoring and controlling air traffic within a particular area.

Air traffic control tower - A terminal facility which, through the use of air/ground communications, visual signaling, and other devices, provides air traffic control services to airborne aircraft operating in the vicinity of an airport and to aircraft operating on the movement area.

Aircraft Approach Category (AAC) - A system for differentiating aircraft based on the speed at which the aircraft is flown during the approach phase of flight.

Aircraft apron - A surface in the AOA where aircraft park and are serviced (Refueled, loaded with cargo, and/or boarded by passengers).

Aircraft Classification Number-Pavement Classification Number (ACN-PCN) - A method to report airport runway, taxiway, and apron pavement strength.

Aircraft hangar - A closed structure used to hold aircraft or spacecraft in protective storage. Most hangars are built of metal, but other materials such as wood and concrete are also used.

Aircraft Owners and Pilots Association (AOPA) - An American non-profit political organization that advocates for general aviation.

Aircraft Rescue and Fire Fighting (ARFF) - A special category of firefighting that involves the response, hazard mitigation, evacuation and possible rescue of passengers and crew of an aircraft involved in (typically) an airport ground emergency.

Airfield capacity analysis - An analysis to assess the capability of the airfield facilities to accommodate projected levels of aircraft operations.

Airfield destination sign - An airfield sign identifying the taxi route to the destination depicted.

Airplane Design Group (ADG) - A classification of aircraft based on wingspan and tail height.

Airport - An area of land or water used or intended for landing or takeoff of aircraft including appurtenant area used or intended for airport buildings, facilities, as well as rights of way together with the buildings and facilities.

Airport access road - A road providing a means of entry and exit to the airport from another roadway.

Airport and Airway Improvement Act of 1982 - An Act approved by Congress to authorize appropriations for the Federal Aviation Administration for research, engineering, and development to increase the efficiency and safety of air transport.

Airport Capital Improvement Plan (ACIP) - A planning tool for systematically identifying, prioritizing, and assigning funds to critical airport development.

Airport Improvement Program (AIP) - A United States federal grant program that provides funds to airports to help improve safety and efficiency.

Airport layout plan (ALP) - A set of scale drawings of current and future airport facilities that provides a graphic representation of the long-term development plan for the airport and demonstrates the preservation and continuity of safety, utility, and efficiency of the airport to the satisfaction of the FAA.

Airport master plan (AMP) - A planning tool that helps airport owners, regulating agencies, and public officials meet the needs of the traveling public and guide the continued improvement of aviation facilities. Master Plans are developed according to FAA guidance provided in Advisory Circular 150/5070-6B, *Airport Master Plans*, and they evaluate facility needs of the airfield (runways and taxiways), landside (auto parking and access), terminal building, and overall airport land use.

Airport Pavement Management System (APMS) - A system that provides a consistent, objective, and systematic procedure for establishing facility policies, setting priorities and schedules, allocating resources, and budgeting for pavement maintenance and rehabilitation.

Airport planning - A systematic process used to establish guidelines for the efficient development of airports that is consistent with local, state, and national goals.

Airport Reference Code (ARC) - A coding system developed by the FAA to relate airport design criteria to the operational and physical characteristics of the airplane types that will operate at a particular airport.

Airport Reference Point (ARP) - The latitude and longitude of the approximate center of the airport.

Airport service area - The geographic area an airport serves, usually within 20 miles or 30 minutes of another airport.

Airport usage fee - A general fee, or tax, imposed by the airport operator for the passage through an airport.

Airports Geographic Information Systems (AGIS) - A system that helps the Federal Aviation Administration collect airport and aeronautical data to meet the demands of the Next Generation National Airspace System.

Airside - The portion of an airport that encompasses all facilities that support aircraft and aircraft-related activities.

Airspace - The portion of the atmosphere directly above the land or water, used by aircraft or by earth-based structures such as skyscrapers; airspace can be classified as either controlled or uncontrolled.

Annual operations - The total sum of aircraft landings and takeoffs in a given year.

Annual service volume (ASV) - A term used in airport capacity analysis defined by the FAA as a function of the hourly capacity of the airfield and the annual, daily, and hourly demands placed upon it. ASV is estimated by multiplying the daily and hourly operation ratios by a weighted hourly capacity.

Approach surface - An imaginary surface that exists primarily to prevent existing or proposed manmade objects, objects of natural growth, or terrain from extending upward into navigable airspace. Approach surfaces dimensions vary depending on the type of approach to a runway, i.e. precision instrument, non-precision instrument, or visual.

Aqueous film forming foam (AFFF) - A highly efficient type of fire suppressant agent, used by itself to attack flammable liquid pool fires; used by airport firefighters mainly for aviation fuel fires.

Archeological and Historic Preservation Act (AHPA) of 1974 - Amended the 1960 Reservoir Salvage Act by providing for the preservation of significant scientific, prehistoric, historic, and archaeological materials and data that might be lost or destroyed as a result of flooding, the construction of access roads, relocation of railroads and highways, or any other federally funded activity.

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.

Armstrong Consultants, Inc. - A professional consulting engineering and planning firm specializing exclusively in airports based out of Grand Junction, Colorado.

Attainment area - An area considered to have air quality as good as or better than the national ambient air quality standards as defined in the Clean Air Act.

