AIRPORT MASTER PLAN

DRAFT REPORT

TAOS REGIONAL AIRPORT

TAOS, NEW MEXICO | December 2021

ARMSTRONG

Draft

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Chapter One

Airport Master Plan Overview

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Chapter 1 –Airport Master Plan Overview

1.1 Introduction

Taos Regional Airport (three letter identifier SKX) is a public use airport located in northern New Mexico, approximately eight miles northwest of the Town of Taos, in Taos County. The airport encompasses approximately 859 acres and is owned and operated by the Town of Taos.

The last master plan for the Airport was completed in the late 1980's, prior to an extended Environmental Impact Study (EIS) for the construction of a new crosswind runway. The current Airport Layout Plan (ALP) for Taos Regional Airport was completed in 2018 and depicts as-built conditions only. The Town of Taos is conducting this airport master plan study to study and develop 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 Local, State and Federal officials to plan, prioritize and fund the operation, maintenance and development for the airport.

Airport Master Plans are prepared by the operators of individual airports and are usually completed with the assistance of consultants. The Town of Taos completing this master plan with the assistance of Armstrong Consultants, Inc.

1.2 Purpose

The purpose and goal of an airport master plan (AMP) 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 airport's 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 intended 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 Taos Regional Airport Master Plan include, but are not limited to:

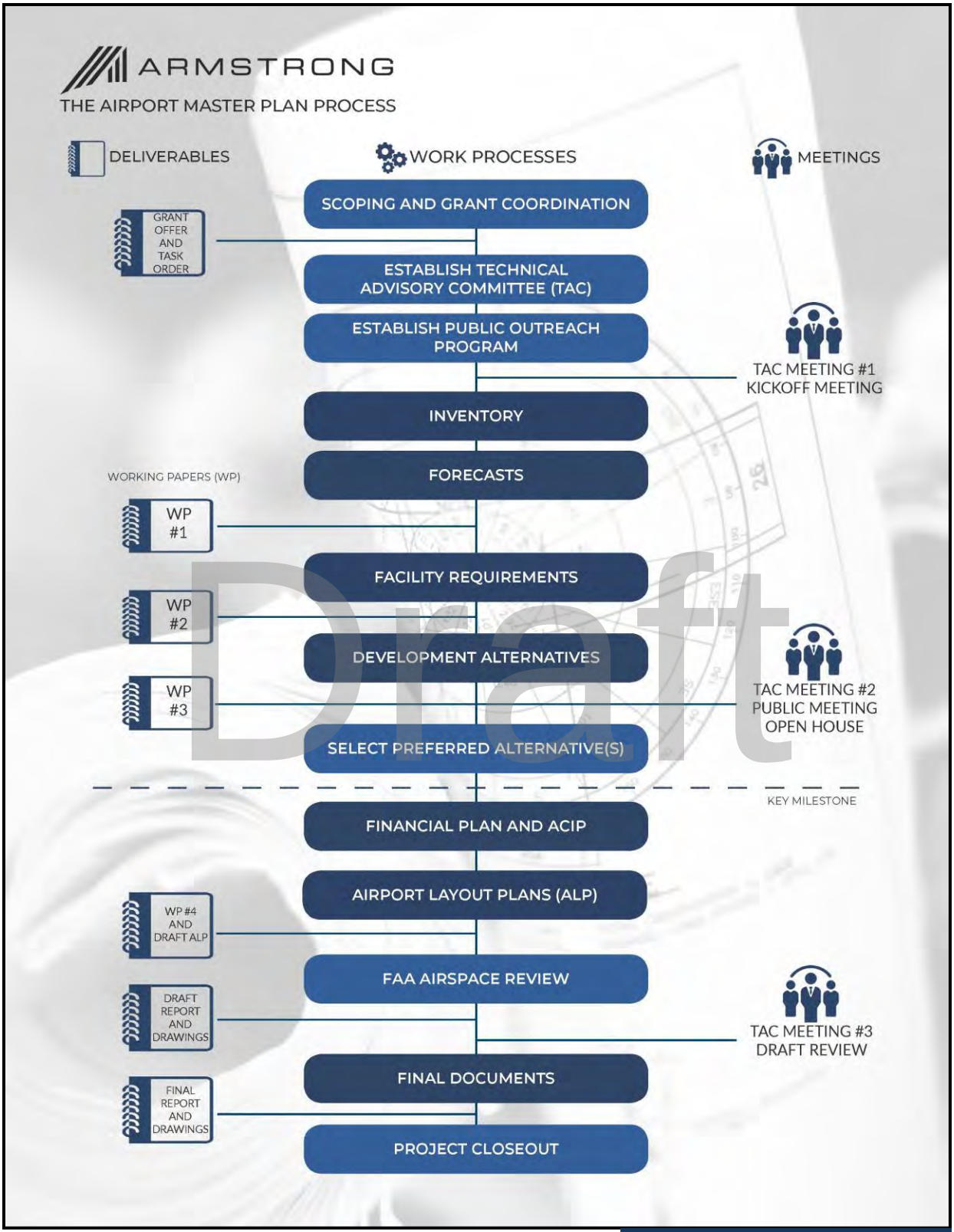
- Clearly identify the present and future roles of the Airport;
- Depict design standards for the determined Airport Reference Code (ARC);
- Provide the basis for future federal, state, local government and private investment in the airport;
- Develop realistic, phased development and maintenance plans for the airport in the short, medium and long-term;
- Evaluate the potential needs of the airport to accommodate increased commercial air service
- Provide an Airport Layout Plan (ALP) in accordance with the current FAA ALP checklist and Standard Operating Procedures (SOPs);
- Identify 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 larger airport planning efforts that takes place at national, state, and local levels. 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 New Mexico, this state airport planning is performed by the New Mexico Department of Transportation, Division of Aeronautics (NMDOT). Using Federal and local input, state system plans are coordinated with other transportation planning and comprehensive land use planning.

The Taos Regional Airport Master Plan Technical Advisory Committee (TAC) consists of members representing varied interests in the airport. Their involvement and input throughout the master planning process will help to keep interested parties informed and will foster consensus for future development actions.



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

Taos Regional Airport is a public use airport located in northern New Mexico, approximately eight miles northwest of the Town of Taos, New Mexico. The Airport is located approximately 77 miles south of Santa Fe, New Mexico, the state capital. The Airport is owned and operated by the Town of Taos. Section 2.2, *Airport Grant History*, provides additional details on historical improvement projects at the Airport. The Airport serves the general aviation community and recreational/ business travelers throughout Northern New Mexico and parts of Colorado. Taos Air also operates at the Airport, and offers seasonal charter service to Texas and California via a fleet of commuter jets. The Airport has an International Civil Aviation Organization (ICAO) three letter identifier of SKX and an International Air Transportation Association (IATA) three letter identifier of TSM.

Locally, Taos Regional Airport acts as a general aviation airport serving primarily the community of northern New Mexico. However, with the Airport's proximity to several cultural and recreational sites throughout the area, known as the Enchanted Circle, it also acts as a transportation hub for visitors from all over. Popular tourist stops include the Taos Ski Valley, the historical Town of Taos Plaza, as well as several wilderness and cultural areas within the surrounding vicinity, including Taos Blue Lake, Latir Peak Wilderness Area, Wheeler Peak Wilderness Area, and the Taos Pueblo World Heritage Site.

Environmental Impact Study

In considering the history and development taken place at SKX in past years, it is notable to acknowledge the Environmental Impact Study (EIS) conducted for the Airport, which took place over the course of more than a decade. In 1992, the FAA began preparing for the EIS, with the goal being to identify the potential environmental effects associated with the construction and operation of proposed improvements at the Airport. This included enhancements to correct existing operational deficiencies, but primarily consisted of the construction of a new C-II runway to provide adequate wind coverage and sufficient runway length to accommodate the majority of aircraft utilizing the Airport. The goal of the EIS was to create a document that provided guidance to the Town of Taos to develop an airport facility which offered enhanced safety and utility for all users, while mitigating substantial adverse impacts to environmental and historical sites on Airport property and within the surrounding community.

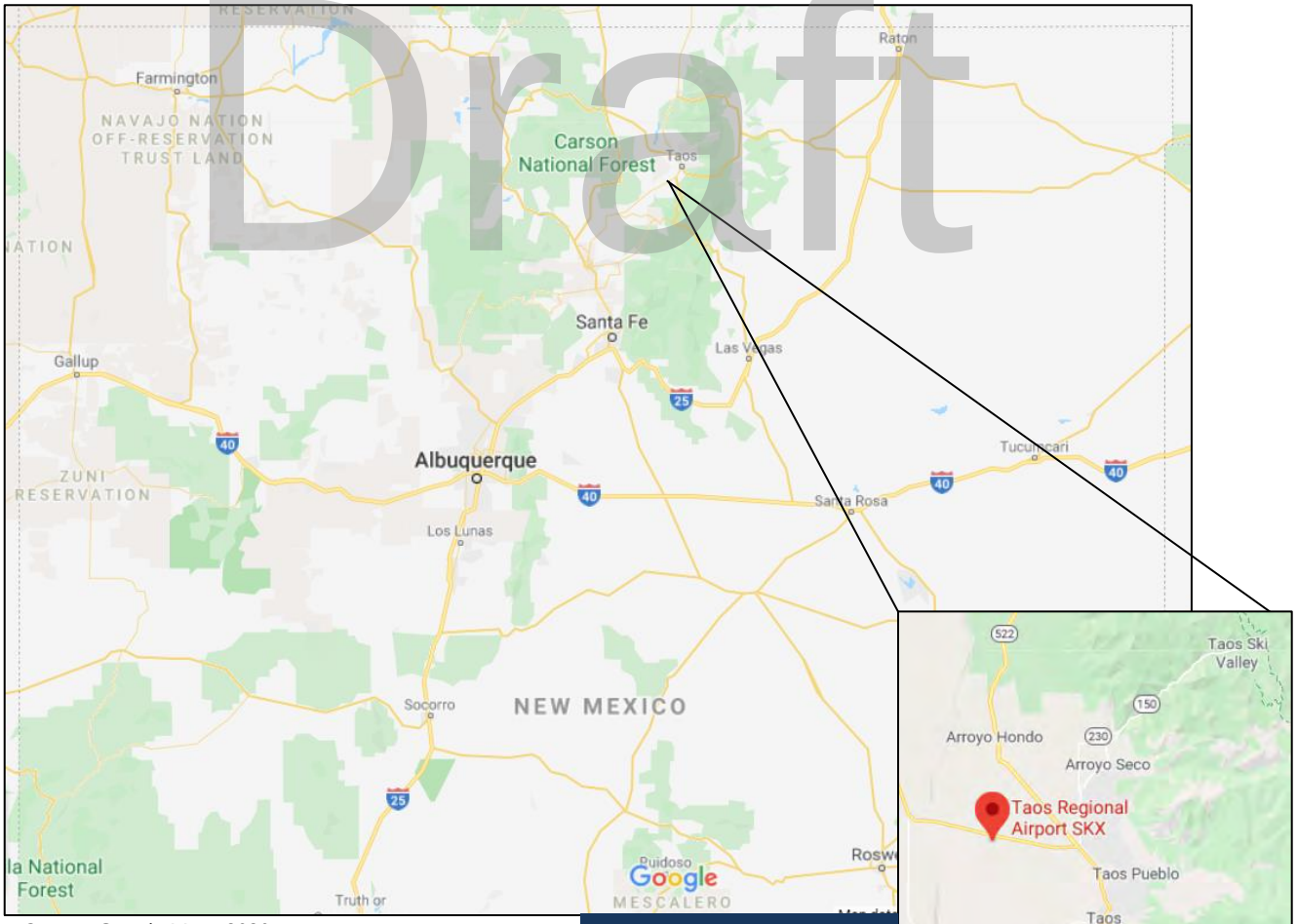
The EIS was a collaborative effort through many entities, which namely included the FAA and their selected consultant, Greiner, the Town of Taos, Taos Pueblo, and the Environmental Protection Agency (EPA). In 1993 the Preliminary Draft EIS (PDEIS) was completed and reviewed. Initial evaluation of the document indicated further studies needed to take place, which primarily included detailed ethnographic studies of the Taos Pueblo World Heritage Site. In 1998, the FAA re-initiated the EIS process which had been suspended following the preparation and review of the PDEIS. This stage of the project was designated as Phase 2. By 2006, Phase 2 cumulated in the official Draft EIS (DEIS), that was made available for review and comment by Federal, State and local offices. In the years following the release of the DEIS, meetings were held amongst the consulting parties until the

FAA issued the Preliminary Final EIS (PFEIS) in 2009. Notice of availability of the Final EIS (FEIS) was posted in the Federal Register by the EPA on June 29, 2012.

Following the availability of the FEIS, the FAA issued a Record of Decision (ROD), which documents the agencies final decision regarding approval of the proposal. The ROD discusses the alternatives considered for the project, the basis for selecting the Preferred Alternative, a summary of impacts, and mitigation measures for the Preferred Alternative. In the ROD, the FAA concludes that the EIS was prepared in a process which gave fair consideration to the interests of communities in or near the project location and was in compliance with the National Environmental Policy Act (NEPA) of 1996. The proposed action, construction of the C-II Runway, was identified as being reasonably supported, and selected as the "environmentally preferred alternative".

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 Taos Regional Airport is located at N 36°27'6.1" latitude, W 105°40'23.1" longitude. The Airport encompasses approximately 859 acres of land at an elevation of 7,094.6 feet. The location of the Taos Regional Airport is depicted in **Figure 2-1.**



Source: Google Maps 2020

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 portion 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 Taos Regional Airport under the current Federal airport grant program, AIP.

Taos Regional Airport has experienced relatively slow development through the duration of the lengthy EIS. All significant developmental projects at the Airport were delayed. The development grants the Airport received since the beginning of the EIS were primarily related to safety and maintenance.

Table 2-2 contains a list of projects that were funded with New Mexico Department of Transportation-Division of Aeronautics (NMDOT) State grant funds issued to Taos Regional Airport.

Table 2-1 FAA Grant History

Year	Project Description	FAA Funding
2009	Acquire Land for Approaches	$103,566
2009	Rehabilitate Taxiway	$141,511
2009	Conduct Environmental Study	$356,901
2011	Acquire Equipment	$52,060
2011	Rehabilitate Runway 4-22	$168,420
2012	Construct Snow Removal Equipment (SRE) Building	$28,384
2012	Conduct Environmental Study	$94,846
2012	Environmental Mitigation	$250,000
2012	Construct Runway	$894,846
2013	Construct SRE Building	$320,713
2013	Construct Runway	$752,452
2013	Environmental Mitigation	$778,600
2014	Construct Runway	$5,476,691
2015	Construct Runway	$16,162,353
2018	Reconstruct Taxiway	$89,252
2019	Reconstruct Taxiway	$239,686
Total		**$25,910,281**

Source: Federal Aviation Administration, 2020

Table 2-2 NMDOT Grant History

Year	Project Description	Sponsor Funds	State Funds	Total
2009	Establish Air Service	$100,000	$0.00	$100,000
2009	Acquire Snow Removal Equipment (SRE)	$8,010	$8,010	$16,020
2009	Pavement Preservation	$553	$553	$1,106
2010	Pavement Maintenance	$3,750	$3,750	$7,500
2010	Fog Seal and Remark RW 4/22	$17,085	$68,341	$85,426
2010	EIS Phase 3A	$9,392	$9,392	$18,784
2010	Stormwater Pollution Prevention Plan (SWPPP) Update	$20,83	$2,083	$2,083
2011	Airport Consumable Maintenance Items	$500	$4,497	$4,997
2011	Seal Coat and Remark RW 4/22	$4,472	$4,471	$8,943
2012	Replace Rotating Beacon	$2,325	$2,325	$4,650
2012	Maintenance Items	$499	$4,485	$4,984
2012	Design SRE Building	$1,577	$1,577	$3,154
2012	Complete EIS	$5,270	$5,270	$10,540
2013	General Maintenance	$1,000	$10,000	$11,000
2013	Design Crosswind Runway-Phase 1	$44,445	$49,713	$94,158
2013	Military Operations Area (MOA) Overflight Mitigation	$13,889	$13,889	$27,778
2013	Construct SRE Building	$3,000	$29,500	$32,500
2013	Purchase Tractor	$7,000	$63,000	$70,000
2014	Construct Crosswind Runway-Phase 2	$41,803	$41,803	$83,606
2014	MOA Overflight Mitigation	$43,256	$43,255	$86,511
2014	General Maintenance	$1,000	$10,000	$11,000
2014	Bid Crosswind Runway- Phase 3	$1,750	$1,750	$3,500
2014	Construct Crosswind Runway-Phase 3	$48,4362	$48,4361	$96,8723
2015	General Maintenance	$1,111	$10,000	$11,111
2016	Design and Bid Crosswind Runway-Phase 4	$5,159	$5,158	$10,317
2016	General Maintenance	$1,110	$9,992	$11,102
2016	Construct Crosswind Runway-Phase 4	$897,909	$897,909	$1,795,818
2016	EIS Administrative File Preparation	$1,073	$1,073	$2,146
2017	General Maintenance	$1,111	$9,999	$11,110
2018	General Maintenance	$1,111	$10,000	$11,111
2018	Design Taxiway	$4,959	$4,985	$9,944
2018	Acquire De-icing Equipment	$1,550	$139,500	$141,050
2019	Aircraft Monitoring System Maintenance	$1,000	$1,000	$2,000
2019	Airport Layout Plan Update	$3,284	$3,284	$6,568
2019	Airfield Maintenance	$1,111	$9,999	$11,110
2019	Aviation System Action Program (ASAP) Marketing	$200,000	$0.00	$200,000
2019	Aviation System Action Program	$200,000	$0.00	$200,000
	Total	**$2,115,426**	**$1,964,924**	**$4,080,350**

Source: New Mexico Department of Transportation, Aeronautics Division, 2020

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, Taos Regional Airport and the Town of Taos 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.

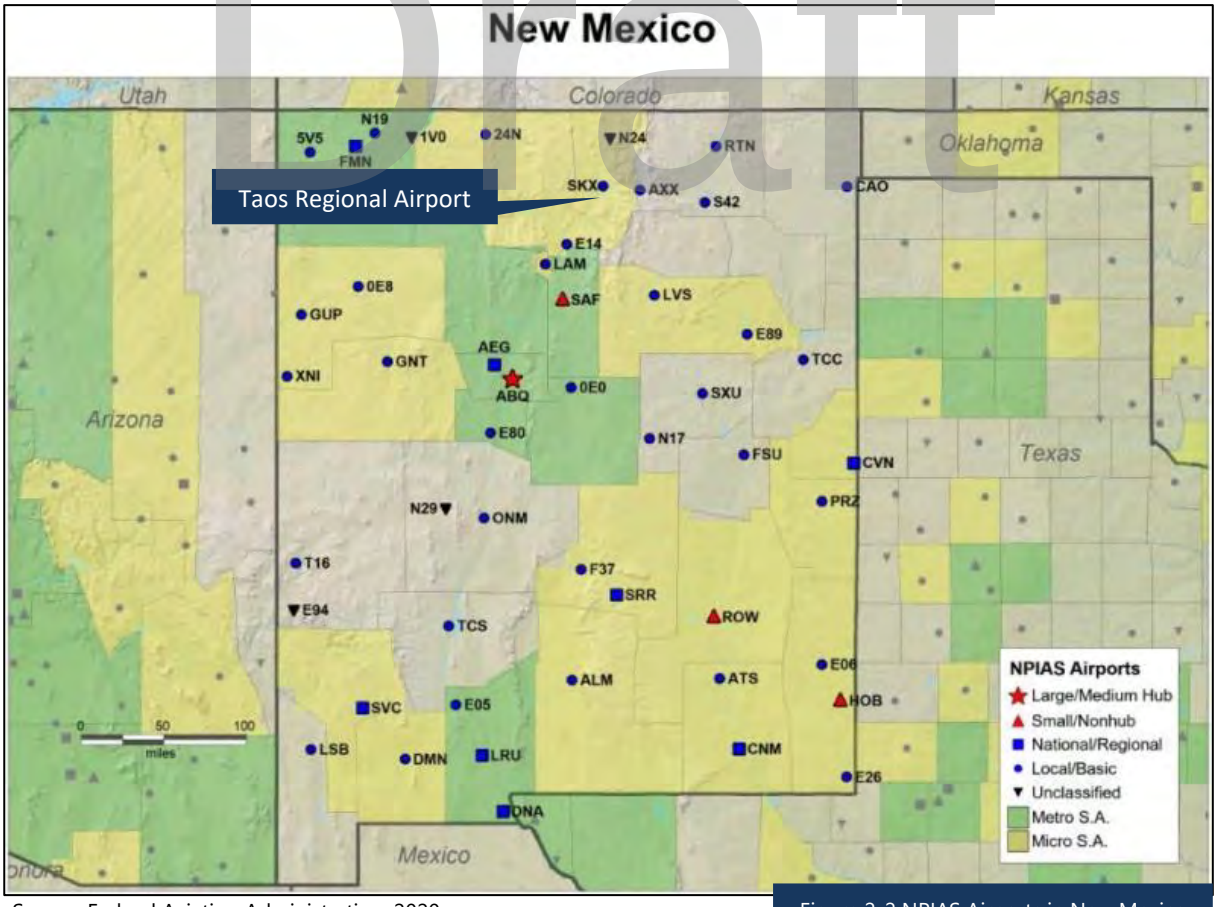
- **Regional –** Serves regional and national markets. High levels of activity with some jets and multiengine propeller aircraft. These airports average about 90 total based aircraft, including at least three jets.

- **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.