Automated Surface Observing System (ASOS) - A type of automated weather station that provides hourly updates on the weather conditions in an area. Mostly operated, maintained, and controlled by the National Weather Service (NWS), Department of Defense (DOD), or the FAA.

Automated Weather Observing System (AWOS) - A type of automated weather station that provides hourly updates on the weather conditions in an area. Mostly operated, maintained, and controlled by the FAA, but sometimes state or local governments or private agencies as well.

Automated Weather Sensor System (AWSS) - A type of automated weather station that provides hourly updates on the weather conditions in an area. Mostly operated, maintained, and controlled by the FAA.

Automatic Terminal Information Service (ATIS) - The continuous broadcast of recorded non-control information in selected terminal areas. Its purpose is to improve controller effectiveness and relieve frequency congestion by automating repetitive transmission of essential but routine information.

Aviation forecast - A report that serves to provide future estimated airport usage to allow for planning development.

Avigation easement - A property right acquired from a landowner which protects the use of airspace above a specified height, and imposes limitations on use of the land subject to the easement.

Based aircraft - An aircraft permanently stationed at an airport, usually by agreement between the aircraft owner and airport management.

Based aircraft operations - The number of annual operations conducted by based aircraft at the airport.

Best management practices (BPM) - A set of guidelines, ethics or ideas that represent the most efficient or prudent course of action.

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

Capital Improvement Plan (CIP) - A community planning and fiscal management tool used to coordinate the location, timing, and financing of capital improvements over a multi-year period.

Categorical exclusion (CATEX) - A category of actions which do not individually or cumulatively have a significant effect on the human environment, and therefore, neither an environmental assessment nor an environmental impact statement is required. They are actions which: do not induce significant impacts to planned growth or land use for the area, do not require the relocation of significant numbers of people; do not have a significant impact on any natural, cultural, recreational, historic or other resource; do not involve significant air, noise, or water quality impacts; and do not have significant impacts on travel patterns.

Certificated airmen - An individual who is certified to act as a pilot of an aircraft.

Class A airspace - Airspace which extends from 18,000 feet mean sea level (MSL) to approximately 60,000 feet MSL throughout the United States. Unless otherwise authorized by air traffic control (ATC), all flight operations in Class A airspace must be under ATC control, and must be operating IFR, under a clearance received prior to entry.

Class B airspace - Airspace which normally begins at the surface in the immediate area of the airport; successive shelves of greater and greater radius begin at higher and higher altitudes at greater distances from the airport. The upper limit of Class B airspace is normally 10,000 feet MSL. Class B airspace has the most stringent rules of all the airspaces in the United States.

Class C airspace - Airspace similar in structure to Class B airspace, but on a smaller scale; the vertical boundary is usually 4,000 feet above the airport surface. The core surface area has a radius of five nautical miles, and goes from the surface to the ceiling of the Class C airspace. The upper "shelf" area has a radius of ten nautical miles, and extends from as low as 1,200 feet up to the ceiling of the airspace. All aircraft entering Class C airspace must establish radio communication with ATC prior to entry.

Class D airspace - Airspace that is generally cylindrical in form and normally extends from the surface to 2,500 feet above the ground. The outer radius of the airspace is variable, but is generally 4 nautical miles. Two-way communication with ATC must be established before entering Class D airspace, but no transponder is required.

Class E airspace - Airspace which extends from 1,200 feet above ground level (AGL) up to but not including 18,000 feet MSL, the lower limit of Class A airspace. There are areas where Class E airspace begins at either the surface or 700 AGL; these areas are used to transition between the terminal and en-route environments (around non-towered airports). The airspace above 60,000 feet MSL (FL600) is also Class E. No ATC clearance or radio communication is required for VFR flight in Class E airspace. Most airspace in the United States is Class E.

Class G airspace - Airspace which includes all airspace below Flight Level 600 (60,000 feet MSL), not otherwise classified as controlled. There are no entry or clearance requirements for Class G airspace, even for IFR operations. Class G airspace is typically the airspace very near the ground (1200 feet or less), beneath Class E airspace. Class G is completely uncontrolled.

Clean Air Act (CAA) - A United States federal law designed to control air pollution on a national level.

Clean Water Act (CWA) - The primary federal law in the United States governing water pollution.

Cloud ceiling - A measurement of the cloud base height relative to the ground. Ceiling is reported as part of the METAR (Meteorological Aviation Report) used for flight planning by pilots worldwide.

Cockpit-to-main gear (CMG) - The distance measured between the center of the cockpit to the center of the main undercarriage of the.

Code of Federal Regulations (CFR) - An annual codification of the general and permanent rules published in the Federal Register by the executive departments and agencies of the Federal Government.

Commercial activity fee - A fee that is imposed on commercial activities operating "for profit" at an airport.

Commercial service airport - Publicly owned airports that have at least 2,500 passenger boardings each calendar year and receive scheduled passenger service.

Compatible land use - Land uses which are deemed safe and acceptable around airports; examples of compatible land use around airports include aviation, industrial/commercial, and agricultural activities or businesses.

Compound Annual Growth Rate (CAGR) - A measure of growth over multiple time periods.

Conical surface - An imaginary surface found within 14 CFR Part 77 describing the surface which extends outward and upward from the periphery of the horizontal surface at a slope of 20 to 1 for a horizontal distance of 4,000 feet.

Connector taxiway - A portion of taxiway between a runway and a parallel taxiway.

Construction impacts - Impacts that may potentially occur due to construction operations.

Controlled airspace - Airspace in which some or all aircraft may be subject to air traffic control to promote the safe and expeditious flow of air traffic.

Conventional hangar - An aircraft storage hangar, often also referred to as a box hangar, which is square or rectangular in shape and can be built in various sizes.

Council on Environmental Quality (CEQ) - A division of the Executive Office of the President that coordinates federal environmental efforts in the United States and works closely with agencies and other White House offices on the development of environmental and energy policies and initiatives.

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

Crosswind runway - The designated runway on an airfield which is used when the crosswind component becomes too great on the primary runway for an aircraft to takeoff or land.

Day-night average sound level (DNL) - The average noise level over a 24-hour period.

Decibel (dB) - A unit used to measure the intensity of a sound.

Department of Defense (DOD) - A department of the federal executive branch entrusted with formulating military policies and maintaining American military forces.

Department of Transportation Act, Section 4(f) - A special provision which stipulates that FHWA and other DOT agencies cannot approve the use of land from publicly owned parks, recreational areas, wildlife and waterfowl refuges, or public and private historical sites.

Design aircraft - An aircraft with characteristics that determine the application of airport design standards for a specific runway and associated taxiway, taxilane, and apron.

Design day - In forecasting methodology, an average day of the peak month.

Dual-tandem wheel landing gear - A configuration of landing gear for a large aircraft where two wheels are located side by side, followed by another set of wheels located in the same way on a landing strut.

Dual-wheel landing gear - A configuration of landing gear for aircraft with two wheels located side by side on a landing strut.

Easement - A right or limitation on someone else's property or land for a specified purpose.

Eligible applicants - Applicants that are eligible for AIP funding which include public-use airport that is included in the NPIAS.

Eligible projects - Projects that include enhancing airport safety, capacity, security, and environmental concerns.

Endangered Species Act (ESA) - A United States Act that provides for the conservation of species that are endangered or threatened throughout all or a significant portion of their range, and the conservation of the ecosystems on which they depend.

Endangered/threatened species - A species of animal or plant that is seriously at risk, or threatening to be at risk of extinction.

Enplane - To board an aircraft.

Environmental Assessment (EA) - A concise public document that provides sufficient evidence and analysis for determining whether a Finding of No Significant Impact should be issued or an Environmental Impact Statement be prepared.

Environmental clearance document - Official document, such as a CATEX, EA, or EIS, usually issued by a federal agency which provides a determination as to whether a proposed project has an impact on the environment or community.

Environmental impact - Adverse effects to the surrounding environment caused by an activity or action.

Environmental Impact Statement (EIS) - A document prepared to describe the effects for proposed activities on the environment.

Environmental justice - The pursuit of equal justice and equal protection under the law for all environmental statutes and regulations without discrimination based on race, ethnicity, and /or socioeconomic status.

Environmental Protection Agency (EPA) - A United States federal agency tasked with protecting and preserving the environment.

FAA Advisory Circular (AC) - A publication offered by the Federal Aviation Administration to provide guidance for compliance with directives.

FAA Aerospace Forecast, Fiscal Years 2017-2037 - A document prepared by the FAA that develops a set of assumptions and forecasts consistent with the emerging trends and structural changes taking place within the aviation industry from the Fiscal Years 2017-2037.

FAA Environmental Desk Reference for Airport Actions - Summarizes applicable special purpose laws in one location for convenience and quick reference. Its function is to help FAA integrate the compliance of NEPA and applicable special purpose laws to the fullest extent possible.

FAA Equation #15, *Model for Estimating General Aviation Operations at Non-Towered Airports* - An equation developed for the FAA Statistics and Forecast Branch in July 2001 which uses independent variables such as airport characteristics, population totals, and geographic location to assist in determining an airport's annual operations due to the lack of an air traffic control tower on the airfield.

FAA Form 5010-1, Airport Master Record - An FAA form which contains aeronautical data describing the physical and operational characteristics of civil public-use airports, joint-use military airports, and private-use military airports that are active and in the NAS. This form contains airport data derived from the National Airspace System Resources (NASR) database as of the Airport Facility Data effective date shown on the form.

FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures* - This Order provides Federal Aviation Administration (FAA) policy and procedures to ensure agency compliance with the requirements set forth in the Council on Environmental Quality (CEQ) regulations for implementing the provisions of the National Environmental Policy Act of 1969 (NEPA), 40 Code of Federal Regulations (CFR) parts 1500- 1508; Department of Transportation Order DOT 5610.1C, Procedures for Considering Environmental Impacts; and other related statutes and directives.

FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions* - This Order provides information to the FAA's Office of Airports personnel and others interested in fulfilling National Environmental Policy Act (NEPA) requirements for airport actions under FAA's authority. This Order is part of FAA's effort to ensure its personnel have clear instructions to address potential environmental effects resulting from major airport actions.

FAA Order 5190.6B, *FAA Airport Compliance Manual* - This Order sets forth policies and procedures for the FAA Airport Compliance Program. It provides basic guidance for FAA personnel in interpreting and administering the various continuing commitments airport owners make to the United States as a condition for the grant of federal funds or the conveyance of federal property for airport purposes.

FAA Reform and Modernization Act of 2012 - Authorization of appropriations to the Federal Aviation Administration from Fiscal Year 2012 through Fiscal Year 2015 to seek to improve aviation safety and capacity of the national airspace system, provide a framework for integrating new technology safely into our airspace, provide a stable funding system, and advance the implementation of the Next Generation Air Transportation System.