Taos Regional Airport is categorized in the NPIAS as General Aviation – Local airport. According to Airport Management records, the Airport had 38 based aircraft as of 2019. Aircraft utilizing the airport are predominately single-engine piston, multi-engine piston, turboprop, jet aircraft and rotorcraft. **Figure 2-2** depicts Taos Regional Airport's location in relation to other NPIAS airports in the State of New Mexico.



Source: Federal Aviation Administration, 2020

Figure 2-2 NPIAS Airports in New Mexico

At the State level, NMDOT 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 New Mexico Airport System Plan (NMASP). The purpose of the NMASP is to provide a framework for the integrated planning, operation, and development of New Mexico's aviation assets. The most current version of the NMASP was published in 2017. Taos Regional Airport is listed as a Community General Aviation airport; one of 19 in the state of New Mexico. According to the NMASP, a Community General Aviation airport is one which serves a supplemental contributing role for the local economy. These airports focus on providing aviation access for small business, recreational and personal flying activities throughout the state. Also considered in the NMASP is an Airport's Service Level Role as defined in the 2009-2013 General Aviation Regional Airport System Plan (RASP) developed by the FAA Southwest Region. The RASP divides airports into four levels in accordance with the number of based aircraft and assigns goals and performance metrics for each level. Level I airports are the most active and have 100 or more based aircraft whereas level IV airports are less active and have fewer than 10 based aircraft. According to the current RASP, Taos Regional Airport is classified as a level II airport.

- Level I- GA with 100+ Based Aircraft
- Level II- GA with 50-99 Based Aircraft
- Level III- GA with 10-49 Based Aircraft
- Level IV- GA with less than 10 Based Aircraft

Locally, Taos Regional Airport serves as a general aviation airport serving northern New Mexico. With the Airport's proximity to key tourist locations in the area, including the popular Taos Ski Valley, as well as the opening of the new runway in 2017, the Airport has experienced an increase in operations by private and corporate aircraft in recent years. This includes the introduction of Taos Air, a public charter airline. Furthermore, given the Airport's strategic location and proximity to multiple states, it also serves as a vital access point for fixed-wing and helicopter air ambulance operations. The following outlines the types of aircraft and operations that are present at the Airport in greater detail:

2.3.1 Scheduled Charter Service

Advanced Air, LLC operates Taos Air; a charter service which provides seasonal, scheduled air service to Texas and California, with routes to Dallas/Love Field (TX), Hawthorne/Los Angles (CA) and Carlsbad/San Diego (CA). Scheduled flights began in December 2018. Taos Air is currently served by a fleet of two Dornier 328 Jets. **Figure 2-3** shows one of the jets operated by Taos Air.

Source: Armstrong Consultants, Inc.

Figure 2-3 Taos Air Dornier 328

2.3.2 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 light-weight, 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. **Figure 2-4** depicts corporate jets on the Airports' aircraft apron. These aircraft can be operated as a commercial activity under Federal Aviation Regulations (FAR) Part 135 or as a private activity under FAR Part 91.

Source: Armstrong Consultants, Inc.

Figure 2-4 Corporate Jets

2.3.3 Air Ambulance Services and Local Health Care Support

TriState Care Flight provides essential 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 or Albuquerque (approximately 286 and 146 miles by road, respectively). The air ambulance services provide quick and efficient transportation in emergency situations when time is of the essence. TriCare bases a Eurocopter AS350 at the Airport. Fixed-wing aircraft, including the PC-12 and KingAir 200, also operate at the Airport for air ambulance services.

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 turbo-prop, turbo-jet, jet, or rotary. Military helicopters traveling from Fort Carson, Colorado to Fort Hood, Texas frequently use Taos as a refueling stop.

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 Taos Regional Airport indicates 30 based aircraft and 7,000 annual operations. The National Based Aircraft Inventory lists 26 validated based aircraft for Taos Regional Airport. Airport Management has reported that there are currently 38 based aircraft at the Airport and estimates the total annual operations at approximately 7,000.

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 2020-2040 TAF data reports 37 based aircraft at the airport and 7,334 annual operations in 2020, with a forecasted 40 based aircraft and 11,684 annual operations by 2040 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 Taos Regional Airport service area generally includes Taos County, located in central northern New Mexico, and extends up and outwards to further part of New Mexico and areas near the New Mexico/Colorado border.

The factors impacting the service area for Taos Regional Airport include:

- Scheduled air service to multiple hub airports;
- Available runway length and crosswind runway;
- Full service Fixed Based Operator (FBO) facility;
- Available instrument approach procedures;
- Proximity to recreational areas and the popular Taos Ski Valley; and
- Lack of existing available hangar space

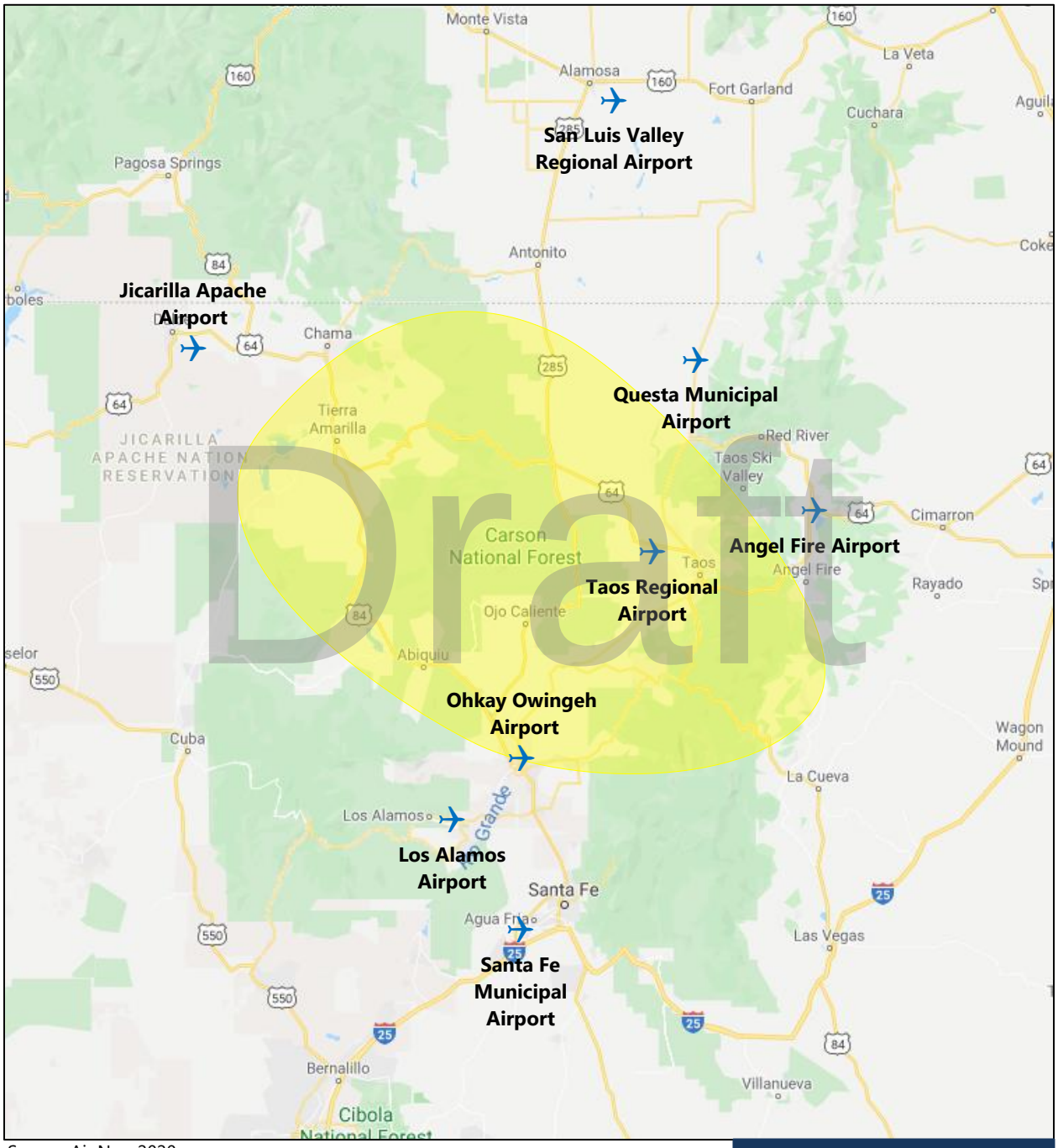
Table 2-3 provides information on some of the nearest airports to Taos Regional Airport.

Table 2-3 Airports Near Taos Regional Airport

Airport Name	Distance (NM)	NPIAS Status	Runway Dimensions	Pavement Type	Instrument Approaches	Fuel
Taos Regional Airport (SKX) Taos, New Mexico	0	GA	13/31: 8,600' x 100' 4/22: 5,504' x 75'	Asphalt	GPS VOR/DME	100 LL Jet-A
Angel Fire Airport (AXX) Angel Fire, NM	19	GA	17/35: 8,900' x 100'	Asphalt	GPS	100 LL Jet-A
Questa Municipal Airport (N24) Questa, New Mexico	21	GA	17/35: 6,861' x 75'	Asphalt	N/A	N/A
Ohkay Owingeh Airport (E14) Espanola, New Mexico	31	GA	16/34: 5,007' x 75'	Asphalt	N/A	100 LL Jet-A
Los Alamos Airport (LAM) Los Alamos, New Mexico	45	GA	9/27: 6,000' x 120'	Asphalt	GPS	100 LL
Santa Fe Municipal Airport (SAF) Santa Fe, New Mexico	54	P	2/20: 8,366' x 150' 15/33: 6,316' x 100 10/28: 6,301' x 75'	Asphalt	ILS, GPS VOR/DME	100 LL Jet-A
San Luis Valley Regional Airport (ALS) Alamosa, CO	59	GA	2/20: 8,521' x 100'	Asphalt	ILS, GPS, VOR/DME	100 LL Jet-A
Jicarilla Apache Airport (24N) Dulce, New Mexico	63	GA	17/35: 7,500' x 75'	Asphalt	N/A	N/A

Source: www.airnav.com, 2020

Figure 2-5 depicts the Taos Regional Airport service area and other airports in the region. The airports depicted provide similar services, which are key factors in attracting airport users.



Source: Air Nav, 2020

Figure 2-5 Airport Service Area Map

2.6 Existing Airside Facilities at Taos Regional Airport

Airside facilities include the runway, taxiway system, aircraft parking area and any visual or electronic approach navigational aids. Taos Regional Airport is a dual-runway airport that is designated to serve all types of general aviation and regional jet aircraft up to 60,000 pounds Single Wheel Gear (SWG). The Airport is served by a primary runway, crosswind runway, two full length parallel taxiways and two aircraft parking aprons. Existing airside facilities are further described within this section and are depicted in **Figure 2-6.**

Source: Armstrong Consultants, Inc.

Figure 2-6 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 Taos Regional Airport consists of two non-intersecting asphalt runways. The primary runway, Runway 13-31 was constructed in 2017. Runway 13-31 is 8,600 feet long by 100 feet wide, with a grooved surface and medium intensity runway edge lights (MIRL), as well as paved blast pads located on each runway end. The published pavement strength is 60,000 pounds single wheel gear (SWG). The current reported Pavement Classification Number (PCN) for Runway 13-31 is 51/F/D/X/T. A PCN indicates the strength of a runway, taxiway or aircraft apron. The PCN has a minimum value of 0 and has no upper limit. The numerical value is an index to the allowable aircraft operating weight. In addition to the numerical value, the PCN is reported with four codes; R or F = pavement type; A, B, C or D = subgrade strength category; W, X, Y, or Z = maximum allowable tire pressure; T or U = pavement evaluation method. Runway 13-31 is considered to be in excellent condition.

The crosswind runway, Runway 4-22 is 5,504 feet long by 75 feet wide and has a published pavement strength of 24,000 pounds single wheel gear (SWG), and has medium intensity runway edge lights (MIRL). Runway 4-22 was originally constructed with a porous friction course (PFC) surface treatment, which is extremely aged. A paved blast pad is located at the approach end of Runway 22. The blast pad on Runway end 22 is 250' long, which exceeds FAA standards. The current reported PCN for Runway 4-22 is 4/F/D/Y/T. The pavement on Runway 4-22 is considered to be in fair condition.

Figure 2-7 depicts Runway 13-31 following its completion.

Source: Armstrong Consultants, Inc.

Figure 2-7 Runway 13-31

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 Taos Regional Airport consists of two full-length parallel taxiways to Runway 13-31 and Runway 4-22. Taxiway A is located to the west of Runway 4-22. Taxiway A includes five connector taxiways, Taxiways A1, A2, A3, A4 and A5. Taxiway A is constructed of asphalt, is unlighted, has a width of 35 feet and is in poor condition. A slurry seal was applied to the southern half of Taxiway A in 2019 as an emergency measure until sufficient funding can be attainted to complete the taxiway reconstruction.

The parallel taxiway to Runway 13-31, Taxiway B was constructed simultaneously with Runway 13-31. Taxiway B is lighted by LED edge lights and includes four connector taxiways, Taxiways B1, B2, B3 and B4, with run-up pads on both ends. Taxiway B is constructed of asphalt, has a width of 50 feet and is in excellent condition.

Taxiways are classified by a Taxiway Design Group (TDG) ranging from TDG 1 to TDG 7. The Main Gear Width (MGW) and Cockpit to Main Gear (CGM) distance are combined to determine the TDG. The TDG incorporates elements related to actual aircraft movements of a specific taxiing aircraft. The purpose of designing taxiways to a specific TDG is to allow for a certain cockpit over centerline taxiing, with pavement being sufficiently wide enough to allow for a certain amount of wander. Taxiway A at Taos Regional Airport is classified as TDG 2, while Taxiway B is designated as TDG 3.

2.6.3 Aircraft Parking Apron

An aircraft apron is typically located in the non-movement area of an airport near or adjacent to the terminal area and is usually connected to the runway via taxiways. 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 the apron. There are two aircraft parking aprons serving Taos Regional Airport. **Table 2-4** provides further details on the apron areas.

Table 2-4 Taos Regional Airport Apron Information

	Area Size	Pavement Type	Pavement Condition	Number of Tie Downs
East Apron	11, 500 S.Y.	Asphalt	Fair	24
West Apron	8,560 S.Y.	Asphalt	Fair	9

Source: Armstrong Consultants, Inc.

2.6.4 Airfield Pavement Conditions

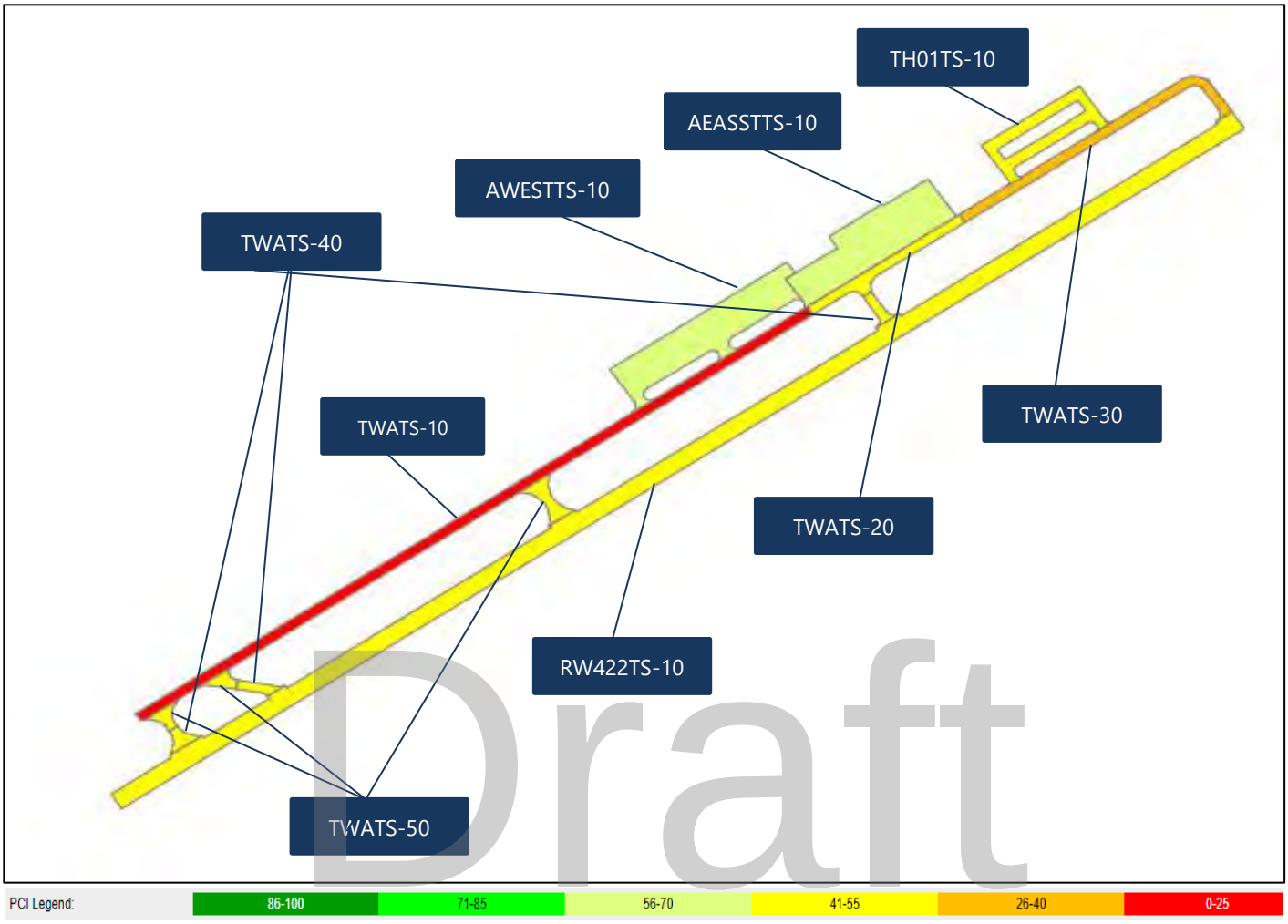
The Pavement Condition Index (PCI) is a numerical index between 0 and 100 and is used to indicate the condition of the pavement. The PCI, as outlined by the New Mexico Department of Transportation, is based on a visual survey of the pavement and a numerical value between 0 and 100 defining the pavement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

Table 2-5 depicts the results of the most recent PCI inspection report for Taos Regional Airport. The specific ratings and recommended corrective actions are listed for each pavement area. Condition levels are shown in the legend of **Figure 2-8.** This data is provided by the New Mexico Department of Transportation and has not been updated since 2016, prior to the construction of Runway 13-31 and Taxiway B, which took place in 2017. As such, these pavement sections are not depicted in the information below. However, because construction was fairly recent, Runway 13-31 and Taxiway B pavement sections are considered to be in excellent condition.

Table 2-5 Pavement Condition Indexes

Location	Section Name	Pavement Condition Index	Recommended Action
East Apron	AEASSTTS-10	62	Rehabilitation/Preventative Maintenance
West Apron	AWESTTS-10	57	Rehabilitation/Preventative Maintenance
Runway 4-22	RW422TS-10	54	Rehabilitation/Preventative Maintenance
Hangar Pavement	TH01TS-10	46	Rehabilitation
Taxiway A	TWATS-10	23	Reconstruction
Taxiway A	TWATS-20	54	Rehabilitation/Preventative Maintenance
Taxiway A and A5	TWATS-30	32	Reconstruction
Taxiway A4, A2 and A1	TWATS-40	41	Rehabilitation/Reconstruction
Taxiway A3, A2 and A1	TWATS-50	50	Rehabilitation

Source: New Mexico Department of Transportation, Aeronautics Division, 2020



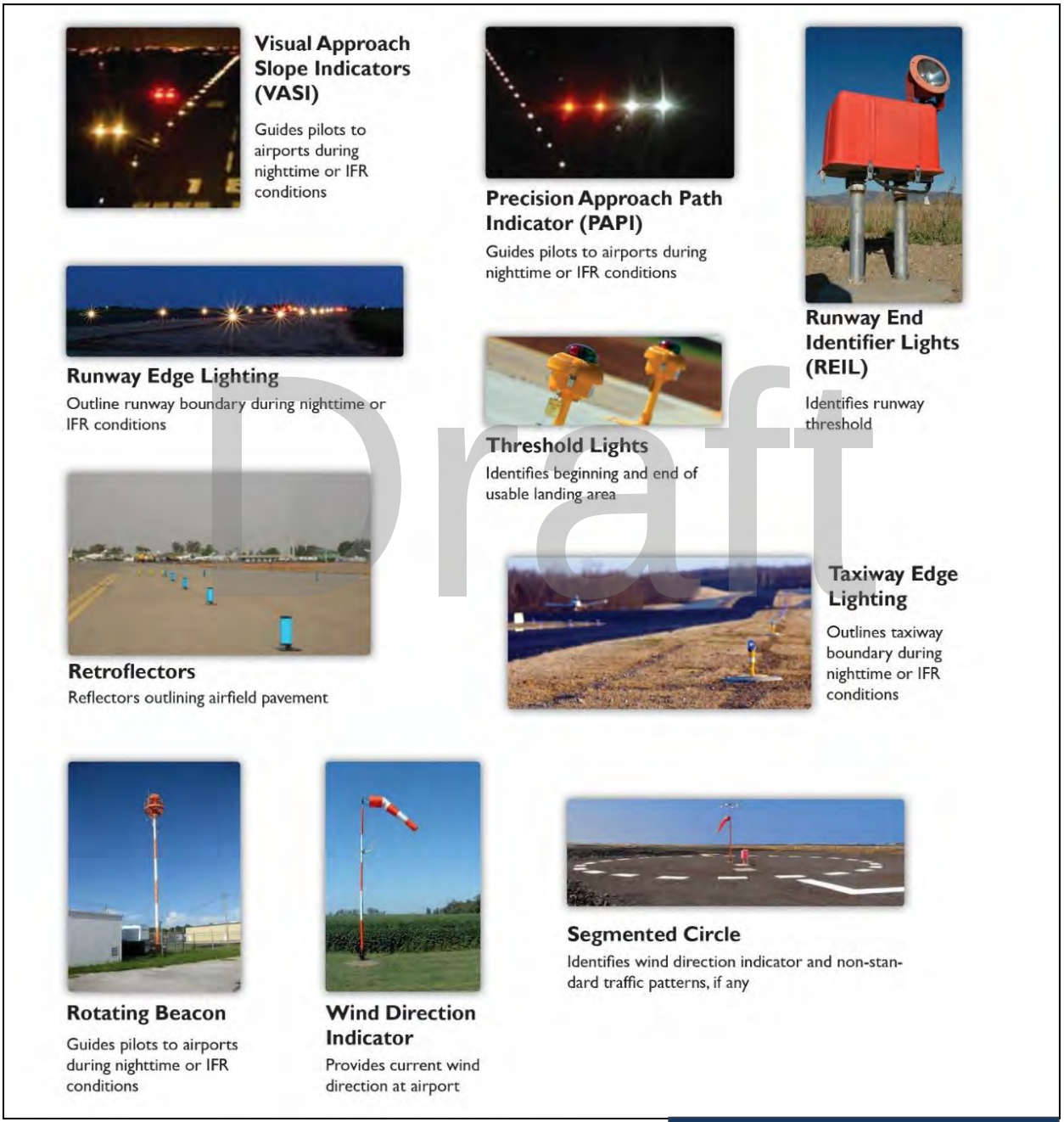
PCI	Repair Type
86-100	Preventive Maintenance
71-85	
56-70	Major Rehabilitation
41-55	
26-40	Reconstruction
11-25	
0-10	

Source: New Mexico Department of Transportation, Aviation Division, 2020

Figure 2-8 Pavement Condition Index Map

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 2-9**.