FAR Part 139 *Airport Certification* - Federal Regulation outlining airport certification standards.

FAR Part 150 *Airport Noise Compatibility Planning Program* - Federal Regulation outlining airport noise compatibility planning.

FAR Part 71, *Designation of Class A, Class B, Class C, Class D, and Class E Airspace Areas; Airways; Routes; and Reporting Points* - Federal Regulation outlining designation of airspace, airways, routes, and reporting points.

FAR Part 91, *General Operating and Flight Rules* - Federal Regulation outlining general operating and flight rules.

Farmland Protection Policy Act - Act intended to minimize the extent to which federal activities contribute to the unnecessary and irreversible conversion of agricultural land to nonagricultural uses, and also seeks to ensure that federal policies are administered in a manner that will be compatible with state, local, and private policies that protect farmland.

Federal Aviation Administration (FAA) - An agency of the United States Department of Transportation which has authority to regulate and oversee all aspects of American civil aviation.

Federal Aviation Regulations (FAR) - The general and permanent rules established by the executive departments and agencies of the federal government for aviation, which are published in the Federal Register. These are the aviation subset of the Code of Federal Regulations (14 CFR).

Federal Emergency management Agency (FEMA) – A federal agency responsible for coordinating emergency planning, preparedness, risk reduction, response, and recovery.

Federal Highway Administration (FHWA) - A division of the United States Department of Transportation that specializes in highway transportation.

Fee simple ownership - The greatest possible estate in land, wherein the owner has the right to use it and exclusively possess it.

FEMA National Flood Insurance Rate Map - A visual representation of flood hazard information.

Field elevation - The highest point of an airport's usable runways measured in height above mean sea level.

Fillet - A round joint between two parts connected at an angle; usually used when designing taxiways.

Fixed base operator (FBO) - Business located on an airport that provides essential services for servicing aircraft and pilots.

Fixed-wing aircraft - An aircraft in which its wings are attached to the fuselage and are not intended to move independently in a fashion that results in the creation of lift.

Fleet mix - The number and types of aircraft operating at an airport during all hours of the day and night.

Flight level (FL) - The nominal altitude, or pressure altitude, in feet, divided by 100; designated in writing as FLxxx, where xxx is a one- to three-digit number indicating the pressure altitude in units of 100 feet, e.g. FL180.

Flight Service Station (FSS) - An operations facility in the national flight advisory system which utilizes data interchange facilities for the collection and dissemination of Notices to Airmen, weather, and administrative data and which provides pre-flight and in-flight advisory services to pilots through air and ground based communication facilities.

Floodplain - An area of land adjacent to a stream or river that stretches from the banks of its channel to the base of the enclosing valley walls and experiences flooding during periods of high water discharge.

Frangible - Retains its structural integrity and stiffness up to a designated maximum load, but on impact from a greater load, breaks, distorts, or yields in such a manner as to present the minimum hazard to aircraft.

General aviation (GA) - All civil aviation operations other than scheduled air services and non-scheduled air transport operations for remuneration or hire.

General aviation airport - Either a publicly or privately owned airport that does not serve certificated air carriers who enplane more than 2,500 passengers annually; the largest single group of airports in the U.S. system.

General aviation regional airport - Airports that support regional economies by connecting communities to statewide and interstate markets.

General obligation bonds (GO) - A common type of municipal bond in the United States that is secured by a state or local government's pledge to use legally available resources, including tax revenues, to repay bond holders.

Global Positioning System (GPS) - A space based navigation system which has the capability to provide highly accurate three-dimensional position, velocity, and time to an infinite number of equipped users anywhere on or near the Earth.

Hangar lease - Hangars that are leased to aircraft operators or owners for use over an agreed amount of time.

Hazardous materials - Waste that is dangerous or potentially harmful to our health or the environment. Hazardous waste can be liquid, solid, gas, or sludge.

Helicopter - A type of aircraft in which lift and thrust are supplied by rotors.

Horizontal surface - An imaginary obstruction- limiting surface defined in 14 CFR Part 77 that is specified as a portion of a horizontal plane surrounding a runway located 150 feet above the established airport elevation. The specific horizontal dimensions of this surface are a function of the types of approaches existing or planned for the runway.

Imaginary surfaces - Surfaces established in relation to the end of each runway or designated takeoff and landing areas, as defined in paragraphs 77.25, 77.28, and 77.29 of 14 CFR Part 77, Safe, Efficient Use, and Preservation of the Navigable Airspace. Such surfaces include the approach, horizontal, conical, transitional, primary, and other surfaces.

Incompatible land use - Land surrounding airports which is deemed incompatible with the airport; examples include residential development, schools, community centers and libraries, hospitals, buildings used for religious services and tall structures, smoke and electrical signal generators, landfills and other bird/wildlife attractants.

Instrument approach procedure (IAP) - A series of predetermined maneuvers for the orderly transfer of an aircraft under instrument flight conditions from the beginning of the initial approach to a landing, or to a point from which a landing may be made visually.

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

Instrument Landing System (ILS) - A precision instrument approach system which normally consists of the following electronic components and visual aids: e.g. a localizer, glide slope, outer marker, middle marker, and approach lights.

Inter-government agreement (IGA) - Any agreement that involves or is made between two or more governments to cooperate in some specific way.

International Civil Aviation Organization (ICAO) - A specialized United Nations organization that develops and suggests air transportation safety standards and practices.

Interstate 10 (I-10) - The southernmost transcontinental highway in the American Interstate Highway System. It stretches from the Pacific Ocean at State Route 1 (SR 1) (Pacific Coast Highway) in Santa Monica, California to I-95 in Jacksonville, Florida.

Itinerant aircraft operations - Operations by aircraft that are not based at a specified airport.

Jet A - A type of aviation fuel designed for use in aircraft powered by gas-turbine engines. The most commonly used fuels for commercial aviation are Jet A and Jet A-1, which are produced to a standardized international specification.

Joint-use facility - An airport which is utilized for both civil and military aviation purposes.

Knots - A unit of speed that equals one nautical mile per hour. This is the most common unit of measure for the airspeed of an aircraft, and is equal to 6,080 feet or about 1.15 miles.

Land lease - A lease agreement that permits the tenant to use a piece of land owned by the landlord in exchange for rent.

Landing Distance Available (LDA) - The length of the runway declared available for landing.

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

Large aircraft (FAA) - An airplane of more than 12,500 pounds (5,670 kg) maximum certificated takeoff weight.

Larger than utility runway - A runway that is constructed for, and intended to be used by, any aircraft of greater than 12,500 pounds maximum gross weight.

Light emissions - The byproduct of artificial light sources; the amount of light released into the surrounding environment.

Light emitting diode (LED) - A semiconductor device that emits visible light when an electric current passes through it.

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

Localizer/Lateral Performance with Vertical Guidance (LPV) - A navigational aid that provides both lateral and vertical guidance to aircraft typically used during instrument approach procedures.

Main gear width (MGW) - The distance measured between the tires of the main landing gear on an aircraft.

Maximum takeoff weight (MTOW) - The maximum weight at which the pilot is allowed to attempt to take off, due to structural or other limits.

Mean seal level (MSL) - The sea level halfway between the mean levels of high and low water.

Medium Intensity Runway Lights (MIRL) - Navigational lighting aids for use on VFR runways or runways with a non-precision instrument flight rule (IFR) procedure for either circling or straight-in approach to help pilots identify the edge of the runway at night or in inclement weather.

Medium Intensity Taxiway Lights (MITL) - Navigational lighting aids for use on taxiways to help pilots identify the edge of the taxiway at night or in inclement weather.

Meteorological Terminal Aviation Routine Weather Report (METAR) - A format for reporting weather information that is predominantly used by pilots in pre-flight weather briefings.

Military Operations Area (MOA) - Airspace established outside Class A airspace to separate or segregate certain nonhazardous military activities from IFR Traffic and to identify for VFR traffic where these activities are conducted.

Military Training Route (MTR) - Aerial corridors across the United States which military aircraft can operate at low levels and high speeds.

National Airspace System (NAS) - The airspace, navigation facilities and airports of the United States along with their associated information, services, rules, regulations, policies, procedures, personnel and equipment.

National Ambient Air Quality Standards (NAAQS) - Standards set by the EPA for pollutants considered harmful to public health and the environment.

National Historic Preservation Act (NHPA) of 1966 - An Act that established a program for the preservation of additional historic properties throughout the Nation, and for other purposes.

National Marine Fisheries Service (NMFS) - An agency within the National Oceanic and Atmospheric Administration responsible for management, conservation, and protection of the nation's marine resources.

National Oceanic and Atmospheric Administration (NOAA) - An agency within the United States Department of Commerce focused on the conditions of the oceans and the atmosphere.

National Plan of Integrated Airport Systems (NPIAS) - A system that identifies nearly 3,400 existing and proposed airports that are significant to national air transportation and thus eligible to receive Federal grants under the Airport Improvement Program.

National Pollution Discharge Elimination System (NPDES) - A system that controls water pollution by regulating point sources that discharge pollutants into waters of the United States.

National Register of Historic Places (NRHP) - The official list of the Nation's historic places worthy of preservation, Authorized by the National Historic Preservation Act of 1966.

National Resources Conservation Services (NRCS) - The primary federal agency that works with private landowners to help them conserve, maintain and improve their natural resources.

Natural resources - Materials or substances such as minerals, forests, water, and fertile land that occur in nature and can be used for economic gain.

Nautical miles (nm) - A unit of length used in navigation which is equivalent to the distance spanned by one minute of arc in latitude; that is 1,852 meters or 6,076 feet. It is equivalent to approximately 1.15 statute miles.

Navigational Aids (NAVAIDS) - Electronic and Visual air navigation aids, lights, signs, and associated supporting equipment.

Next Generation Air Transportation System (NextGen) - A new National Airspace System due for implementation across the United States in stages between 2012 and 2025. NextGen proposes to transform America's air traffic control system from a ground-based system to a satellite-based system.

No-action alternative - Reflects the conditions expected should no actions be conducted.

Noise Compatibility Program (NCP) - That program reflected in documents (and revised documents) developed in accordance with Appendix B of Part 150, including the measures proposed or taken by the airport operator to reduce existing incompatible land uses and to prevent the introduction of additional incompatible land uses within the area.

Noise contour - Lines drawn about a noise source (such as an airport) indicating constant energy levels of noise exposure.

Non-aeronautical revenue - Revenue that is generated on airport property but is not from use of aeronautical activities.