Source: Armstrong Consultants, Inc.

Figure 2-9 Typical Lighting and Visual Aids

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) an 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.

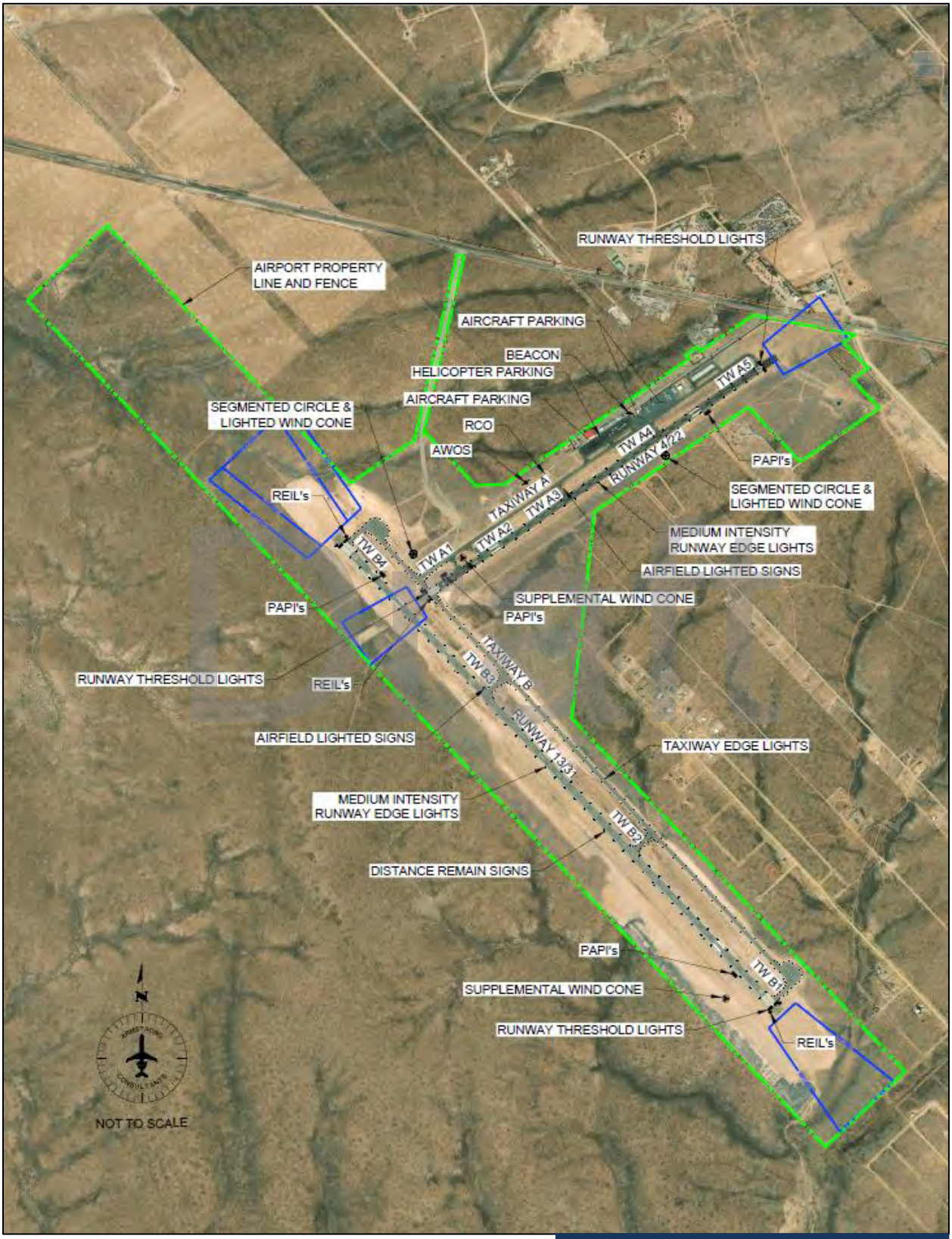
- A **wind direction indicator** consists of a windcone, wind tee or tetrahedron. A windcone aligns itself into the wind as the wind blows through a truncated cloth aligning itself with the wind indicating both wind direction and approximate velocity. The tail of a wind tee aligns itself in the wind similar to that of a weather vane. 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.

Taos Regional Airport is equipped with both precision instrument and non-precision instrument runway markings, which are in good condition. Runway 13 end is marked with precision runway markings, Runway 4 and 31 ends are marked non-precision, and Runway 22 end is marked with basic runway markings. The airfield lighting and visual aids at Taos Regional Airport consist of pilot-controlled Medium Intensity Runway Lights (MIRLs) on Runway 13-31 and 4-22, Runway End Identifier Lights (REILs) on Runway 4, 13, and 31 ends and threshold lights. Four-light Precision Approach Path Indicators (PAPIs) are located on all ends of Runway 13-31 and Runway 4-22. The airfield lighting and visual aids are in good 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 rotating beacon is located to the east of the existing SRE building. A lighted wind cone with segmented circle is located to the east of midfield of Runway 4-22. There is a second lighted wind cone located near the west end of Runway 13. Taxiway B is lighted with Medium Intensity Taxiway Lights (MITLs) and guidance signage. Taxiway A is outlined with retroreflectors. **Figure 2-10** depicts the visual aids available Taos Regional Airport.



Source: Armstrong Consultants, Inc.

Figure 2-10 Visual Aids at Taos Regional Airport

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. Taos Regional Airport is served by the Taos VOR-TAC, located 14.7 miles to the northwest, and used to assist with navigation and instrument approaches. The Taos VOR-TAC operates on a frequency of 117.60 MHz. Taos Regional Airport is currently served by two instrument approach procedures, listed in **Table 2-6**.

Table 2-6 Taos Regional Airport Instrument Approach Procedures

Runway End	Approach Procedure	Visibility Minimums/ Lowest Ceiling (AGL)	Approach Type
4	GPS/RNAV	1 Statute Mile/ 412′	Non-Precision
13	GPS/RNAV	3/4 Statute Mile/ 200′	Non-Precision
Circling	VOR/DME-B*	1 ¼ Statute Mile/905′	Circling

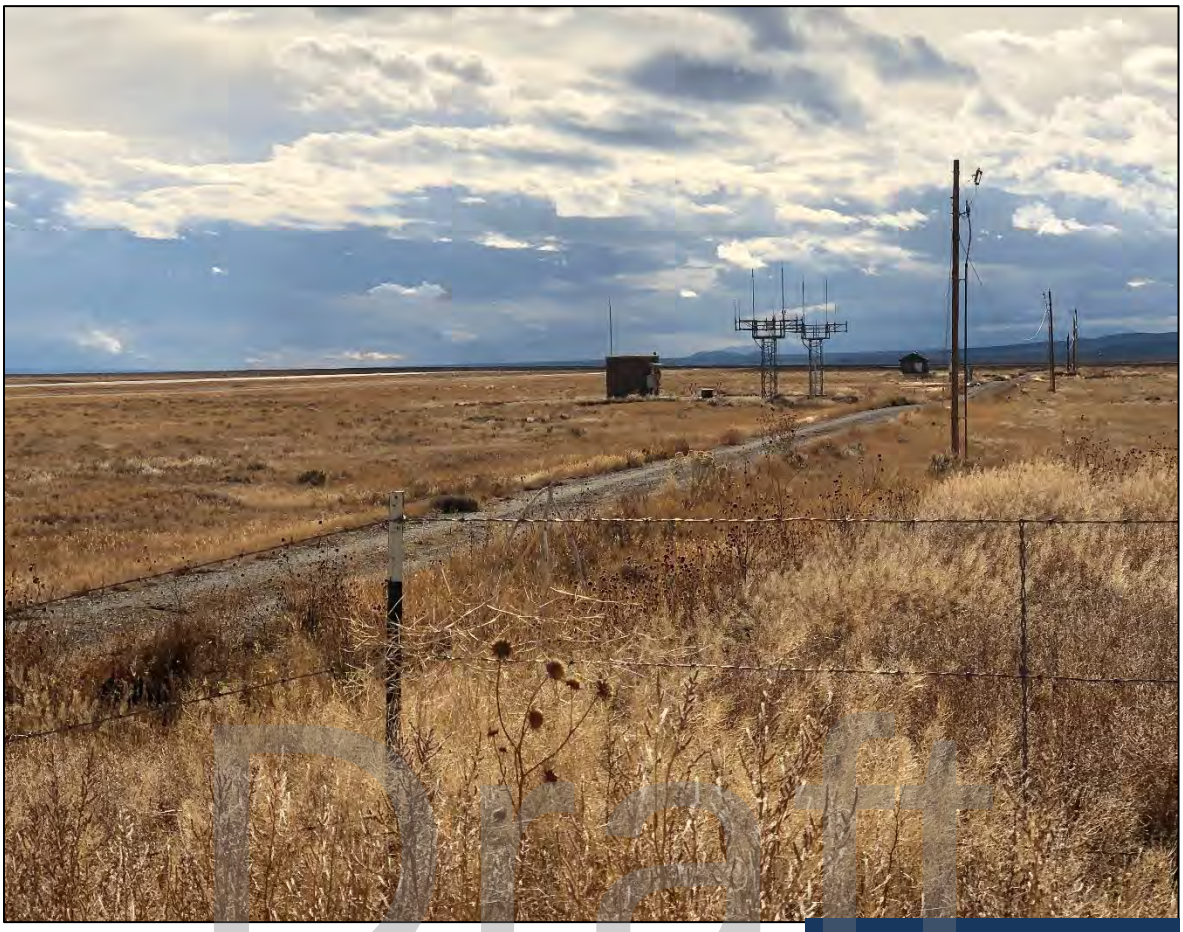
Source: Federal Aviation Administration, 2020

*VOR Pending Deactivation

2.6.7 Air Traffic Control

Taos Regional Airport is an uncontrolled airport, as 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 Albuquerque Center Air Route Traffic Control Center (ARTCC) and Albuquerque Flight Service Station (FSS). Enroute radar and coverage for Taos Regional Airport is provided by Albuquerque ARTCC. The Albuquerque FSS provides additional weather data and other pertinent weather information to pilots on the ground and enroute.

The Airport also operates a Remote Communications Outlet (RCO), located to the east of the AWOS. As defined by the FAA, an RCO is an unmanned transmitter/receiver facility, remotely controlled by air traffic control (ATC) personnel, which aids in expanding the range of communication of the air traffic facility. The primary function of an RCO is to provide ground-to-ground communication between ATC and pilots located at a satellite airport, providing information pertaining to enroute clearance, issuing departure authorizations and acknowledging instrument flight rules (IFR) cancellations or departure/landing times. **Figure 2-11** depicts the RCO at Taos.



Source: Armstrong Consultants, Inc.

Figure 2-11 RCO Facility at Taos

2.6.8 Weather Reporting Systems

Automated Surface Observing Systems (ASOS) are owned and maintained by the National Weather Service (NWS). Automated Weather Observation Systems (AWOS) typically are owned and maintained by the airport. Both use various sensors, a voice synthesizer and a radio transmitter to provide real-time weather data. An ASOS/AWOS reports on-site meteorological conditions such as altimeter setting, wind (direction, gusts and speed), temperature, dew point, visibility, cloud, and ceiling. The ASOS/AWOS transmits over a VHF frequency or the voice portion of the NAVAID. The transmission can be received within 25 nautical miles of the site or above 3,000 feet above ground level (AGL).

The Weather reporting system at Taos Regional Airport includes an Automated Weather Observing System 3 with precipitation and thunderstorm reporting (AWOS- 3 P/T). This system generally 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 information transmits on a frequency of 132.975 MHz and is published on aeronautical charts as well as in the airport facilities directory. The AWOS can also be accessed via telephone at (575) 758-5663.

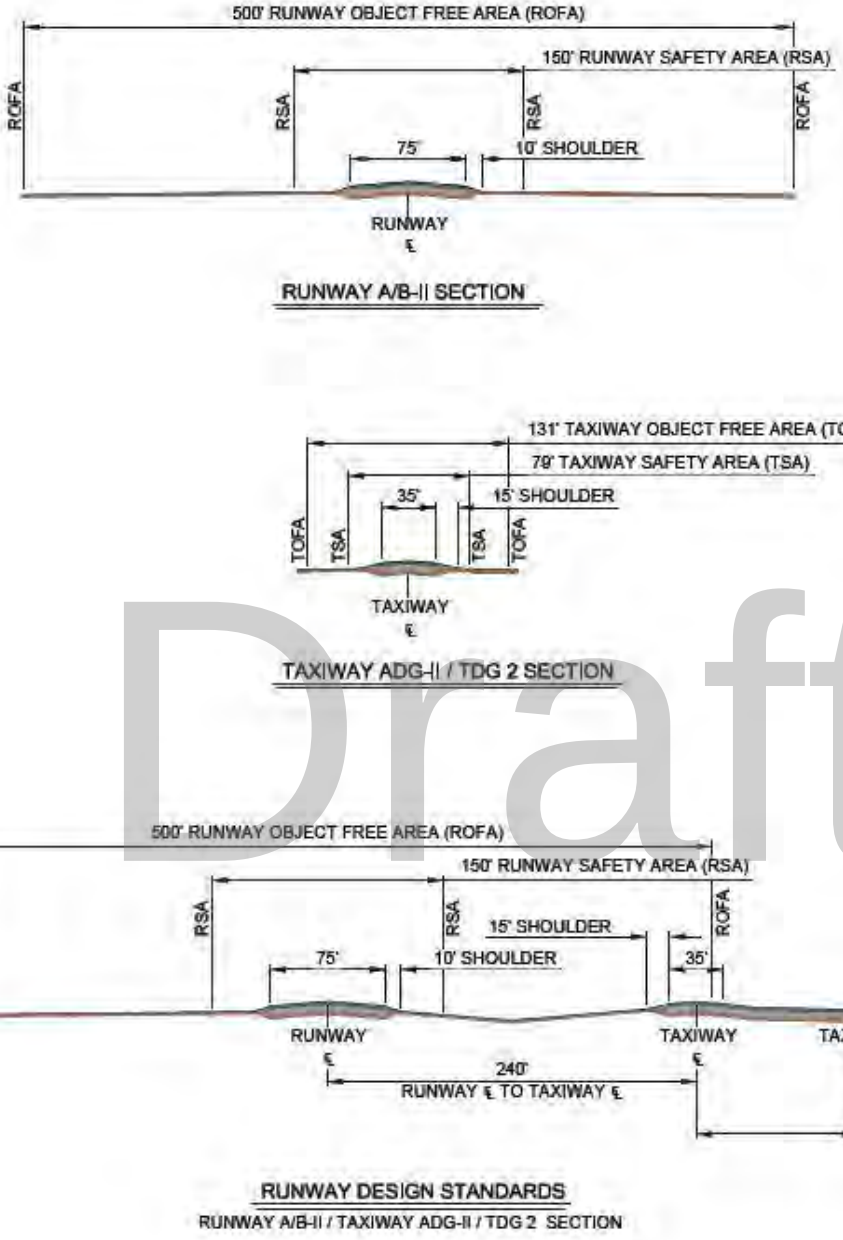
2.6.9 FAA Design Standards

FAA Advisory Circular 150/5300-13A, Change 1, *Airport Design,* serves as the primary reference for information related to the planning of airfield facilities. FAA design standards are intended to provide guidelines for the construction of safe, efficient and economic airport systems. Design standards include information related to the sizing, separation and grading requirements of various aspects of the airport infrastructure including runways, taxiways, aircraft parking aprons and safety areas. In order to select the appropriate design criteria for an airfield the "critical aircraft", also referred to as the "design aircraft", must be identified. This is defined by the FAA as the most demanding aircraft that is projected to perform 500 or more annual operations at the facility. The critical aircraft and its role will be further discussed in Chapter Three, *Forecast of Aviation Demand.*

Also considered when determining the applicable FAA design standards is the Airport Reference Code (ARC). By definition, the ARC is "an airport designation that signifies the airport's highest Runway Design Code (RDC), minus the third component of the RDC. The ARC is used for planning and design only and does not limit the aircraft that may be able to operate safely on the airport." Essentially, the ARC is a coding system designed by the FAA which is intended to communicate the operational and physical design characteristics of the airfield. The ARC is based upon the RDC, which is comprised of three components. These include the Aircraft Approach Category (AAC), the Airplane Design Group (ADG) and approach visibility minimums. To communicate these components, aircraft are identified via a letter (A-E) for their approach speed, a roman numeral (I-VI) for their design group and a value listed in feet (1,200, 1,600, 2,400, 4,000 or 5,000) for visibility minimums. The existing RDC for Runway 13-31 at Taos Regional Airport is C-II-4000 and the existing RDC for Runway 4-22 is B-II-5000.

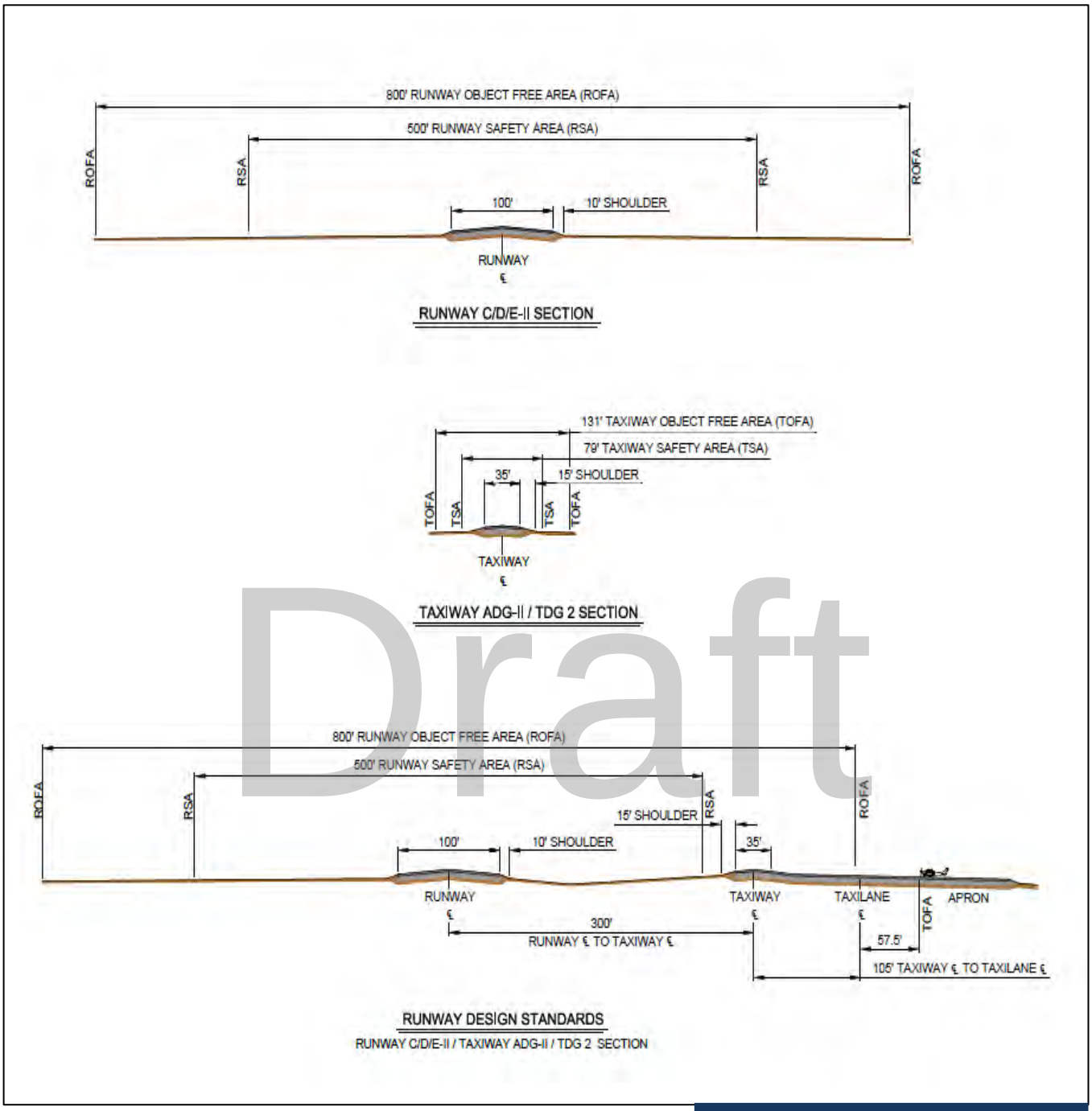
The Airport Reference Code and Runway Design Code as they relate to design standards will be discussed in greater detail in Chapters Three and Four.