Non-aeronautical use - Any activity or land use at an airport that is not directly related to aviation in some way or form.

Nonattainment area - An area considered to have air quality worse than the National Ambient Air Quality Standards as defined in the *Clean Air Act Amendments of* 1970.

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

Non-precision instrument approach - A standard instrument approach procedure in which no electronic glide slope is provided.

Non-precision instrument runway - A runway having an existing instrument approach procedure utilizing air navigation facilities with only lateral guidance.

Non-primary commercial service airport - Commercial Service Airports that have at least 2,500 and no more than 10,000 passenger boardings each year.

Notice to Airmen (NOTAM) - A notice containing information (not known sufficiently in advance to publicize by other means) concerning the establishment, condition or change in any component (facility, service, or procedure) of or hazard in the National Airspace System; the timely knowledge of which is essential to personnel concerned with flight operations.

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

Obstacle Free Zone (OFZ) - The airspace 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.

Obstruction (aeronautical) - An object which penetrates an imaginary surface described in the FAA's 14 CFR Part 77.

Operations per based aircraft (OPBA) - A term used in aviation forecasting to determine the total amount of aircraft operations per the number of aircraft based on the airport.

Parallel taxiway - A taxiway that is parallel to a runway that is the same length as the runway it is parallel to.

Partial parallel taxiway - A taxiway that is parallel to a runway that is only partially the same length as the runway it is parallel to.

Particulate matter (PM) - The sum of all solid and liquid particles suspended in air many of which are hazardous.

Pavement condition index (PCI) - A numerical index between 0 and 100 which is used to indicate the general condition of a pavement.

Peak month - The calendar month when peak enplanements or operations occur.

Piston aircraft - An aircraft powered by one or more piston engines (regardless of fuel type).

Planning Advisory Committee (PAC) - An advisory committee that provides general and strategic advice for planning purposes.

Precision Approach Path Indicator (PAPI) - An approach system that assists in providing visual glide slope guidance.

Precision Approach Path Indicator (PAPI-2) - A precision approach path indicator that utilizes a two lighted system to provide visual glide slope guidance.

Precision Approach Path Indicator (PAPI-4) - A precision approach path indicator that utilizes a four lighted system to provide visual glide slope guidance.

Precision instrument approach - An instrument approach that provides both lateral and vertical guidance.

Previously disturbed land - Land that has previously been disturbed by humans to the extent that there is a material difference in the physical, chemical or biological characteristics of the land.

Primary commercial service airport - Publicly owned airports that have more than 10,000 passenger boardings each year and receive scheduled passenger service.

Primary runway - A runway which provides the best wind coverage and receives the most usage at the airport.

Primary surface - An imaginary surface as defined in 14 CFR Part 77 that is centered on top of the runway and extends 200 feet beyond each end. The width varies from 250' to 1,000' wide depending upon the design aircraft for the runway.

Public use airport - An airport that is open to the general public with or without a prior request to use the airport.

Radar - A system that uses electromagnetic waves to identify the range, altitude, direction, or speed of both moving and fixed objects such as aircraft, weather formations, and terrain. The term RADAR was coined in 1941 as an acronym for Radio Detection and Ranging.

Regional Integrated Airport System Planning (RIASP) - Identifies airport needs for a large regional or metropolitan area.

Reliever airport - Airports designated by the FAA to relieve congestion at commercial service airports and to provide improved general aviation access to the overall community; these may be publicly or privately-owned.

Resource Conservation and Recovery Act (RCRA) - The principal federal law in the United States governing the disposal of solid waste and hazardous waste enacted in 1976.

Retro-reflective - Of or relating to a surface, material, or device (retro-reflector) that reflects light or other radiation back to its source; reflective.

Rotating beacon - A lighting system used to assist pilots in finding an airport, particularly those flying in IMC or VFR at night. Additionally, the rotating beacon provides information about the type of airport through the use of a particular set of color filters; beacons for civil land airports emit a white and green light that appears as a flash.

Rotorcraft - An aircraft whose lift is derived principally from rotating airfoils.

Runway - A defined area intended to accommodate aircraft takeoff and landing; may be paved (asphalt or concrete) or unpaved (gravel, turf, dirt, etc.), depending on use.

Runway centerline - A line of uniformly spaced strips and gaps identifying the center of the runway which provides alignment guidance during aircraft takeoff and landing.

Runway Design Code (RDC) - A designation used by the FAA to describe certain design standards which apply to a runway; the RDC is composed of the Airplane Design Group (ADG), Aircraft Approach Category (AAC), and the visibility minimums (RVR) for a specific runway.

Runway Edge Light - Lights having a prescribed angle of emission used to define the lateral limits of a runway.

Runway end identifier lights (REIL) - Two synchronized flashing lights, one on each side of the runway threshold, which provide a pilot with a rapid and positive visual identification of the approach end of a particular runway.

Runway incursion - Any occurrence at an airport involving the incorrect presence of an aircraft, vehicle, or person on the protected area of a surface designated for the landing and takeoff of aircraft.

Runway Object Free Area (ROFA) - A defined area surrounding a runway that should be free of any obstructions that could in interfere with aircraft operations. The dimensions for the OFA increase for runways accommodating larger or faster aircraft.

Runway orientation - The physical layout of a runway ideally orientated in the direction of the prevailing winds in order to minimize the crosswind components.