Figure 2-12 and **Figure 2-13** depicts the FAA design standards as they apply to the Taos Regional Airport. **Figure 2-14** depicts the Airport's current FAA design standards.



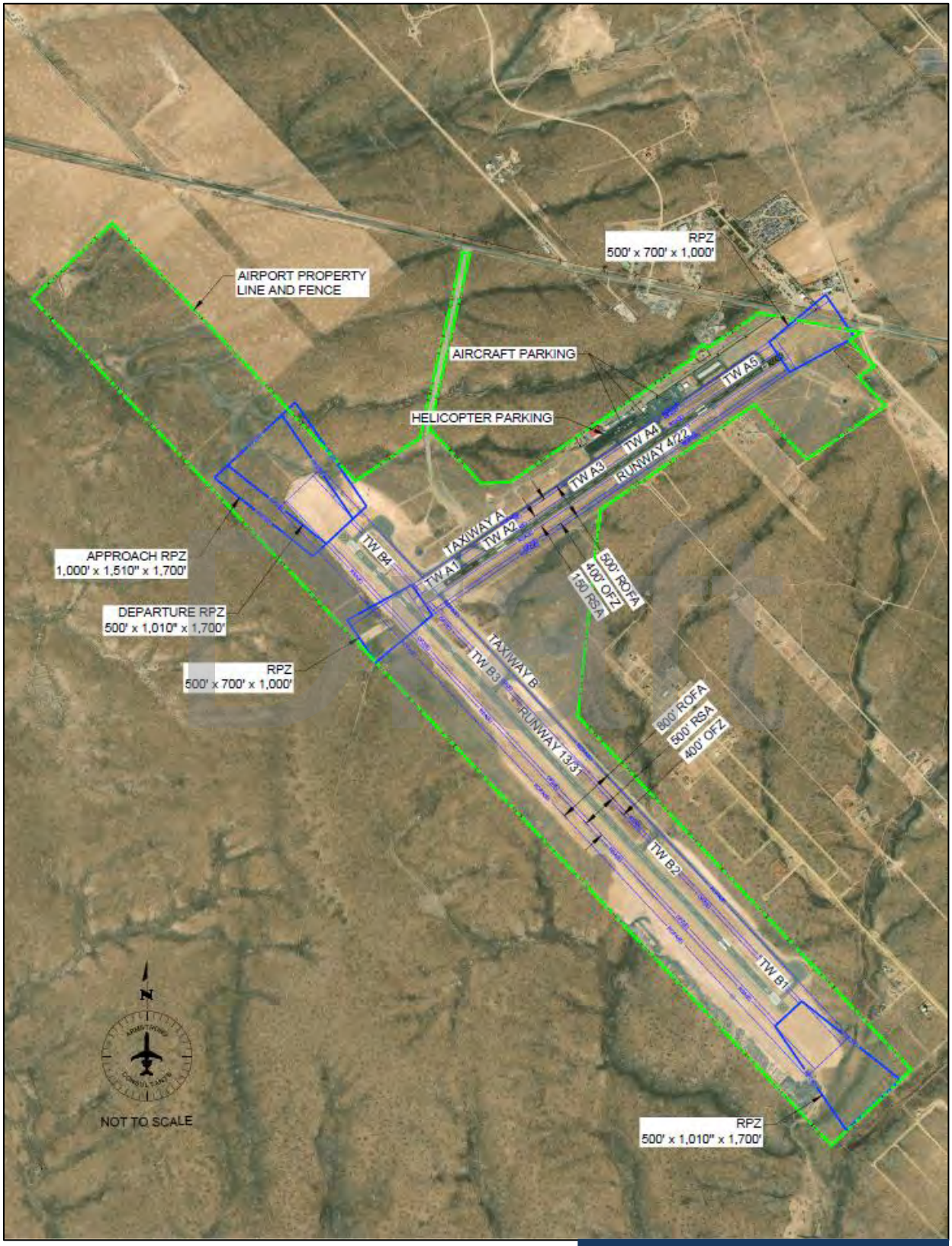
Source: FAA Advisory Circular 150/5300-13A, Change 1, *Airport Design*

Figure 2-12 RDC B-II FAA Design Standards



Source: FAA Advisory Circular 150/5300-1 3A, Change 1, *Airport Design*

Figure 2-13 RDC C-II FAA Design Standards



Source: Armstrong Consultants, Inc.

Figure 2-14 Existing Design Standards at SKX

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 150/5300-13A, Change 1, safety areas must be:

- Cleared and graded and have no potentially hazardous surface variations.
- Drained so as 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.

Taos Regional Airport meets all 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, insofar 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.

The Taos Regional Airport 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 are no displaced thresholds at the Taos Regional Airport.

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, 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; or
- 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 2-7** further describes the RPZs at the Taos Regional Airport.

Table 2-7 Taos Regional Airport RPZ Information

Runway Protection Zone	Dimension	Ownership	Conveyance	Existing Land Uses
Runway 13 Approach	1,000′ x 1,510′ x 1,700′	Town of Taos	Fee Simple/Uncontrolled	Open Space
Runway 13 Departure	500′ x 1,010′ x 1,700′	Town of Taos	Fee Simple	Open Space
Runway 31	500′ x 1,010′ x 1,700′	Town of Taos	Fee Simple	Open Space
Runway 4	500′ x 700′ x 1,000′	Town of Taos	Fee Simple	Open Space
Runway 22	500′ x 700′ x 1,000′	Town of Taos	Fee Simple/ Uncontrolled	Open Space US Highway 64 Commercial Property

Source: Armstrong Consultants, Inc.

2.6.9.5 Runway Visibility Zone

As defined by Advisory Circular 150/5300-13A, *Airport Design*, the runway visibility zone (RVZ) is an area formed by imaginary lines connecting the line of sight points between two intersecting runways. The objective of the RVZ is to keep the area maintained free and clear of obstructions for the purpose of providing an unobstructed view of aircraft arriving to/from the intersection of the two runways. Runway 13-31 and 4-22 at Taos, while on transverse paths, do not physically intersect. As such, the FAA has determined that an RVZ for Taos is optional, provided the Airport maintains the area free of obstructions. The Airport has elected to not establish an RVZ.

2.6.9.6 Summary of FAA Design Standards at Taos Regional Airport

Table 2-8 lists the current FAA design standards conditions at Taos Regional Airport, as listed in FAA AC 150/5300-13A, Change 1, *Airport Design*.

Table 2-8 Existing Design Standards

	Runway 13	Runway 31	Runway 4	Runway 22
Runway Design Code (RDC)	C-II-4000	C-II-VIS	B-II-5000	B-II-VIS
Runway Centerline to Parallel Taxiway Centerline	300′ (400′ Actual)		240′ (250′ Actual)	
Runway Centerline to Aircraft Parking Apron	400′		250′ (300 Actual)	
Runway Width	100′		75′	
Runway Safety Area Width	500′		150′	
Runway Safety Area Length Beyond RW End	1,000′		300′	
Runway Object Free Area Width	800′		500′	
Runway Object Free Area Length Beyond RW End	1,000′		300′	
Runway Obstacle Free Zone Width	400′		400′	
Runway Obstacle Free Zone Length Beyond RW End	200′		200′	
Approach Runway Protection Zone	1,000′ x 1,510′ x 1,700′	500′ x 1,010′ x 1,700′	500′ x 700′ x 1,000′	500′ x 700′ x 1,000′
Departure Runway Protection Zone	500′ x 1,010′ x 1,700′	500′ x 1,010′ x 1,700′	500′ x 700′ x 1,000′	500′ x 700′ x 1,000′
Runway Blast Pad	150′ x 120′	150′ x 120′	150′ x 95	250′ x 95′
Taxiway System	**Taxiway A**		**Taxiway B**	
Taxiway Design Group (TDG)	2		3	
Airplane Design Group (ADG)	II		II	
Taxiway Width	35′		50′	
Taxiway Safety Area Width	79′		118′	
Taxiway Object Free Area Width	131′		131′	
Taxilane Object Free Area Width	115′		115′	
Runway Centerline to Aircraft Hold Lines	200′		300′	

Source: FAA Advisory Circular 150/5300-13A, Change 1, *Airport Design*

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 2-15**. 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 4 and 13 are considered non-precision instrument, larger than utility runways for Part 77 purposes.

Runway 22 and 31 are considered visual, larger than utility runways 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 Taos Regional Airport is 1,000 feet for Runway 13-31 and 500 feet for Runway 4-22.

- 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 Taos Regional Airport, the approach surface for Runway end 13 is 1,000 feet by 4,000 feet by 10,000 feet at a slope of 34:1. The approach surface for Runway end 4 is 500 feet by 3,500 feet by 10,000 feet at a slope of 34:1. The approach surface for both Runway end 31 and Runway end 22 is 500 feet by 1,500 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 Taos Regional Airport is 10,000 feet.

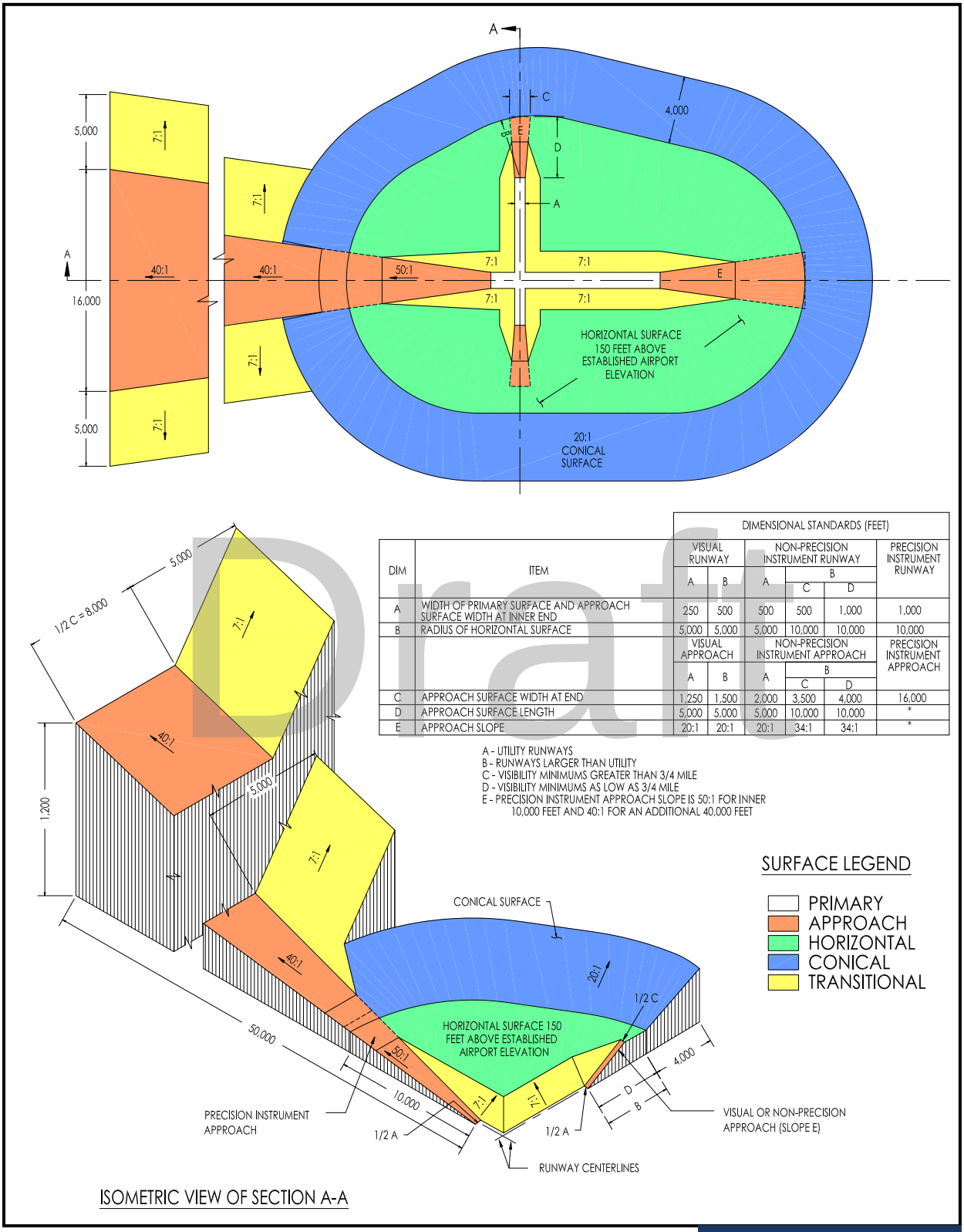
- The **conical surface** extends outward and upward from the periphery of the horizontal surface at a slope of 20:1 for a horizontal distance of 4,000 feet.

Table 2-9 summarizes the current Part 77 surfaces described above for the Taos Regional Airport.

Table 2-9 Part 77 Surfaces

Surface	Dimensions
Primary Surface width	RW 13-31: 1,000' RW 4-22: 500'
Primary Surface beyond Runway end	200'
Approach Surface dimensions	RW 13: 1,000' x 4,000' x 10,000' RW 31: 500' x 1,500' x 5,000' RW 4: 500' x 3,500' x 10,000' RW 22: 500' x 1,500' x 5,000'
Approach Surface slope	RW 13: 34:1 RW 31: 20:1 RW 4: 34:1 RW 22: 20:1
Transitional Surface slope	7:1
Horizontal Surface radius	10,000'

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

SURFACE LEGEND
PRIMARY
APPROACH
HORIZONTAL
CONICAL
TRANSITIONAL

Source: Federal Aviation Administration, 2020

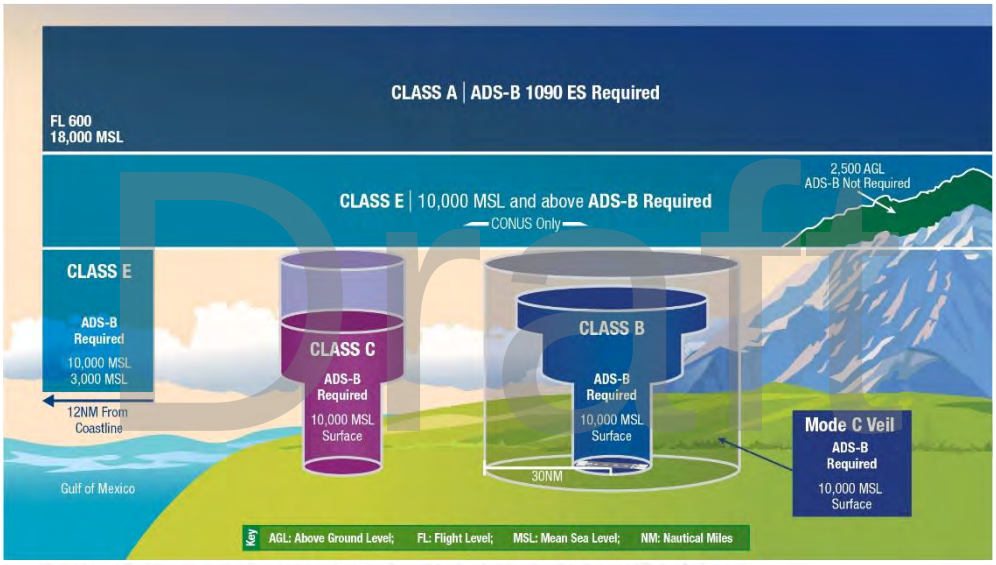
Figure 2-15 Part 77 Surfaces

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 2-16 depicts the various airspace classifications. **Figure 2-17** shows the airport is located within Class E airspace. Class E airspace requires pilots to comply with weather requirements and certain air traffic control procedures for IFR operations.

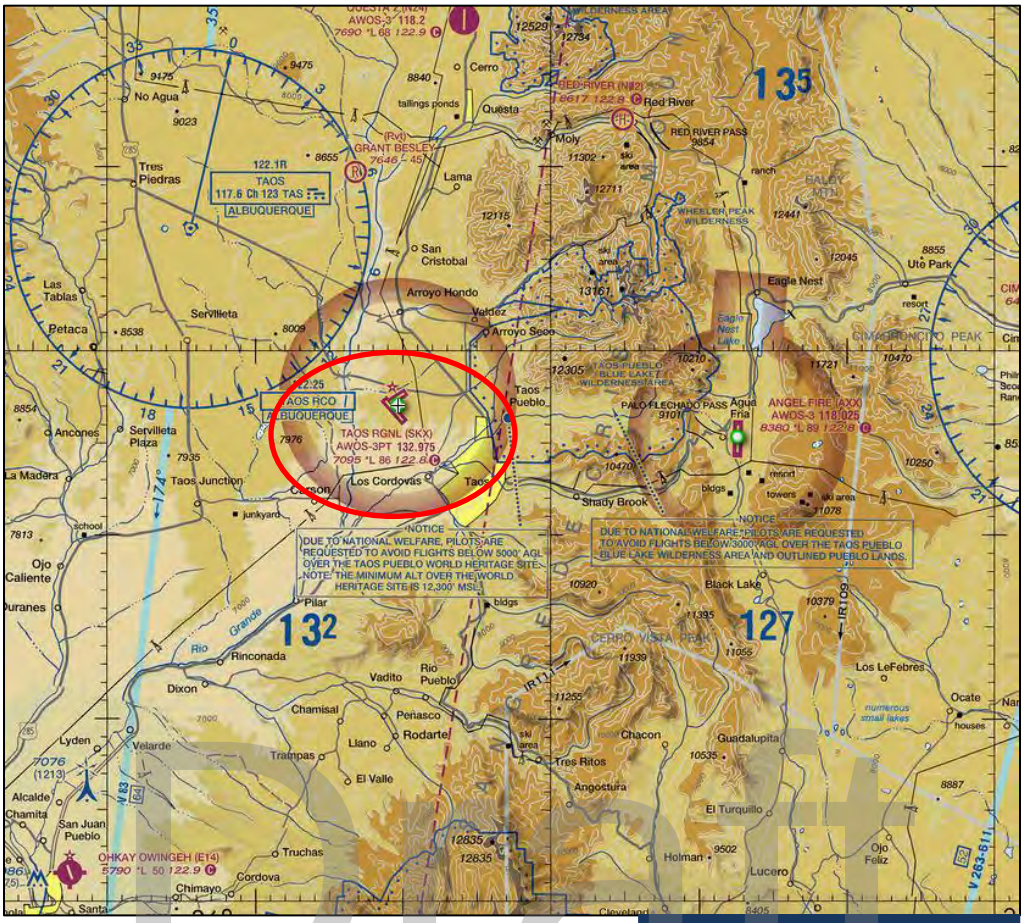


If you fly in this airspace you must be equipped with ADS-B

Airspace	Altitude
Class A	All
Class B	Generally, from surface to 10,000 feet mean sea level (MSL) including the airspace from portions of Class Bravo that extend beyond the Mode C Veil up to 10,000 feet MSL (e.g. LAX, LAS, PHX)
Class C	Generally, from surface up to 4,000 feet MSL including the airspace above the horizontal boundary up to 10,000 feet MSL
Class E	Above 10,000 feet MSL over the 48 states and DC, excluding airspace at and below 2,500 feet AGL
	Over the Gulf of Mexico at and above 3,000 feet MSL within 12 nautical miles of the coastline of the United States
Mode C Veil	Airspace within a 30 NM radius of any airport listed in Appendix D, Section 1 of Part 91 (e.g. SEA, CLE, PHX) from the surface up to 10,000 feet MSL

Source: Federal Aviation Administration, 2020

Figure 2-16 Airspace Classification



Source: www.skyvector.com, 2020

Figure 2-17 VFR Sectional Chart

There is one victor airway, Victor V83, routed via the TAOS VORTAC located to the west of the Airport (victor airways are low altitude flight paths between ground-based navigational equipment known as VHF Omni-directional Receivers or VORs).

Taos Regional Airport 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 all Runways. Pilots in the area can communicate or announce their intentions via the CTAF frequency of 122.8 MHz.

To the east of the Airport is voluntary no-fly zone (NFZ), which is located over the vicinity of the Taos Pueblo World Heritage Site and Blue Lake Wilderness Area. The NFZ is the result of detailed noise analysis studies conducted during the EIS process, in which it was determined that the flight tracks created by the new runway would have adverse noise impacts to the cultural property. The World Heritage Site is considered to be a noise sensitive property. As such, aircraft are requested to avoid overflight of the Taos Pueblo below 5,000' AGL and below 3,000' AGL over the Blue Lake Wilderness Area.

2.7 Existing Landside Facilities at Taos Regional Airport

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 2-18** illustrates the existing landside facilities.

Source: Armstrong Consultants, Inc.

Figure 2-18 Existing Landside Facilities

2.7.1 Terminal Building

Airport passenger terminal buildings are used to transfer passengers between aircraft and ground transportation and provide facilities for passengers enplaning and deplaning aircraft. The terminal building houses ticket counters for airlines serving the airport, including space for issuing tickets, transferring checked baggage, security screening of checked bags, area for the Transportation Security Administration (TSA) personnel to screen passengers and sterile waiting area for passengers that have been processed through the security checkpoint. Terminal buildings also have gates to provide passengers access to and from the aircraft. The number of gates varies depending on the volume of airline traffic utilizing the airport. Terminal buildings also provide baggage claim areas which usually include baggage carousels for passengers to retrieve checked baggage upon arrival at the airport. The terminal building is typically utilized by airport management for office space and by airport tenants including rental car companies, restaurants and gift shops.

The size of these different areas varies depending on the amount of traffic the facility receives. Large commercial service airports have several concourses which may be connected by walkways, sky-bridges or underground tunnels. Concourses can be set up to accommodate one or two specific airlines depending on the size. Smaller commercial service airports typically share one satellite concourse with gates. Smaller regional aircraft may be accessed through either a jet-bridge or through ground loading.

The existing passenger terminal building at Taos Regional Airport is approximately 1,430 square feet. The building primarily serves to process departing and arriving passengers for Taos Air. The building houses seating for approximately 30 passengers. Additional features of the building include a moveable check-in podium, two single-stall restrooms, a storage room, and wireless internet. Additional restroom facilities are available in a portable trailer located immediately west of the terminal building and can be accessed via the aircraft parking apron. All baggage handling for the terminal is conducted via push cart. The terminal building does not include any security screening areas for passengers or luggage. The structure is considered to be in good condition. **Figure 2-19** depicts the terminal building at Taos.

Source: Armstrong Consultants, Inc.

Figure 2-19 Terminal Building

2.7.2 Fixed Base Operator and 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.

The Taos FBO facility is located adjacent to the southwest portion of the aircraft parking apron and services are provided by Taos Aviation Services. Taos Aviation Services is a full-service FBO, open during business hours 7 days a week with afterhours service also available. FBO services at Taos includes access to catering services, courtesy and rental cars, pilots lounge/flight planning area, professional line service, heated hangar space, tie-downs, and competitively priced fuel. The FBO facilities include a 100' x 100' heated hangar leased from the Town.

2.7.3 Hangar Facilities

Existing facilities at Taos Regional Airport include a mix of twenty-three T-hangar structures with three conventional box hangar structures. The hangars at the Airport include a combination of private and Town owned facilities. The hangars are in good to fair condition. As previously mentioned, the EIS delayed facility expansion and development at the Airport, including the construction of private hangars. The Airport has a list of entities waiting to develop hangars at the Airport. This will be further described in Chapter 3, *Forecast of Aviation Demand* and Chapter Four, *Facility Requirements*.

2.7.4 Access Routes and Signage

The Airport can be accessed by traveling U.S. Highway 64 and taking a left from the west bound lane to a marked access road which leads directly to the Airport, which is located approximately eight miles northwest of the Town of Taos. The access road is paved and is in poor condition. There is signage at the road's entrance identifying the Taos Regional Airport.

2.7.5 Ground Transportation

Taos Regional Airport has several ground transportation options. Rental car providers for the Airport include Hertz Rental Cars, Enterprise Rent a Car, and Wheeler Peak Rent a Car. Public transportation options are also available; there are four shuttle services that operate within the Town. These include Taos Ski Valley Airports Shuttle, Taos Rides LLC Shuttle Service, Mountain View Shuttle, and Taos Taxi and Tours. Also available within Taos are Uber and Lyft.

2.7.6 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. The Airport has three designated areas for automobile parking. Directly to the west of the FBO building is paved lot approximately 900 S.Y. in size, which is utilized by the Airport's rental car operators. Beyond this is a 975 S.Y. unpaved/gravel lot designated as a long-term parking area. The third lot is found to

the east of the Terminal building and is a 3,500 S.Y. paved lot which is used by Taos Air for airline personnel, passengers and guests.

2.7.7 Utilities

Available utilities at Taos Regional Airport include propane, electric, well water, septic and telecommunications. Telecommunication services are provided by private vendors. Water is provided from a municipal well located in the space behind the existing terminal buildings (Well Site No. RG-16227). There is also a monitoring well on the airport and a water well site that was attempted to be drilled, but was not completed.

2.7.8 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 150/5300-13A, Change 1 and Federal Aviation Regulation Part 77. The airport apron and terminal building area has six-foot chain link fencing encompassing it. The remainder of the Airport perimeter is surrounded by three strand barb wire. There are three electric vehicle access security gates throughout the terminal area. **Figure 2-20** depicts the fencing at Taos Regional Airport.

Source: Armstrong Consultants, Inc.

Figure 2-20 Airport Fencing

2.7.9 Fuel Facilities

The Airport owns one 12,500-gallon Jet-A Fuel tank and one 12,500-gallon 100 Low Lead AvGas tank, which is leased to the FBO. The fuel system at Taos is above ground and in good condition. Aircraft refueling is conducted via fuel tanks operated by the FBO, with AvGas also available 24 hours for self-serve.

2.7.10 Emergency and Security Services

Title 14 Code of Federal Regulations (CFR) Part 139 requires the FAA to issue airport operating certificates to airports that serve scheduled air carrier operations in aircraft with more than 9 seats but less than 31 seats. The operating certificate serves to ensure safety in air transportation and airports operating under Part 139 are required to meet safety standards. One such requirement is to provide aircraft rescue and firefighting (ARFF) services during those air carrier operations which require a Part 139 certificate. Taos Regional Airport is currently not classified as a Part 139 Airport. Should the Airport obtain Part 139 classification in the future, the Airport would be required to meet certain criteria and be able to provide a level of emergency response. Part 139 establishes the level of ARFF equipment and agents required for an airport accommodating scheduled commercial air service by Part 121 carriers. The ARFF Index level required is determined by the longest passenger aircraft with an average of five daily departures serving the airport as follows:

- Index A – Aircraft less than 90 feet in length;
- Index B – Aircraft at least 90 feet but less than 126 feet;
- Index C – Aircraft at least 126 feet but less than 159 feet;
- Index D – Aircraft at least 159 feet but less than 200 feet;
- Index E – Aircraft greater than 200 feet in length

At the present time, the Airport is served by the Taos County Sheriff Department and the Taos County Volunteer Fire District/EMS. The Taos fire district is comprised of approximately 28 volunteer and career personnel dispersed throughout three fire stations. The nearest hospital serving the Airport is the Holy Cross Hospital, located approximately 11 miles (21 minutes) southeast of the Airport. The nearest Fire Station is approximately 7 miles (12 minutes) southeast of the Airport. **Figure 2-21** depicts some of the firefighting apparatus serving the community of Taos.

Source: www.taosgov.com, 2020

Figure 2-21 Taos Fire Engines

2.7.11 Snow Removal and Maintenance Equipment

Snow removal and airfield maintenance is conducted by the Airport. A dedicated piece of Snow Removal Equipment (SRE) and a 1,500 S.F. SRE building are located at the Airport. The Town of Taos provides secondary snow removal assistance to the Airport when needed and able. **Figure 2-22** depicts the Kodiak snowplow with a dump bed, acquired by the Airport in 2010.

Source: Armstrong Consultants, Inc.

Figure 2-22 Snow Removal Equipment

2.8 Land Use Compatibility

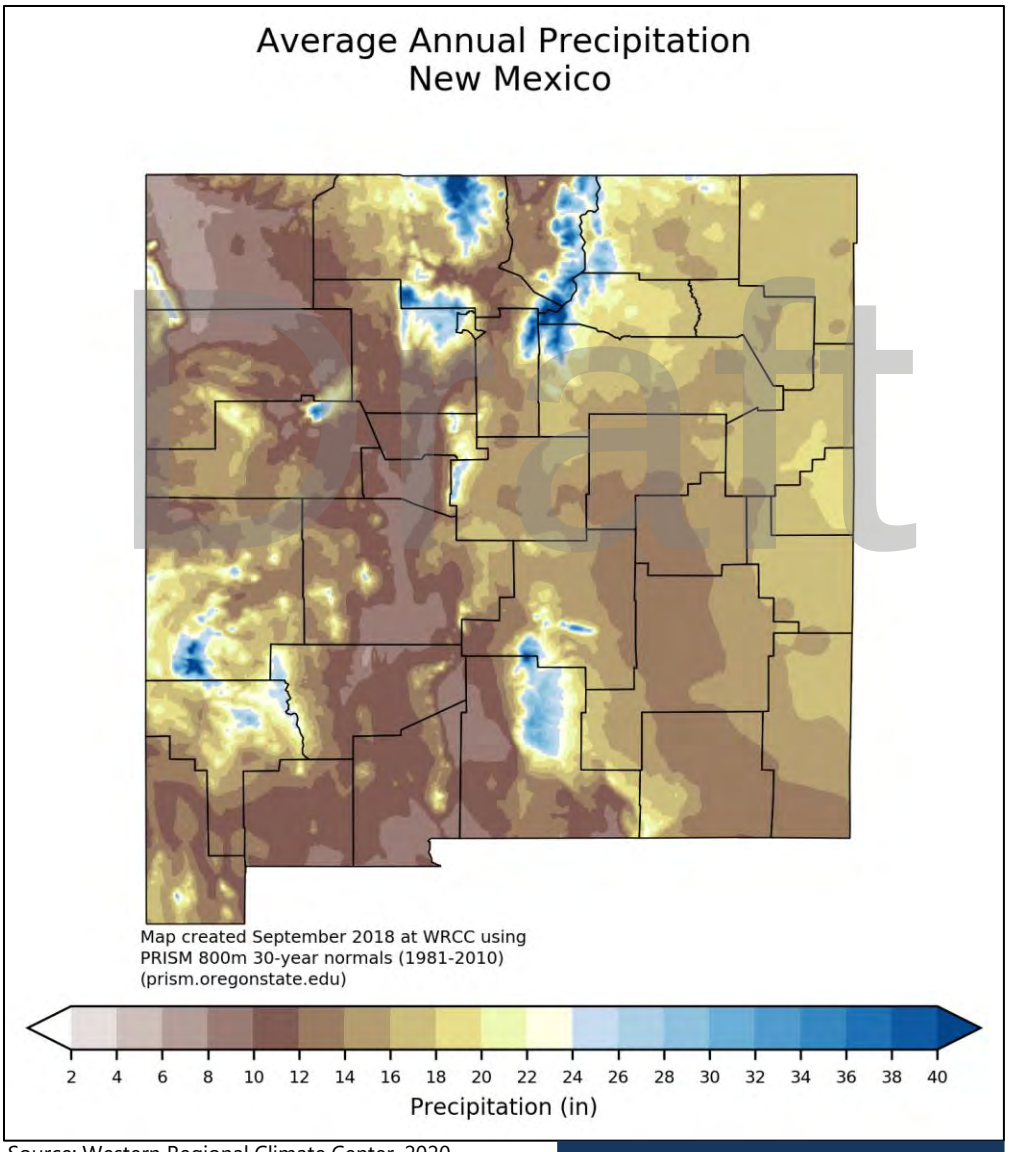
The FAA recommends that airport sponsors protect the areas surrounding an airport from incompatible development. Incompatible development includes those land uses which would be sensitive to aircraft noise or over flight, such as residences, schools, churches and hospitals and those uses which could 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 and future instrument approach procedures. The area surrounding the Airport is generally considered to be compatible.

Taos County has zoned the Airport and the area in the immediate vicinity as County Rural. As outlined in the Taos City Ordinance of Land Use Regulations, lands designated as County Rural are any area not within an official Community Zone, Neighborhood Zone or Planned Unit Development Zone hereunder or any incorporated municipality of federal lands, state lands, or Indian lands. Among the allowable land use for this classification is single-family development and cottage industries.

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 2-23**, the Taos Regional Airport is located within an area that receives between 10-12 inches of precipitation a year, according to the Western Regional Climate Center.



Source: Western Regional Climate Center, 2020

Figure 2-23 New Mexico 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, Taos Regional Airport receives an average of 12.3 inches of rainfall per year, with snowfall averaging 28.9 inches. Temperatures range from an average maximum temperature of 85.6 degrees Fahrenheit in July to an average minimum temperature of 9.7 degrees Fahrenheit in January. A summary of the climate at the Airport is shown in **Table 2-10**.

Table 2-10 Temperature and Precipitation

Month	Mean Maximum Temperature (Fahrenheit)	Mean Minimum Temperature (Fahrenheit)	Precipitation (Inches)	Snowfall (Inches)
January	39.9	9.7	0.67	7.1
February	45.5	16.4	0.60	5.0
March	53.1	22.9	0.80	4.6
April	62.7	29.6	0.88	1.6
May	72.1	37.1	1.19	0.4
June	82.2	45.6	0.90	0.0
July	85.6	51.1	1.65	0.0
August	83.4	49.9	1.85	0.0
September	76.5	42.8	1.29	0.0
October	65.9	32	1.08	0.5
November	52.4	20.9	0.72	2.8
December	41.7	12.2	0.67	6.9
Annual	63.4	30.9	12.30	28.9

Source: Western Regional Climate Center, retrieved 2020

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 2-11** shows allowable crosswind components for aircraft according to their Airport Reference Code.

Table 2-11 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 150/5300-13A, Change 1, *Airport Design*

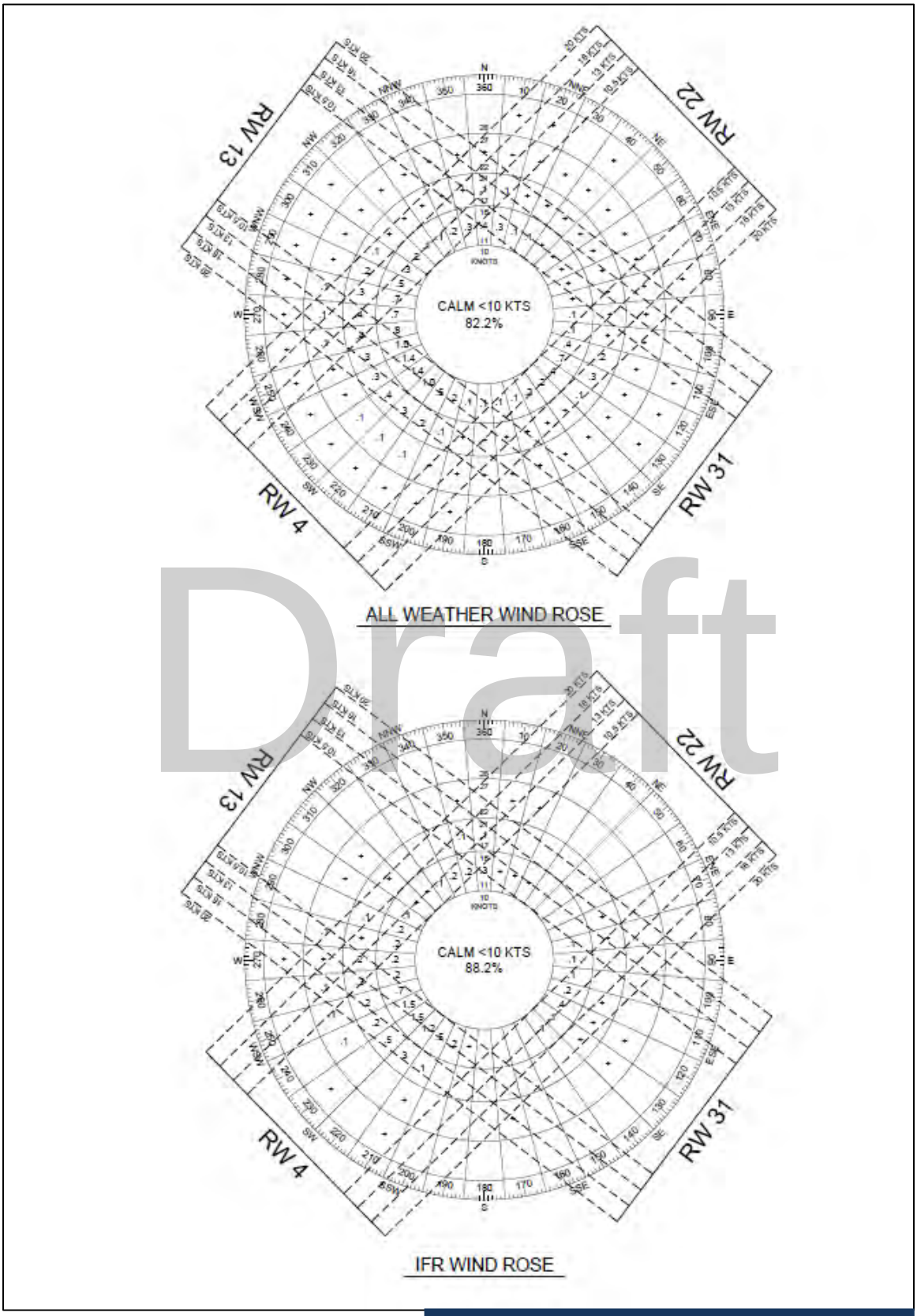
FAA Advisory Circular 150/5300-13A, Change 1, *Airport Design*, recommends that a runway should be oriented so that it yields 95 percent wind coverage under stipulated crosswind coverage defined by the ARC. If a single runway alignment cannot meet the recommended 95 percent wind coverage then construction of an additional runway may be advisable.

Wind directional data was determined using the AWOS at Taos Regional Airport with observations from 2008 to 2018. **Table 2-12** lists the wind data information from the AWOS. **Figure 2-24** depicts the existing wind rose for Taos Regional Airport.

Table 2-12 All Weather Wind Data for Taos Airport

Crosswind (knots)	Runway 13-31 Percent of Coverage	Runway 4-22 Percent of Coverage	Combined Coverage
10.5	89.69%	93.61%	98.66%
13.0	93.43%	96.43%	99.63%
16.0	97.38%	98.76%	99.93%
20.0	99.25%	99.76%	99.99%

Source: Taos Regional Airport AWOS, 2008-2018, Number of Observations: 243,970



Source: Taos Regional Airport, AWOS, 2009-2018

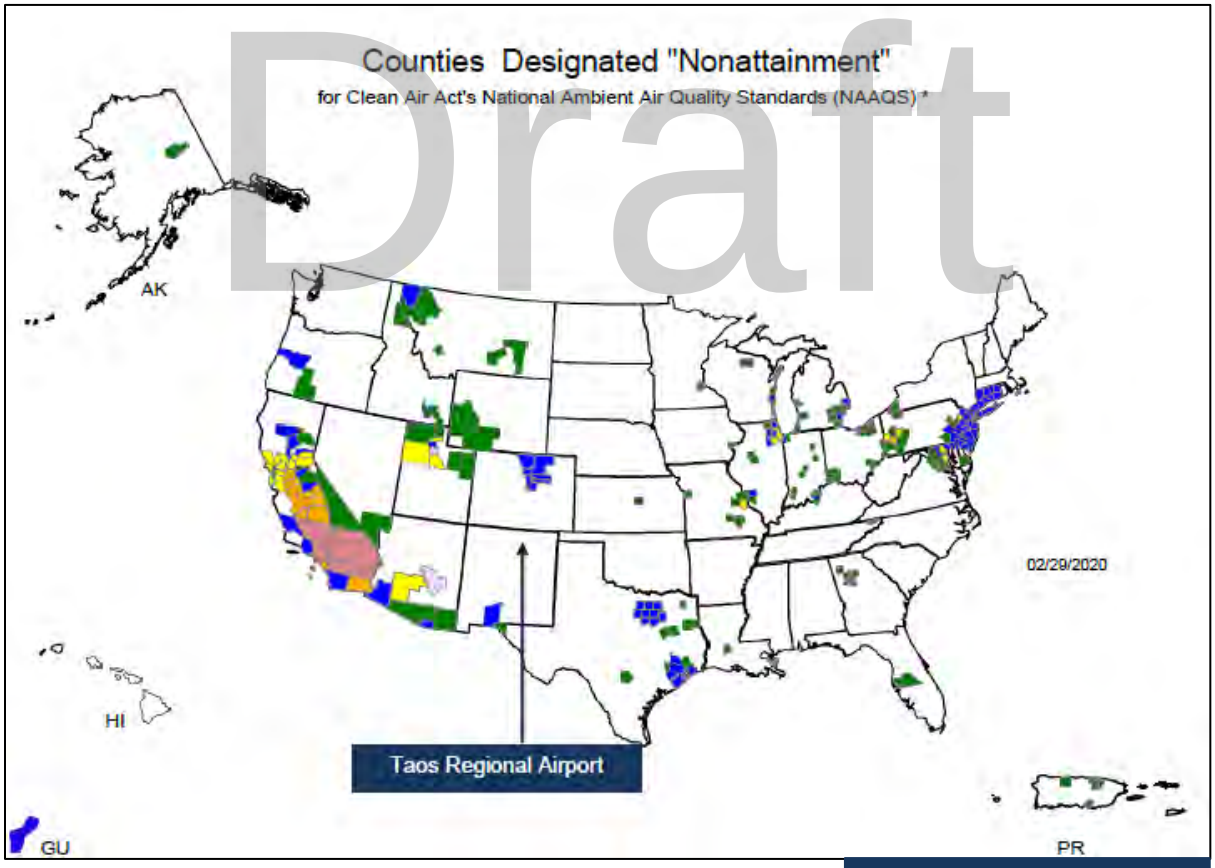
Figure 2-24 Taos Regional Airport All Weather Windrose

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

The Clean Air Act was passed in part to define the standards of pollutants that may be harmful to public health and welfare. National Ambient Air Quality Standards (NAAQS) were developed by the Environmental Protection Agency (EPA) in compliance with the Clean Air Act which identifies six principle pollutants that could have adverse effects on the public. Areas which exceed the acceptable standard for these pollutants are considered to be non-attainment. As depicted within **Figure 2-25**, the airport is located within an attainment area. The air quality map below identifies counties that are designated as Nonattainment for 1 or more NAAQS. Taos County is considered to be within attainment with NAAQS.