Runway Protection Zone (RPZ) - A trapezoidal area starting 200 feet beyond the runway end and centered on the extended runway centerline. Airport control (ownership or easement) over land within the RPZ is emphasized to protect people and property on the ground.

Runway safety are (RSA) - A defined surface surrounding the runway that shall be free of objects and capable, under dry conditions, of supporting snow removal equipment, aircraft rescue and firefighting equipment, and the occasional passage of aircraft without causing structural damage to the aircraft.

Runway threshold - The beginning of usable runway for landing.

Runway threshold lights - Lighting used to define the beginning of the runway pavement suitable for aircraft operations.

Runway visual range (RVR) - An instrumentally derived value, in feet, representing the horizontal distance a pilot can see down the runway from the runway end.

Seasonal use trend - A term used in aviation forecasting to describe the times of year in which an airport is utilized the most.

Sectional chart - A type of aeronautical chart designed for navigation under visual flight rules; it shows topographical features that are important to aviators, such as terrain elevations, ground features identifiable from altitude (rivers, dams, bridges, buildings, etc.), and ground features useful to pilots (airports, beacons, landmarks, etc.). The chart also shows information on airspace classes, ground-based navigation aids, radio frequencies, longitude and latitude, navigation waypoints, and navigation routes.

Segmented circle - A system of visual indicators designed to show a pilot in the air the direction of the traffic pattern at that airport.

Self-service fueling - Fueling conducted at an airport directly by an aircraft owner/operator.

Single-wheel landing gear - An aircraft landing gear system composed of a single wheel at each location on the landing strut.

Small aircraft (FAA) - An aircraft with a certified maximum takeoff weight of less than 12, 500 pounds.

Solid waste - Solid or semisolid, non-soluble material (including gases and liquids in containers) such as agricultural refuse, demolition waste, industrial waste, mining residues, municipal garbage, and sewage sludge.

Special Conservation Area airspace - Airspace which surrounds many national parks, wildlife refuges, etc.; pilots are requested to avoid flight below 2,000 feet AGL in these areas.

Spill Prevention, Control and Countermeasure (SPCC) - Specific steps for preventing, controlling, and mitigating oil spills. SPCC plans are required for facilities that store oil and oil-containing products exceeding certain capacity thresholds where there is a possibility that an oil spill would reach a navigable water way.

State Apportionment - State level funding for airports.

State Historic Preservation Office (SHPO) - A state governmental function created by the United States federal government in 1966 under Section 101 of the National Historic Preservation Act (NHPA).

Statewide Integrated Airport System Planning (SIASP) - Identifies the general location and characteristics of new airports and the general expansion needs of existing facilities to meet statewide air transportation goals. This planning is performed by state transportation or aviation planning agencies.

Statute mile - A unit of linear measure equal to 5,280 feet or 1,760 yards.

Storm Water pollution prevention plan (SWPPP) - A plan that details procedures to be followed during various phases of construction for sediment and erosion control that is required by a federal regulation of the United States governing storm water runoff from active construction sites that are more than one acre in area.

Tactical Air Navigation (TACAN) - An ultrahigh frequency electronic air navigation system which provides suitably-equipped aircraft a continuous indication of bearing and distance to the TACAN station.

Takeoff Distance Available (TODA) - The TORA plus the length of any remaining runway or clearway beyond the far end of the TORA.

Takeoff Run Available (TORA) - The runway length declared available and suitable for the ground run of an aircraft taking off.

Taxilane - The portion of the aircraft parking area used for access between taxiways, aircraft parking positions, hangars, storage facilities, etc.

Taxiway Design Group (TDG) - A classification of airplanes based on outer to outer main gear width (MGW) and cockpit to main gear (CMG) distance.

Taxiway Edge Light - Lights that define the edge of the taxiway.

Taxiway Edge Safety Margin (TESM) - The minimum acceptable distance between the outside of the airplane's main gear wheels and the pavement edge.

Taxiway Object Free Area (TOFA) - An area on the ground centered on a taxiway centerline provided to enhance the safety of aircraft operations by having the area free of objects, except for objects that need to be located in the TOFA for air navigation or aircraft ground maneuvering purposes.

Taxiway Safety Area (TSA) - A defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an aircraft deviating from the taxiway.

Technical Advisory Committee (TAC) - A committee composed of representatives from industry and government representing diverse points of view on the concerns of the community.

Terminal Area Forecast (TAF) - The official forecast of aviation activity at FAA facilities. These forecasts are prepared to meet the budget and planning needs of the FAA and provide information for use by state and local authorities, the aviation industry, and the public.

Terminal building - A facility on the airport where passengers transfer between ground transportation and the facilities that allow them to board and disembark from aircraft. Within the terminal, passengers purchase tickets, transfer their luggage, and go through security.

T-hangar - A rectangular aircraft storage hangar with several interlocking "T" units that minimizes the need to build individual units; they are usually two-sided with either bi-fold or sliding doors.

Threshold of Significance (TOS) - The noise level at which aircraft creates a significant impact on noise sensitive uses and persons exposed to it or higher levels. The FAA has selected 65 db of DNL to be the default threshold of significance for aircraft noise.

Threshold Siting Surface (TSS) - An imaginary surface to ensure compatibility between nearby objects and the runway's threshold, which is defined as the first part of pavement available and suitable for landing.

Tie-down - A place where an aircraft is parked and "tied down." Surface can be grass, gravel or paved.