Source: Environmental Protection Agency, 2020

Figure 2-25 Non-Attainment Map

2.10.2 Department of Transportation Act – Section 4(f)

There are no publicly owned public parks, recreation areas, wildlife or waterfowl refuges of National, State or Local significance or land from a historic site of National, State or Local significance located on airport property. The nearest Section 4(f) property, as listed on the National Register of Historic Places, is the Taos Pueblo World Heritage Site, located approximately nine miles east of the Airport. Potential impacts to the site resulting from Airport development were thoroughly studied during the EIS process and steps to mitigate those adverse impacts resulting from such development were outlined in the ROD. Among those conditions are:

- There would be no visual, audible or vibration effects that would diminish the integrity of the Taos Pueblo World Heritage Site as a result of aircraft on the flight tracks.
- Any undertakings will not induce development or growth that would result in a change in the setting or character of the use of the World Heritage Site.
- The Town of Taos will, in the unlikely event that historic properties are discovered during construction, cease activity in the area and contact the New Mexico State Historic Preservation Officer (SHPO), Taos Pueblo, and other appropriate agency officials within 48 hours of the discovery.

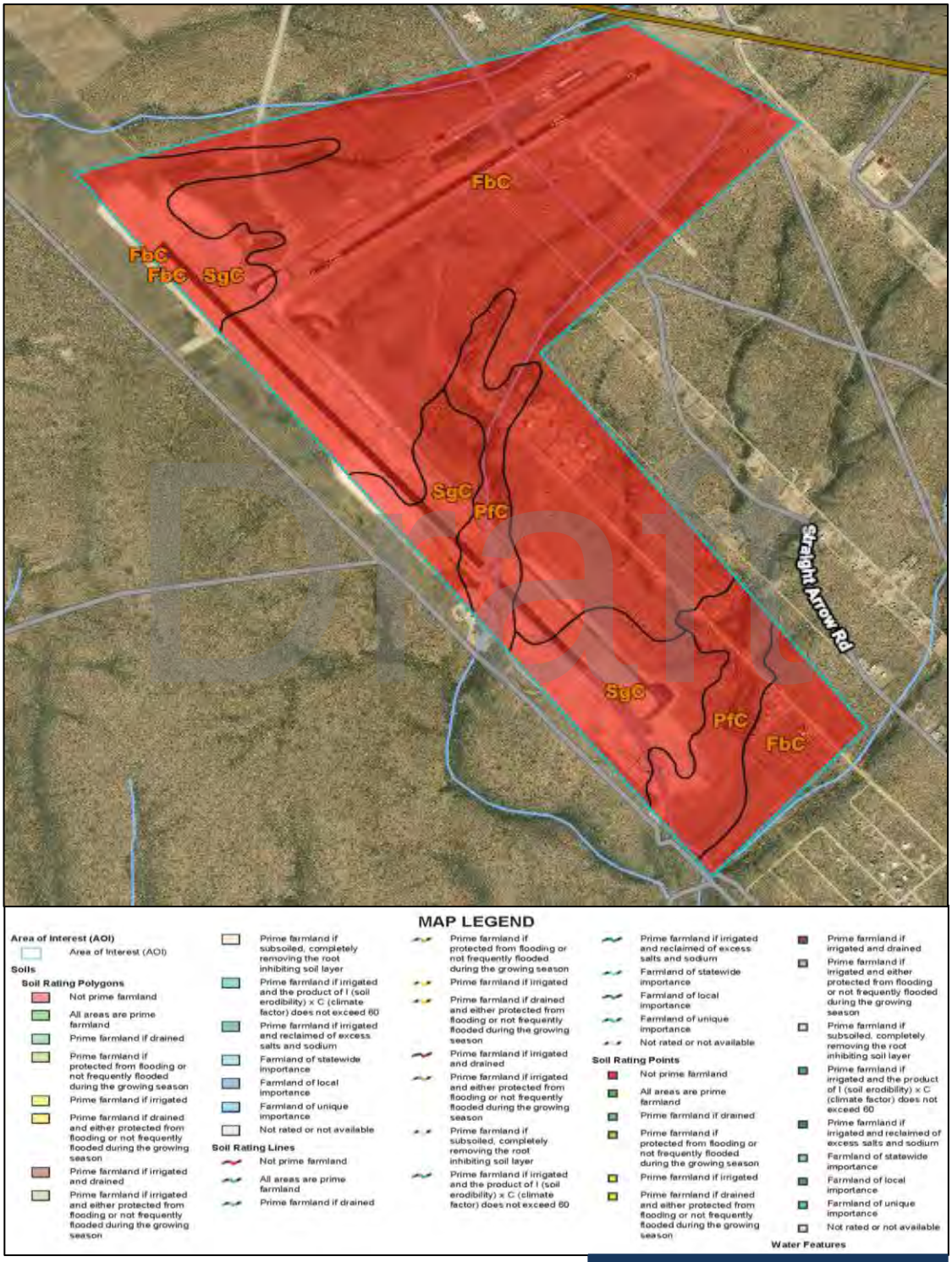
Although unlikely, should any impacts to the World Heritage Site be anticipated as a result of the development proposed in later chapters, Agency consultation between the parties in the Section 106 process, which includes the SHPO and/or the Tribal Historic Preservation Officer (THPO) if on tribal lands, and the Advisory Council on Historic Preservation (ACHP), will be coordinated.

Furthermore, while not directly on Airport property, within the surrounding vicinity of the Airport are several wilderness and recreation areas. These include, Taos Blue Lake (38 miles southeast of the Airport), Latir Peak Wilderness Area (32 miles north of the Airport), Wheeler Peak Wilderness Area (21 miles northeast of the Airport), and Wild Rivers Recreation Area (39 miles north of the Airport) which is within the Rio Grande del Norte National Monument. These areas are considered to be Section 4(f) properties. The Department of Transportation Act (DOT Act) of 1966 included a special provision - Section 4(f) - which stipulated that the Federal Highway Administration (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 unless the following conditions apply- (1) there is no prudent and feasible alternative to using that land; and (2) the program or project includes all possible planning to minimize harm tot hep ark, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

A voluntary no-fly zone has been established over the Taos Pueblo and Blue Lake Wilderness Area as a result of biological and noise analysis studies conducted during the EIS. See **Section 2.6.11** of this chapter for information regarding that.

2.10.3 Farmlands

The U.S. Department of Agriculture has rated the Taos Regional Airport and surrounding lands as not Prime Farmland, as shown in **Figure 2-26**.



Source: U.S. Department of Agriculture, 2020

Figure 2-26 Farmland Classification Map

2.10.4 Floodplains

Portions of the Airport and surrounding areas have been mapped for floodplains by the Federal Emergency Management Agency (FEMA). The majority of the mapped areas have been designated as Zone X, 0.2 percent chance flood hazard, areas of one percent annual chance flood with average depth less than one square mile. **Figure 2-27** depicts FEMA floodplains mapped within the area.

Source: Federal Emergency Management Agency, 2020

Figure 2-27 Floodplains Classification

2.10.5 Fish, Wildlife and Plants

The U.S. Fish and Wildlife Service database was researched to obtain an Official Threatened and Endangered Species List for the area encompassing the Taos Regional Airport. There was a total of five endangered, threatened or candidate species for Taos County as listed in **Table 2-13**.

Table 2-13 Threatened and Endangered Species

Common Name	Critical Habitat Relative to Airport Property	Status
Canada Lynx	Critical habitat outside of airport property	Threatened
New Mexico Meadow Jumping Mouse	Critical habitat outside of airport property	Endangered
Mexican Spotted Owl	Critical habitat outside of airport property	Threatened
Southwestern Willow Flycatcher	Critical habitat outside of airport property	Endangered
Yellow-billed Cuckoo	Critical habitat outside of airport property	Threatened

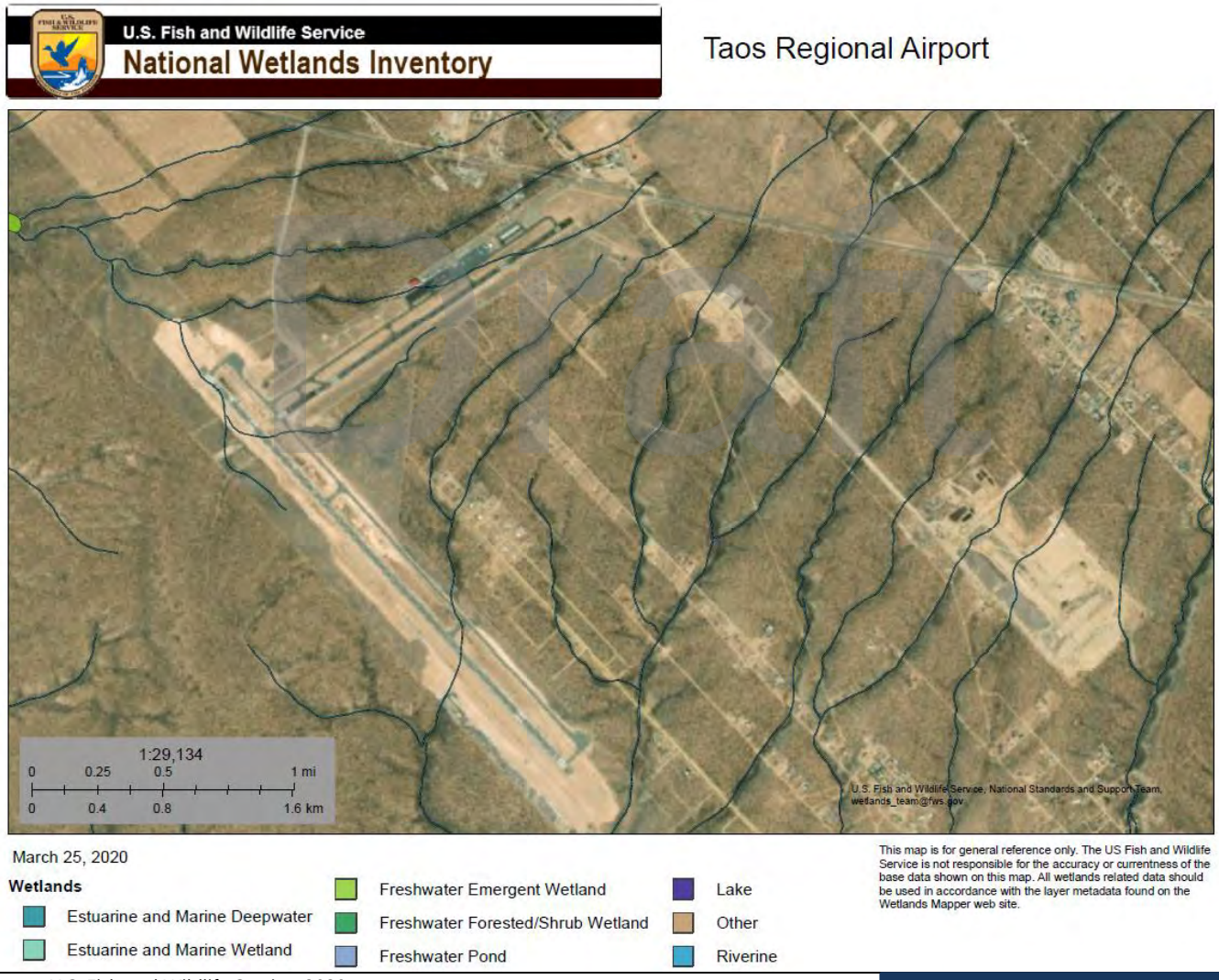
Source: US Fish and Wildlife Service, 2020

2.10.6 Historical, Architectural, Archaeological and Cultural Resources

There are no known historical, architectural or archaeological sites located within the immediate vicinity of the Airport. As was previously discussed, the nearest cultural area is the Taos Pueblo, which is designated as both a World Heritage Site and a National Historic Landmark.

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. Several Riverines' were identified as being located throughout the airfield, however the area has historically been dry. **Figure 2-28** depicts the location of wetlands surrounding the Taos Regional Airport.



Source: U.S. Fish and Wildlife Service, 2020

Figure 2-28 Wetlands Inventory Map

2.11 Summary of Airport Facilities

Table 2-14 provides a summary of the existing facilities available at the Taos Regional Airport.

Table 2-14 Existing Airport Facilities

Airport Data	Description
Identifier	SKX (ICAO), TSM (IATA)
FAA Site Number	14741.05*A
FAA NPIAS Number	35-0041
Owner	Town of Taos
Airport Elevation	7,094.6' MSL
Airport Facility	**Description**
Runways	Runway 13-31 Runway 4-22
Runway Design Code	RW 13-31: C-II-4000 RW 4-22: B-II-5000
Runway Dimensions	RW 13-31: 8,600' x 100' RW 4-22: 5,504' x 75'
Runway Markings	RW 13: Precision RW 31: Non-Precision RW 4: Non-Precision RW 22: Basic
Runway Lighting	MIRL
Instrument Approach	RW 4: GPS RW 13: GPS VOR/DME-B Circling
Approach Minimums	RW 13: ¾ Mile RW 31: Visual RW 4: 1 Mile RW 22: Visual
Runway Pavement Strength	RW 13-31: 51/F/D/X/T, 60 SWG RW 4-22: 4/F/D/Y/T, 24 SWG
Runway Pavement Condition	RW 13-31: Excellent RW 4-22: Good
Taxiways	2 Full-Length Parallel
Apron	Total of 20,060 S.Y.
Tie Downs	33
Visual Aids	Threshold Lights, REILs (RW 4, 13,31), MIRLs (TW B), PAPIs, MITLs, Rotating Beacon, Retroreflectors (TW A), Lighted Wind cone and Segmented Circle
Pilot Lounge	Yes
Hangar Facilities	23 T-Hangars and 3 Box Hangars
Fuel Storage	100LL AvGas and Jet-A (12,500 gal tanks)
Fuel Service	Taos Aviation Services & Self-Serve
Weather Equipment	AWOS-3 P/T
Automobile Parking	Approximately 4,400 S.Y. Paved Approximately 975 S.Y. Unpaved

Source: Armstrong Consultants, Inc., 2020

Chapter Three
Forecast of Aviation Demand

ARMSTRONG

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.

Aviation forecasts are typically based on historical data and other broadly accepted industry and governmental estimates, as well as the primary socioeconomic drivers of 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 Taos Regional Airport.

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 Taos Regional Airport, 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 the FAA Form 5010-1, *Airport Master Record*, 2017 New Mexico Aviation System Plan Update, FAA Traffic Flow Management System (TFMS), FlightAware, and Airport management records.

Aviation activity projections are made based upon estimated growth rates, area demographics and socioeconomic, 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 will allow the airport's improvements to be timed in order to efficiently meet the expected demand.

3.2 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. The most current Form 5010-1, last updated in April 2019, indicates 26 based aircraft and 7,000 total annual operations. However, recent airport management records indicate an actual total of 38 based aircraft (35 single engine piston, two multi-engine piston, and one helicopter). The baseline year for this forecast (2019) will use 38 based aircraft and total annual operations at 7,160.

According to the FBO operator, it is estimated that both FlightAware and FAA Traffic Flow Management System Counts were approximately 15 to 20 percent lower than actual IFR operations into the Airport. This can be attributed to the cancellation of IFR flight plans prior to arrival into Taos, filing IFR flight plans after departure from Taos under VFR conditions, (which would prevent being counted by Traffic Flow Management System) or blocking the registry number from being tracked (which would prevent being counted by FlightAware). It is also estimated that passenger enplanements are likely higher than those actually reported. It is estimated there is approximately 1,875 additional enplanements by CFR Part 135 operators. However, these operators are not required to report their enplanements so actual totals are not able to be verified. The Airport has begun the process of tracking CFR Part 135 operations for 2020 and will assist the operators in reporting the data moving forward to ensure these enplanements are taken into account in the future.

Table 3-1 depicts the existing based aircraft fleet and operations mix at Taos Regional Airport as reported by the FAA Form 5010-1 and separately as reported by airport management. As the FAA Form 5010-1 data may vary in accuracy depending on the source and date of last update, information from airport management including Taos Air is also considered. **Figure 3-1** graphically depicts the IFR flight plans with Taos Regional Airport as an origin or destination between March 2019 and March 2020.

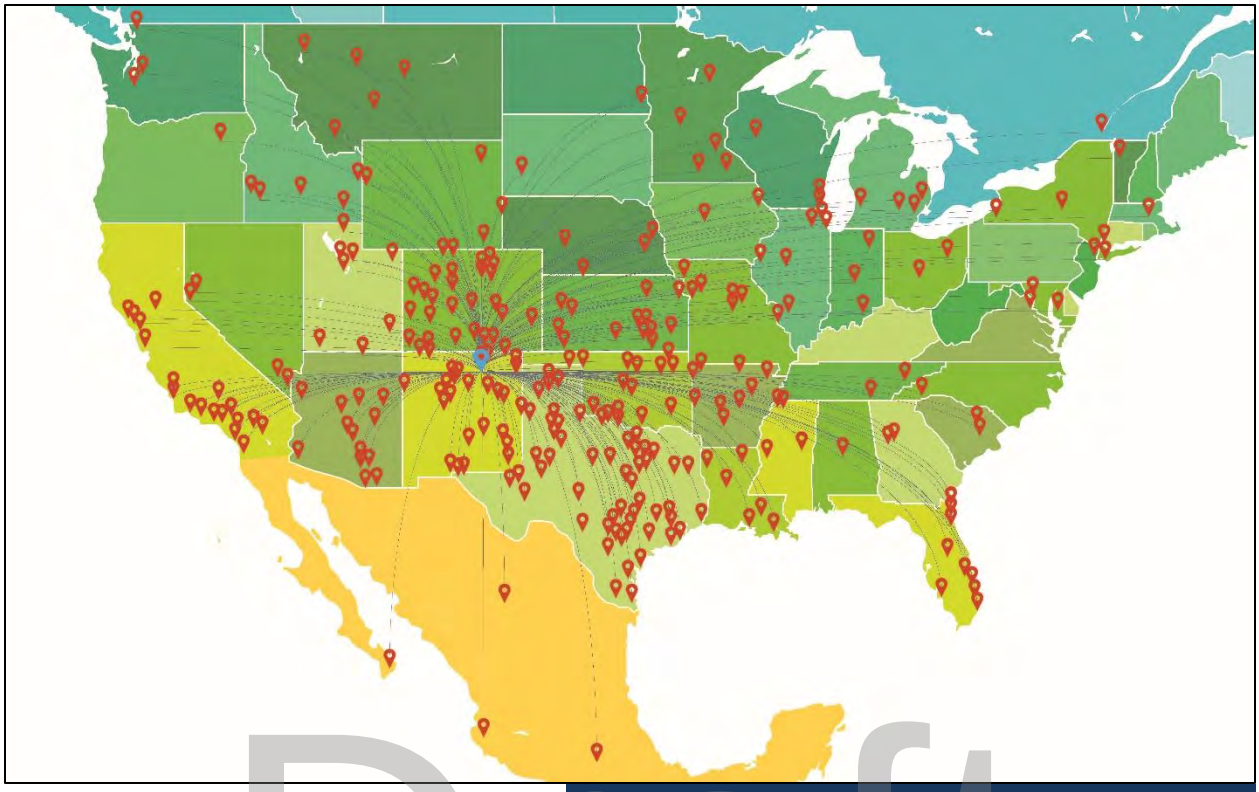
Table 3-1 Existing Aviation Activity

Year	Based Aircraft				
	Single-Engine	Multi-Engine	Helicopter	Jet	Total
2019 (Form 5010)	22	2	2	0	26
2019 (Actual)	35	2	1	0	38
Year	**Operations**				
	Air Taxi	GA Local	GA Itinerant	Military*	Total
2019 (Form 5010)	200	2,600	4,000	200	7,000
2019 (Actual)	360	2,600	4,000	200	7,160
Year	**Enplanements****				
2019 (Form 5010)	0				
2019 (Actual)	1,750				

Source: FAA Form 5010, 2019 and Airport Management 2020

*Military operations are carried forward at a no-growth percentage throughout the planning period.

**Enplanements do not include those by CFR Part 135 operators.



Source: Flightaware and Armstrong Consultants, Inc., 2020

Figure 3-1 IFR Flight Plans Involving SKX (March 2019-March 2020)

For forecasting purposes, the fleet mix for each operational category was also evaluated. This information was analyzed to determine the appropriate national fleet mix trends for each subset at Taos Regional Airport. Based on instrument flight plans filed to or from Taos between March 2019 and March 2020, the following fleet mix percentages were determined:

- Air Taxi: 100 percent jet aircraft (based on Taos Air activity);
- General Aviation Local: 100 percent single engine piston aircraft; and
- General Aviation Itinerant: 40.5 percent single engine piston aircraft, 33.9 percent turboprop aircraft, and 25.6 percent jet aircraft.

3.3 Local Profile

Examining the specific socioeconomic characteristics of the Town of Taos helps determine 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.

The Town of Taos is located in Taos County in the north central portion of the State of New Mexico. It is the largest town in both the County and region. Taos serves as the primary hub for commercial, industrial, retail, and medical facilities in the area. The town is also located in the Enchanted Circle which is a center for tourist activity within the State of New Mexico, which will be further described in this Chapter.

3.3.1 Population

According to the University of New Mexico's Geospatial and Population Studies (UNMGPS), the population for the State of New Mexico increased from 2.059 million in 2010 to an estimated 2.187 million in 2019 with Taos County's population decreasing from 33,299 in 2019 to an estimated 32,336 in 2039.

UNMGPS also developed population projections for all New Mexico counties and the entire State. Population projections for Taos County and the State of New Mexico are shown in **Table 3-2**, **Figure 3-2** and **Figure 3-3**. The population forecast indicates an increase of 9.79 percent population for the State of New Mexico and a decrease of 2.89 percent for Taos County between 2019 and 2039. The U.S. Census Bureau estimates a population of 5,971 for the Town of Taos in 2019.

Table 3-2 Population Projections for Taos County and New Mexico

	2019	2024	2029	2034	2039	Average Annual Growth Rate
Taos County	33,299	33,309	33,172	32,855	32,336	-0.14%
New Mexico	2,187,183	2,247,564	2,308,475	2,360,091	2,401,480	0.49%

Source: University of New Mexico Geospatial and Population Studies, 2020

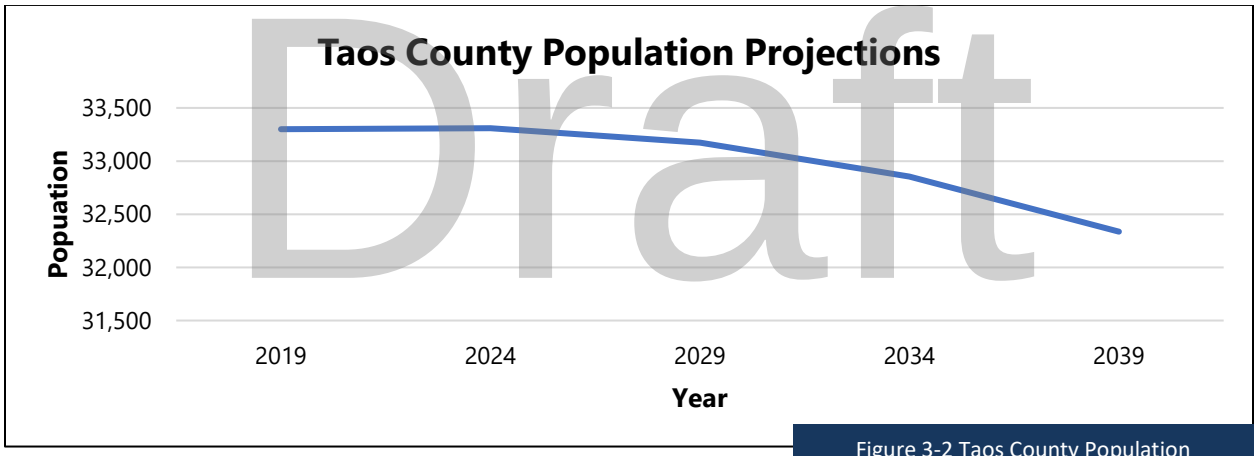


Figure 3-2 Taos County Population

Source: University of New Mexico Geospatial and Population Studies, 2020

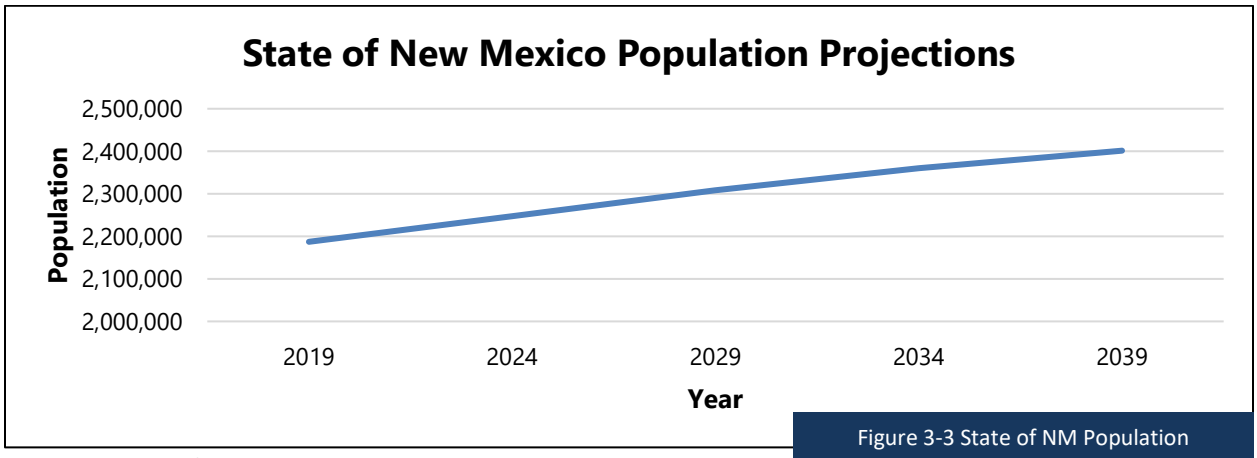


Figure 3-3 State of NM Population

Source: University of New Mexico Geospatial and Population Studies, 2020

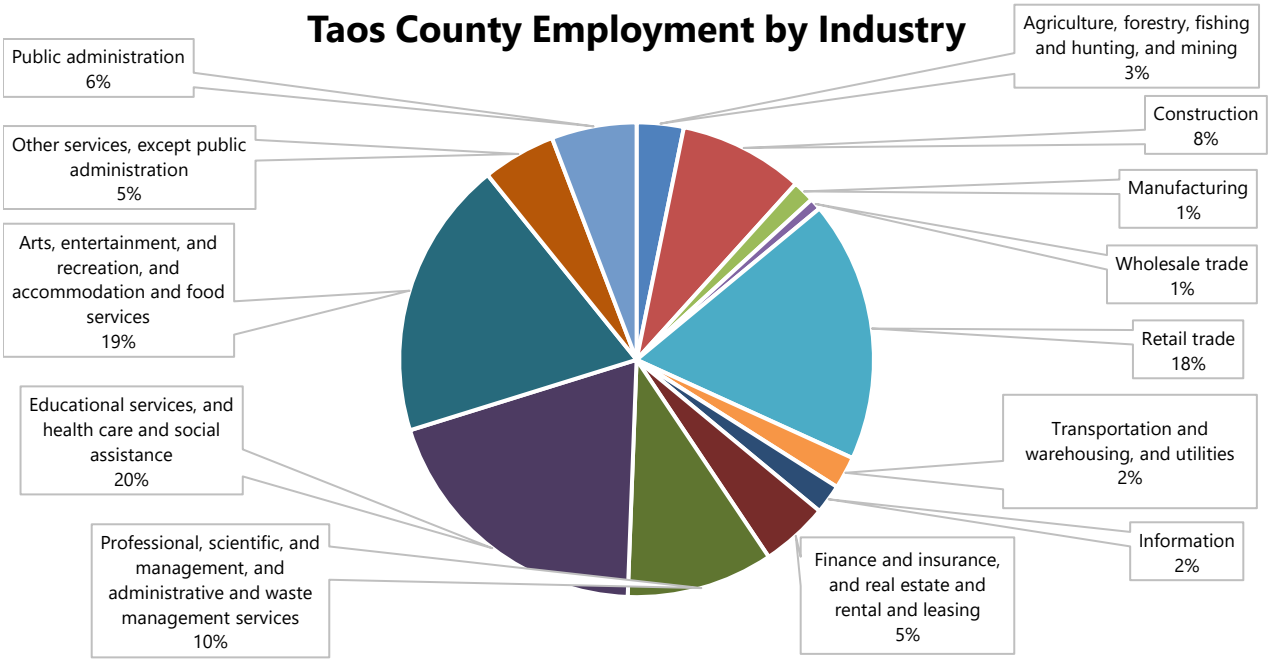
3.3.2 Employment and Largest Industries

According to the U.S. Bureau of Labor Statistics, the unemployment rate in Taos County was 6.2 percent in February 2019. This is above the unemployment rate for the State of New Mexico which is 4.8 percent. The largest employment segments in Taos County are directly related to tourism and account for 36.8 percent of all jobs. Taos Ski Valley is the largest private employer in the immediate area. The employment distribution by industry for Taos County is shown in **Table 3-3** and **Figure 3-4**.

Table 3-3 Taos County Employment Distribution by Industry

Industry	Number of Employed County Residents	Percent of Employed County Residents
Agriculture, forestry, fishing and hunting, and mining	439	3.20%
Construction	1,156	8.50%
Manufacturing	203	1.50%
Wholesale trade	109	0.80%
Retail trade	2,429	17.80%
Transportation and warehousing, and utilities	300	2.20%
Information	276	2.00%
Finance and insurance, and real estate and rental and leasing	627	4.60%
Professional, scientific, and management, and administrative and waste management services	1,360	10.00%
Educational services, and health care and social assistance	2,685	19.60%
Arts, entertainment, and recreation, and accommodation and food services	2,595	19.00%
Other services, except public administration	699	5.00%
Public administration	788	5.80%

Source: U.S. Census Bureau, 2019



Source: U.S. Census Bureau, 2020

Figure 3-4 Taos County Employment Distribution by Industry

3.3.3 Income

According to the U.S. Census Bureau, the median household income for Taos County is $36,758. This is lower than the median household incomes for the State of New Mexico and the United States which is $48,059 and $60,293, respectively. The per capita income is $23,642 for Taos County.

Taos County also has a significant portion of second homes in the area. According to a 2015 Albuquerque Journal report, approximately 27 percent of the County's homes are owned by out of state residents. Owners of these residences are traditionally more affluent and less sensitive to fluctuations in economic conditions.

3.4 Aircraft Operation Categories

There are four types of aircraft operations considered in the planning process. These are termed "local, itinerant, based, 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 forecasting criteria.

Commercial service operations are also termed either air taxi or air carrier depending on the passenger capacity or aircraft weight. The FAA defines each as follows:

Air Carrier: Aircraft with seating capacity of more than 60 seats or a maximum payload capacity of more than 18,000 pounds, carrying passengers or cargo for hire or compensation. This includes US and foreign-flagged carriers.

Air Taxi: Aircraft designed to have a maximum seating capacity of 60 seats or less or a maximum payload capacity of 18,000 pounds or less, carrying passengers or cargo for hire or compensation.

For the purposes of this forecast, air carrier operations would be any CFR Part 121 carrier operating aircraft greater than 60 seats including the Bombardier Canadair Regional Jet (CRJ) 700/900 or

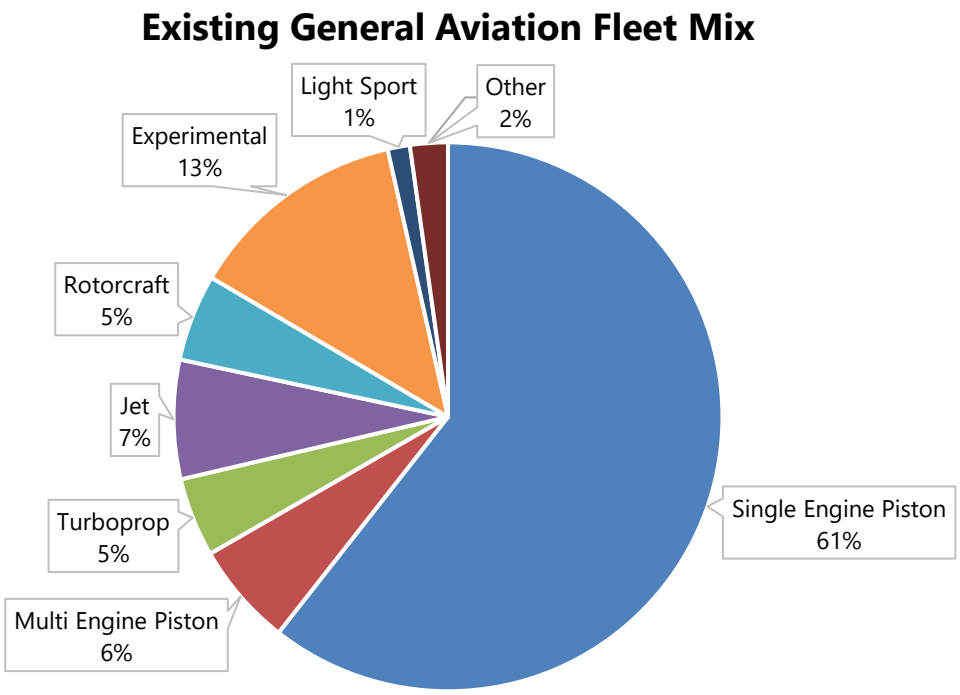
Embraer Regional Jet (ERJ) 170/175. Air taxi operations would include any CFR Part 380 carrier, such as Taos Air utilizing the Dornier 328 Jet, any CFR Part 121 carrier operating aircraft less than 60 seats including the CRJ-200 or ERJ-140/145, and anyone operating charter corporate aircraft flights for business or personal purposes under CFR Part 135.

3.5 National Trends in 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.

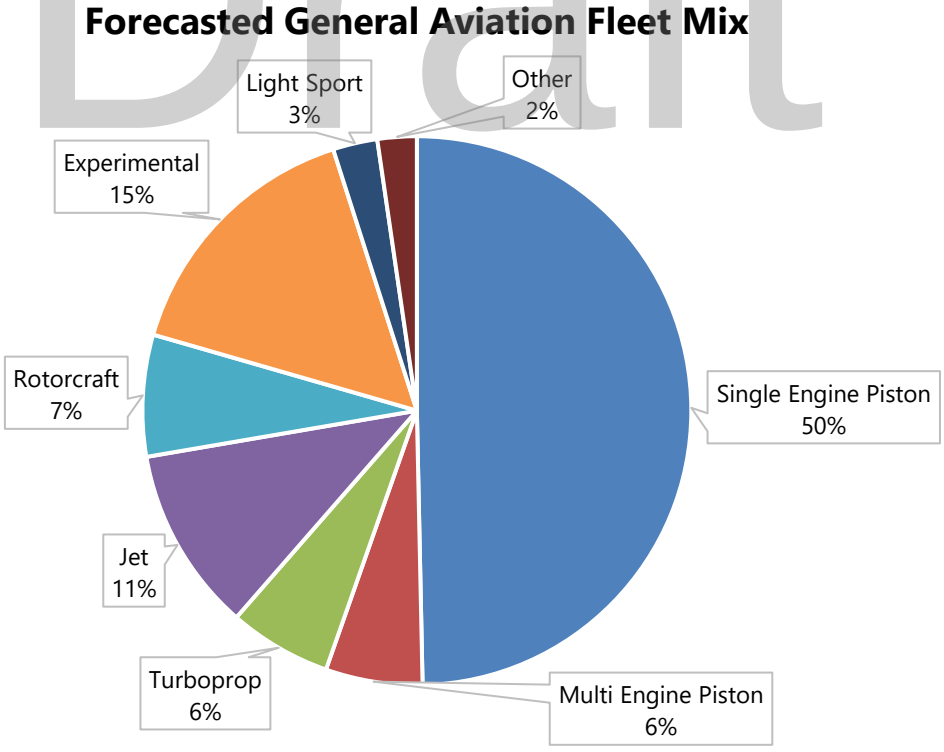
The FAA annually convenes expert panels in aviation and develops forecasts for future activity in all areas of aviation, including general aviation. The FAA's 2019-2039 Aerospace forecast predicts that the total general aviation fleet will remain stagnant during the 20-year forecast. The fleet of jet turbine aircraft is expected to increase at a rate of 2.2 percent annually, while fixed-wing piston aircraft are expected to decline at a rate of 1.0 percent; as a result, piston aircraft are expected to represent a smaller percentage of the total general aviation fleet than they typically have in previous years. The national helicopter fleet is anticipated to increase at an average annual rate of 1.6 percent. **Figure 3-5** and **Figure 3-6** 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 2019, a total of 2,700 aircraft were included in this category. Rate of growth for this aircraft category is expected to increase by 3.3 percent annually and by 2039 a total of 5,430 light sport aircraft are projected to join the fleet.



Source: Federal Aviation Administration, 2019

Figure 3-5 Existing National GA



Source: Federal Aviation Administration, 2019

Figure 3-6 Forecasted National GA Fleet

The Federal Aviation Aerospace Forecast produces activity forecasts based on general aviation and air taxi hours flown. As shown in **Table 3-4**, the biggest predicted increase is for turbo jet and light sport aircraft at 2.6 percent and 4.1 percent growth respectively from 2019 through 2039. Fixed wing piston aircraft categories are forecast to decline slightly through the forecast period.

Table 3-4 U.S. General Aviation and Air Taxi Aircraft Hours Flown (In Thousands)

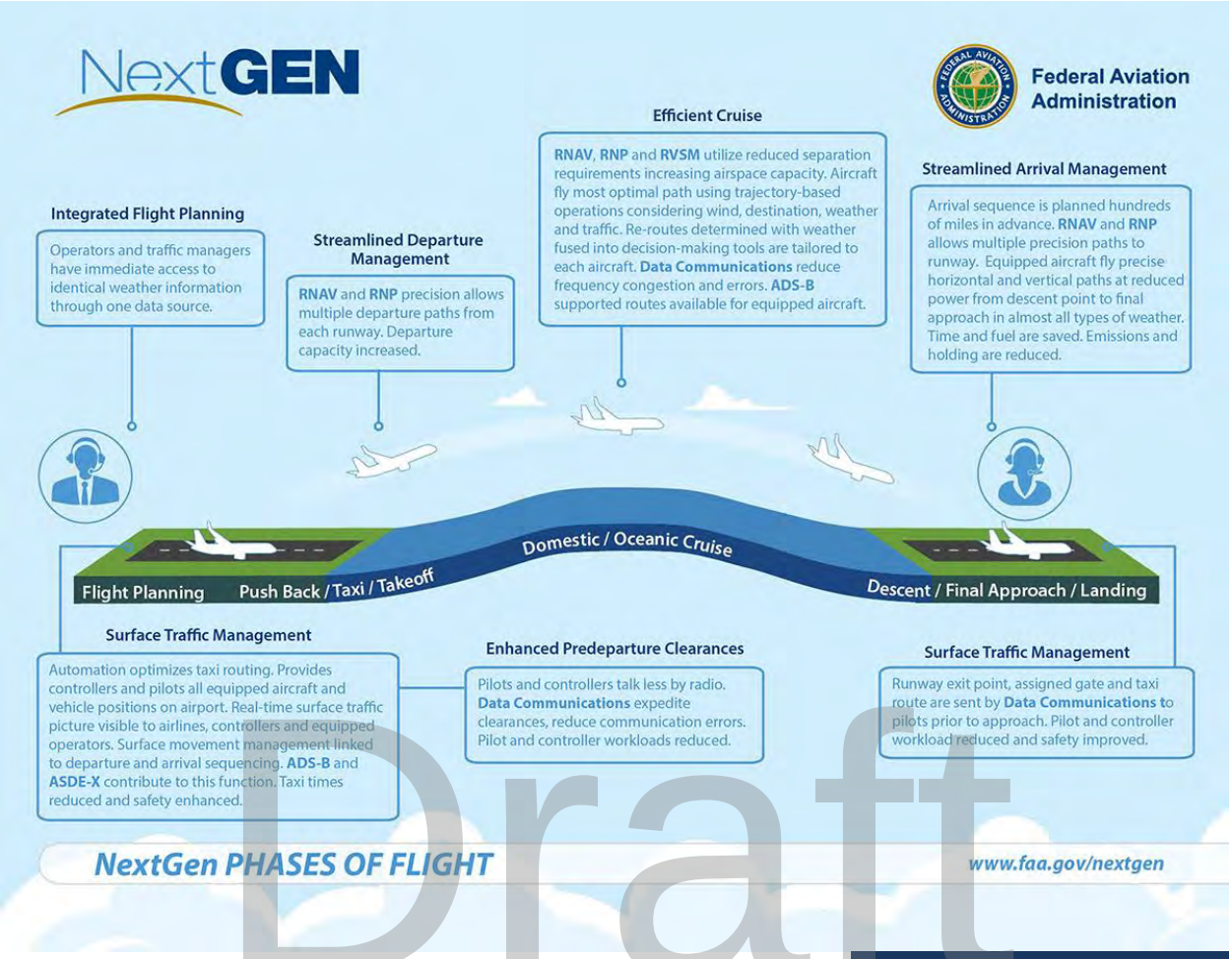
Year	Aircraft			Rotorcraft		Other	Experimental	Light Sport	Total Hours Flown (Thousands)
	Piston	Turbine	Business Jet	Piston	Turbine				
2019	13,497	2,807	5,019	641	2,457	153	1,242	223	26,039
2020	13,276	2,838	5,215	661	2,520	153	1,269	237	26,169
2021	13,064	2,871	5,406	680	2,578	154	1,293	250	26,297
2022	12,863	2,900	5,586	700	2,636	155	1,315	264	26,418
2023	12,665	2,926	5,762	720	2,695	155	1,338	278	26,540
2024	12,479	2,956	5,945	738	2,756	156	1,363	292	26,684
2025	12,318	2,987	6,129	757	2,819	156	1,386	305	26,856
2026	12,169	3,020	6,315	775	2,883	156	1,409	318	27,045
2027	12,015	3,052	6,498	794	2,941	156	1,432	331	27,219
2028	11,889	3,090	6,663	813	2,998	157	1,456	344	27,410
2029	11,776	3,129	6,824	831	3,058	157	1,480	357	27,612
2030	11,666	3,167	6,980	850	3,118	158	1,504	371	27,813
2031	11,563	3,207	7,140	869	3,178	158	1,527	384	28,027
2032	11,472	3,248	7,293	888	3,240	158	1,551	397	28,248
2033	11,393	3,294	7,442	906	3,301	159	1,574	411	28,479
2034	11,321	3,344	7,592	923	3,362	159	1,598	424	28,723
2035	11,254	3,395	7,744	941	3,423	159	1,622	438	28,976
2036	11,217	3,453	7,894	958	3,485	160	1,643	453	29,263
2037	11,179	3,516	8,036	976	3,546	160	1,664	467	29,545
2038	11,167	3,583	8,187	994	3,608	160	1,685	482	29,867
2039	11,177	3,652	8,331	1,012	3,670	160	1,707	496	30,205
AAG:	**-0.9%**	**1.3%**	**2.6%**	**2.3%**	**2.0%**	**0.7%**	**1.6%**	**4.1%**	**0.7%**

Source: FAA Aerospace Forecast, 2019

The FAA projects the number of active general aviation pilots (excluding student pilots) to increase by an average annual rate of 0.1 percent over the forecast period. The number of student pilots is also forecast to increase by an average annual rate of 0.1 percent over the forecast period. Airline Transport pilots are expected to grow at an annual average rate of 0.7 percent. The number of private pilots is projected to decrease at an average yearly rate of 0.7 percent over the forecast period. The FAA is also projecting an annual increase of 2.8 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 for more direct flight routes. The NextGen Program is depicted in **Figure 3-7**.