Tie-down fee - A fee that an airport may charge in order to utilize a specified tie-down parking spot on the airfield.

Title 14 Code of Federal Regulations Part 77 Safe, Efficient Use, and Preservation of the Navigable Airspace (14 CFR Part 77) - A federal regulation that ensures safe, efficient use, and preservation of the navigable airspace.

Touch-and-go - An aircraft operation involving a landing followed by a takeoff without the aircraft coming to a full stop or exiting the runway.

Traffic pattern altitude (TPA) - The designated altitude which aircraft must comply with while in the traffic pattern at an airport, usually during landing.

Transient aircraft - Any aircraft which utilizes the airport for occasional temporary purposes, generally no longer than seven days, and which is based at another airport and is not assigned a reserved tie-down or hangar at the airport.

Transitional surface - One of the 14 CFR Part 77 imaginary surfaces; it extends outward and upward at right angles to the runway centerline and the extended runway centerline at a slope of 7:1 from the sides of the primary surface and from the sides of the approach surfaces.

Transportation Security Administration (TSA) - An agency of the U.S. Department of Homeland Security that has authority over security of the traveling public in the United States.

Turbojet aircraft - An aircraft having a jet engine in which the energy of the jet operates a turbine which in turn operates the air compressor.

Turboprop aircraft - An aircraft having a jet engine in which the energy of the jet operates a turbine which drives the propeller.

U.S. Census Bureau - A principal agency of the U.S. Federal Statistical System responsible for producing data about the American people and economy.

U.S. Department of Agriculture - Natural Conservation Resource Service (USDA - NCRS) - The primary federal agency that works with private landowners to help them conserve, maintain and improve their natural resources.

U.S. Department of the Interior (DOI) - A federal executive department of the U.S. government responsible for the management and conservation of most federal land and natural resources, and the administration of programs relating to American Indians, Alaska Natives, Native Hawaiians, territorial affairs, and insular areas of the United States.

U.S. Department of Transportation (USDOT) - A federal Cabinet department of the U.S. government concerned with transportation. It was established by an act of Congress on October 15, 1966, and began operation on April 1, 1967. It is governed by the United States Secretary of Transportation.

U.S. Fish and Wildlife Service (USFWS) - A federal government agency within the U.S. Department of the Interior dedicated to the management of fish, wildlife, and natural habitats.

Uncontrolled airspace - Airspace within which aircraft are not subject to air traffic control.

United States (U.S.) - A federal republic consisting of 50 states and a federal district.

Unmanned aerial system (UAS) - The unmanned aircraft (UA) and all of the associated support equipment, control station, data links, telemetry, communications and navigation equipment, etc., necessary to operate the unmanned aircraft.

Useful load - The weight of the pilot, copilot, passengers, baggage, usable fuel, and drainable oil. It is the basic empty weight subtracted from the maximum allowable gross weight. This term applies to general aviation aircraft only.

Utility runway - A runway that is constructed for, and intended to be used by, propeller driven aircraft of 12,500 pounds maximum gross weight and less.

Very high frequency (VHF) - A band of radio frequencies falling between 30 and 300 MHz.

VHF Omnidirectional Range/Distance Measuring Equipment (VOR/DME) - A ground-based electronic navigation aid transmitting very high frequency navigation signals, 360 degrees in azimuth, oriented from magnetic north; it is used as the basis for navigation in the national airspace system.

VHF Omnidirectional Range/Tactical Area Navigation (VORTAC) - The standard navigational aid used throughout the airway system to provide bearing information to aircraft. When combined with Tactical Air Navigation (TACAN), the facility, called VORTAC, provides distance as well as bearing information.

Victor Airways - Straight-line, low altitude airway segments between either two VOR stations, or a VOR and a VOR intersection.

Visual Flight Rules (VFR) - Rules that govern the procedures for conducting flight under visual conditions; a set of regulations under which a pilot operates an aircraft in weather conditions generally clear enough to allow the pilot to see where the aircraft is going.

Visual runway - A runway intended solely for the operation of aircraft using visual approach procedures, with no straight-in instrument approach procedure and no instrument designation indicated on an FAA-approved airport layout plan.

Volatile Organic Compounds (VOC) - Organic compounds that easily become vapors or gases.

Water quality - Refers to the chemical, physical, biological, and radiological characteristics of water.

Wetland(s) - Lands where saturation with water is the dominant factor determining the nature of soil development and the types of plant and animal communities living in the soil and on its surface. Executive Order 11990, Protection of Wetlands, sets the standard for a Federal agency action involving any wetland.

Wide Area Augmentation System (WAAS) - A differential global positioning system (DGPS) that improves the accuracy of the system by determining position error from the GPS satellites, then transmitting the error, or corrective factors, to the airborne GPS receiver.

Wild and scenic river - Rivers having remarkable scenic, recreational, geologic, fish, wildlife, historic, or cultural values. Federal land management agencies in the Departments of the Interior and Agriculture manage the Wild and Scenic Rivers Act (Act).

Wildlife Hazard Assessment (WHA) - An ecological study that examines the potential for wildlife strikes at an airport.

Wind cone - A conical textile tube designed to indicate wind direction and relative wind speed. Wind direction is the opposite of the direction in which the wind cone is pointing.

Wingspan - The maximum horizontal distance from one wingtip to the other wingtip, including the horizontal component of any extensions such as winglets or raked wingtips.