Source: Federal Aviation Administration,2020

Figure 3-7 NextGen Program

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 2019-2039 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 the Taos Regional Airport and should be planned for accordingly.

3.6 Factors Affecting Aviation Demand at Taos Regional Airport

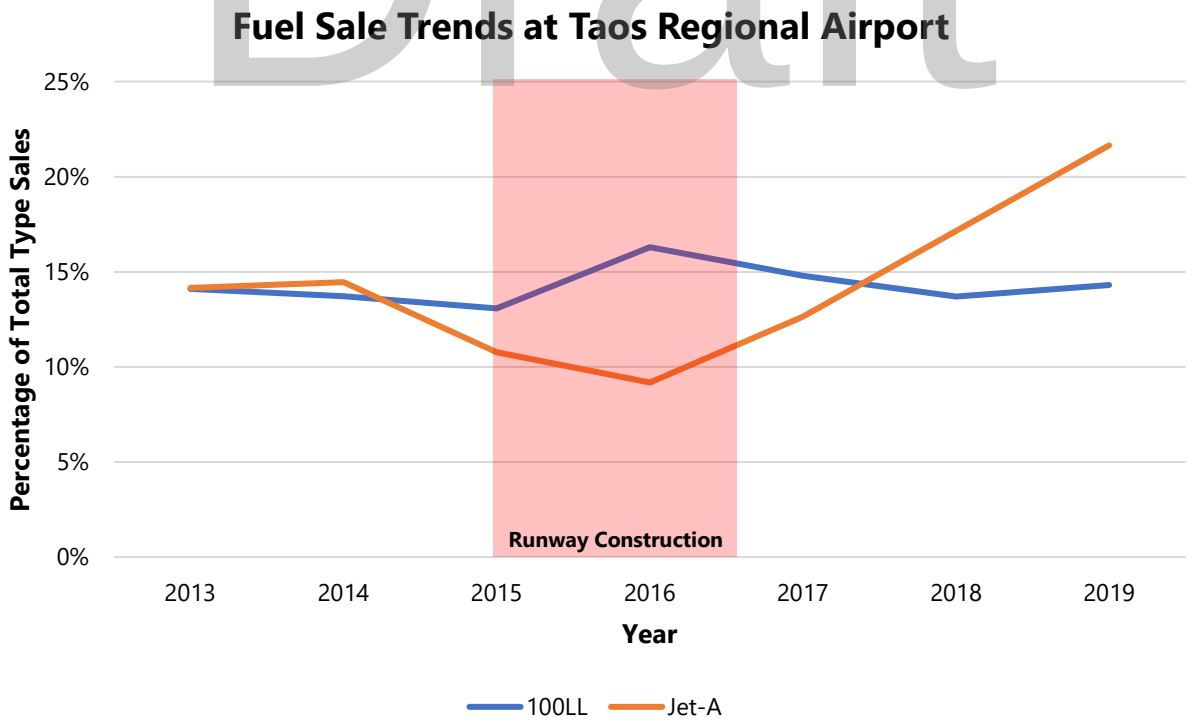
In order to develop aviation forecasts to truly reflect the unique conditions at Taos Regional Airport, the factors impacting the Airport's demand must be evaluated. The following key factors were determined to have significant influence on the Airport's existing and future demand:

National Trends in Aviation Related to Taos Regional Airport

Based on an evaluation of FAA forecasts of the general aviation industry, the jet and turboprop fleet will become more prevalent within the next twenty years. Approximately 40 percent of Taos Regional Airport's fleet mix for total annual operations are by jet or turboprop aircraft. These aircraft are typically more demanding for aircraft parking apron area, hangar needs, fuel storage requirements, vehicle parking, and additional passenger/crew services. Concurrently, it is expected that lesser demanding single engine piston aircraft are likely to decline over the same period.

Completion of Runway 13-31

As previously discussed, development at the Airport was at a relative standstill for nearly a 30-year period as the EIS process was undertaken. The new crosswind runway, Runway 13-31, was completed in 2017 and provided increased airport safety and efficiency. With the new runway operational, there was an increase in Jet-A fuel sales, which power turbine driven aircraft, by approximately 50 percent over sales prior to Runway 13-31's construction. During that same time period, 100LL fuel sales, which power piston driven aircraft, remained constant. This data set indicates an increase in turbine operations, including jets and turboprops, at the Airport in recent history. **Figure 3-8** depicts the annual percentage of aircraft sales of total fuel sales for either Jet-A or 100LL from 2013 to 2019.



Source: Taos Aviation Services, 2020

Figure 3-8 Fuel Sales

Lack of Available Hangar Facilities

Currently, there is a waitlist of 12 aircraft for hangar storage at Taos Region Airport. Of these 12 aircraft, there are two jets, five single-engine piston aircraft, and one multi-engine piston aircraft which are not presently based at the Airport. As a result, these individuals are basing their aircraft at other airports in the region. It is assumed if there were additional hangar development for based aircraft at the Airport, it would lead to an immediate increase in based aircraft.

Passenger Air Service Demand at Taos

Taos Regional Airport is located within the Enchanted Circle, an area of Northern New Mexico with numerous tourist activities including:

- Taos Ski Valley: a world-class recreation area with year-round outdoor activities including skiing, hiking, rafting, and golfing. According to Snow Industry News, the Ski Valley is undertaking $300 million worth of improvements including, but not limited to: new ski lifts, dining area renovations, new meeting / event centers, snowmaking equipment upgrades, new luxury accommodations, and instruction centers.
- The Taos Pueblo: a cultural site that is the only living Native American community designated both a World Heritage Site by United Nations Educational, Scientific and Cultural Organization (UNESCO) and a National Historic Landmark.
- The Town of Taos: a center for arts, culture, dining, and shopping in the heart of the Enchanted Circle.

Visitors to the region typically arrive in the area via automobile. For out of state visitors, this would typically include flying into Albuquerque International Sunport or Santa Fe Municipal Airport, both of which accommodate airline service, and driving to Taos which could take several hours depending on weather conditions. This may be a limiting factor for individuals searching for destinations nationwide. Recognizing a need for direct and easy access for tourists to the region, Taos Air was formed to provide air service into the Airport.

Taos Air, a scheduled public charter operating under Title 14 Code of Federal Regulations (CFR) Part 380, initiated service to Dallas (Love Field) and Austin, Texas in December 2018 operating two 30-passenger Dornier 328 Jets. This service allows passengers to purchase airfare and travel on Taos Air from these destinations directly to Taos Regional Airport. Flights initially were operated during the peak winter months on a limited schedule. Since the introduction of service, Taos Air has experienced an increase in passenger and market demand. Taos Air contributed 1,755 passenger enplanements for the Airport in 2019 and expanded their destinations to both the Los Angeles and San Diego, California areas. Additionally, considerations are being made to expand their service schedule for summer services to their Texas markets.

Presently, Taos Regional Airport is able to accommodate passenger operations by CFR Part 380 carriers with 30 seats or less, such as Taos Air. The Airport is unable to accommodate passenger services by CFR Part 121 carriers such as American Airlines, United Airlines, Delta Air Lines, or their regional affiliates who can only legally operate into airports with an FAA approved Part 139 Airport Operating Certificate. Airports which require certification under Title 14 CFR Part 139 include those which:

- Serve scheduled and unscheduled air carrier aircraft with more than 30 seats;
- Serve scheduled air carrier operations in aircraft with more than 9 seats but less than 31 seats; and
- The FAA Administrator requires to have a certificate.

According to the FAA, "Airport Operating Certificates (AOC) serve to ensure safety in air transportation. To obtain a certificate, an airport must agree to certain operational and safety standards and provide for such things as firefighting and rescue equipment. These requirements vary depending on the size of the airport and the type of flights available." Taos Regional Airport does not meet key requirements for Part 139 certification including ARFF services. Additionally, the Airport would also be required to implement Transportation Security Administration (TSA) programs in order to ensure the secure operation of scheduled passenger service. Further analysis of the facility and operational needs to achieve Part 139 certification will be discussed in Chapter Four, *Facility Requirements*.

There is an overall trend in the regional airline fleet mix transitioning from smaller aircraft to larger aircraft. Regional carriers have fluctuated the retirement of both turboprop and jet powered aircraft with passenger capacities less than 50 seats in favor of larger capacity regional aircraft. In the early 2010's, many regional airlines stored their 50 seat passenger jets only to reintroduce them into service recently. These aircraft include the Bombardier CRJ-200 or ERJ-140/145.

A 2020 study was conducted that reviewed the existing market conditions in the area to determine if air service by a CFR Part 121 carrier may be viable. The study determined there would be sufficient market demand for continuation and expansion of Taos Air in addition to regional airline service commencing. If the Airport met the requirements and obtained an AOC, it would be possible for scheduled service by a major airline or their regional affiliates to serve Taos Regional Airport. Potential operations, fleet mix, and passenger enplanements will be further evaluated in this chapter.

Coronavirus Pandemic (COVID-19)

Starting in early 2020, the COVID-19 virus progressed into global pandemic which has impacted both regional, national, and global markets. As of May 2020, COVID-19 had been responsible for over 80,000 deaths in the United States alone. This resulted in virtually every state implementing some form of measures to slow the spread of the virus 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. Due to the economic losses and travel restrictions, the International Civil Aviation Organization estimated a 91 percent drop in air passenger capacity in April 2020. 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 prior during the planning period. It is anticipated the CRJ-200 and ERJ-140 / 145 retirement will be accelerated in the early-2020's according to recent airline announcements. By the mid-2020's and onwards, the regional air carrier fleet mix will likely consist of the CRJ-700 / 900 or Embraer 170/175, which seat 60 to 76 passengers. It should be noted while there is a shift to larger aircraft, it does not necessary indicate the need for larger capacity. It would be expected in many markets the larger jets would carry the same passenger amount at a lower load factor.

Direct impacts to Taos as a result of COVID-19 include the early closure of Taos Ski Valley's winter season and suspension of the remaining scheduled 2020 service by Taos Air. The full impacts of COVID-19 are not fully understood at this point and it is likely there may be shifts to local aviation trends within the short-term.

3.7 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 2019-2039 FAA TAF and 2017 New Mexico Aviation System Plan Update were reviewed.

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 2019 TAF indicates 37 existing based aircraft for Taos Regional Airport and 7,334 existing annual operations. The TAF indicates a growth in based aircraft from 37 in 2019 to 40 in 2039 and growth in operations from 7,334 in 2019 to 11,684 in 2039 for the Airport. The TAF is used as a reference to compare existing activity levels at Taos Regional Airport.

The 2017 New Mexico Aviation System Plan Update utilized 2013 as a base year. The report indicated 44 based aircraft and 12,901 total annual operations in 2013. The planning horizon for the study concludes in 2035 which forecasts 52 based aircraft and 21,717 total annual operations.

3.8 Forecasts of Aviation Demand

3.8.1 Based Aircraft Forecast

The forecasts for Taos Regional Airport took into consideration growth rates for the community, county, and state with a comparative analysis of existing based aircraft levels using three methodologies to determine a preferred forecast of based aircraft.

Forecasting methods were developed which accounted for the lack of available hangar space, demand of aircraft owners in the Taos region who are unable to base their aircraft at the Airport, and overall trends in the national general aviation fleet mix. These factors were determined to be significant influences on the existing and future number of based aircraft at Taos Regional Airport.

No Hangar Development Scenario

This method assumes that no hangar development suitable for existing demand occurs at the Airport. As a result, the aircraft on the hangar waitlist for the region would still be required to base their aircraft at other regional airports. It is assumed that the remaining based aircraft fleet mix outlook would trend with projections developed in the FAA 2019-2039 Aerospace Forecast, which includes a 1.0 percent annual decline for single-engine piston aircraft, a 0.5 percent annual decline for multi-engine piston aircraft, and a 1.6 percent annual increase for helicopters. With the decline in aircraft depicted and high demand for hangar space, it is assumed that one jet may be able to be based at Taos once existing space opens up. This scenario results in 33 based aircraft in 2039. The results of this scenario forecast are shown in **Table 3-5**.

Table 3-5 No Hangar Development Scenario

Year	Single-Engine	Multi-Engine	Jet	Helicopter	Total Based Aircraft
2019	35	2	0	1	38
2024	33	2	1	1	37
2029	32	2	1	1	36
2034	30	2	1	1	34
2039	29	2	1	1	33

Source: Armstrong Consultants, Inc., 2020

Hangar Development / National Trend Demand Scenario

This method assumes hangar development over a two-year period in the short-term able to accommodate 100 percent of the local area hangar demand. After the initial construction, it is assumed that based jets at the airport would grow at an annual average rate of 2.2 percent as listed in the FAA 2019-2039 Aerospace Forecast. It is assumed that the remaining based aircraft fleet mix outlook would trend with projections developed in the FAA 2019-2039 Aerospace Forecast, which includes a 1.0 percent annual decline for single-engine piston aircraft and 1.6 percent annual increase for helicopters. This scenario results in 39 based aircraft in 2039. The results of this scenario forecast are shown in **Table 3-6**.

Table 3-6 Hangar Development / National Trend Demand Scenario

Year	Single-Engine	Multi-Engine	Jet	Helicopter	Total Based Aircraft
2019	35	2	0	1	38
2024	38	3	2	1	44
2029	36	3	2	1	42
2034	34	3	2	1	40
2039	33	3	2	1	39

Source: Armstrong Consultants, Inc., 2020

Hangar Development / No Demand Change Scenario

This method assumes hangar development over a two-year period in the short-term able to accommodate 100 percent of the local area hangar demand. After the initial construction, it is assumed that there is no change to demand to the single-engine, multi-engine, or jet aircraft fleets either nationally or locally. This could occur with either longevity of the existing and immediate based aircraft operators or consistent replacement of storage availability if it becomes available in the future. This scenario results in 45 based aircraft in 2039. The results of this scenario forecast are shown in **Table 3-7**.

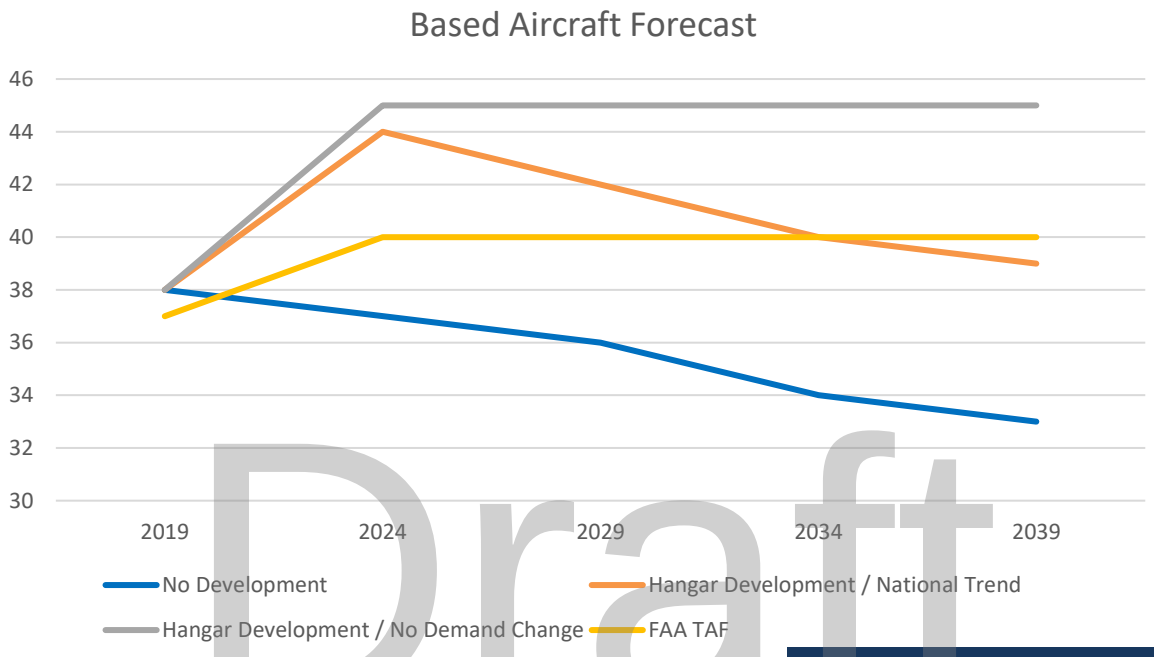
Table 3-7 Hangar Development / No Demand Change Scenario

Year	Single-Engine	Multi-Engine	Jet	Helicopter	Total Based Aircraft
2019	35	2	0	1	38
2024	39	3	2	1	45
2029	39	3	2	1	45
2034	39	3	2	1	45
2039	39	3	2	1	45

Source: Armstrong Consultants, Inc., 2020

Preferred Scenario

Based on the results of the three forecasting methods discussed, the Hangar Development / No Demand Change Scenario has been selected as the preferred forecast for based aircraft. This scenario factors in regional and community trends corresponding to aviation demand with the current fleet mix at the Airport. The TAF was used for comparison, which forecasts 45 based aircraft during the planning period. **Figure 3-9** depicts the based aircraft forecasting methods against the FAA TAF.



Source: Armstrong Consultants, Inc., 2020; Federal Aviation Administration, 2020

Figure 3-9 Based Aircraft Forecast

3.8.2 Aircraft Operations and Passenger Enplanement Forecast

As mentioned, Taos Regional Airport receives air service through Taos Air, operating under CFR Part 380. Types of airlines that serve smaller communities in the United States, similar to Taos, typically include: regional airlines (i.e. SkyWest Airlines, Endeavor Air, Envoy Air, etc.) which operate under CFR Part 121, commuter airlines (i.e. Boutique Air, Denver Air Connection, etc.) which operate under CFR Part 135, or public charters (i.e. Taos Air) which operate under CFR Part 380.

Regional airlines offer a streamlined service to mainline carriers to provide seamless onward connections. Regional airlines usually operate under the brand of a major airline as an affiliate carrier. For example, SkyWest Airlines operates as United Express in cooperation with United Airlines. Currently, passengers departing on SkyWest Airlines check-in at a United-branded counter, receive a United-branded ticket and obtain frequent flier miles through United's program. Additionally, once at their hub, passengers can connect to another United flight without having to recheck-in or be re-screened by security. Regional airlines also tend to operate jet-powered aircraft which typically have greater maintenance reliability and are able to operate in less favorable weather conditions. Overall, these carriers are able to provide a nearly equivalent level of service and convenience offered by major carriers.

Commuter airlines (also known as air taxis) offer standalone services between small communities and medium to large-sized cities. They typically do not offer interline agreements which are utilized by regional airlines and therefore are not able to provide a seamless onward connection. Additionally, commuter airlines do not offer integrated service with major carriers, so their passengers are unable to check their luggage through to their final destination or obtain frequent flier miles. Passengers are typically required to recheck-in at their connecting airport and often times are required to be re-screened. Commuter airlines typically operate smaller single or multi-engine turbine-driven and small jet aircraft with capacity less than 30 passengers. Public charters typically have the same operating characteristics as commuter airlines but the coordination of ticket sales is organized by a third-party organization outside of the airline itself.

The type of carrier operating at Taos Regional Airport can have a strong impact on the forecasted total annual operations and enplanements. In order to develop a preferred method of forecasting aircraft operations and passenger enplanements at Taos Regional Airport, the following three scenarios were created. Each scenario for total annual operations will also include general aviation users. It is assumed the remaining general aviation operations at Taos Regional Airport, would trend with the projected hours flown determined by the FAA 2019-2039 Aerospace Forecast, which includes an annual decrease of 0.9 percent for piston aircraft, a 1.3 percent annual increase for turboprop aircraft, and a 2.6 percent annual increase for jet aircraft.

Scenario 1 assumes Taos Regional Airport does not obtain an AOC necessary for CFR Part 121 air service but retains an expanded CFR Part 380 service provided by Taos Air. The generalized timeline of proposed service includes:

Short Term:

- Continuation of current level of service by Taos Air;
- Adding summer service in two markets;
- Adding summer service to two remaining markets;
- Increasing weekly service to one market;
- Increasing weekly service to one additional market and expanding summer service season;

Medium-Long Term:

- Increased weekly service to two markets;
- Increase to daily service during peak season and five times per week during off-peak seasons for one market;
- Increase to daily year-round service for one market;
- Increase one market to five weekly flights;
- Initiation of two new markets at three times per week during winter and summer months;
- Market maturity and capacity adjustments on an as-needed basis.

This scenario, listed in **Table 3-8**, results in 9,769 total annual operations and 28,631 passenger enplanements in 2039.

Table 3-8 Scenario 1: Part 380 Only

Year	Air Service Operations		General Aviation Operations		Military	Operation Total	Enplanement Total
	Air Carrier	Air Taxi	Local	Itinerant			
2019	0	360	2,577	4,030	200	7,167	3,755
2024	0	1,072	2,463	4,196	200	7,931	12,756
2029	0	2,003	2,354	4,390	200	8,947	22,534
2034	0	2,258	2,250	4,614	200	9,322	25,403
2039	0	2,545	2,150	4,874	200	9,769	28,631

Note: Does not include Part 135 enplanements

Source: Embark Aviation and Armstrong Consultants, Inc., 2020

Scenario 2 assumes the commencement of commercial air service by a CFR Part 121 airline within the short-term period in addition to expanded CFR Part 380 service offered by Taos Air. The generalized timeline of proposed service includes:

Short Term:

- Continuation of current level of service by Taos Air;
- Service duration and frequency increases, including summer service, increases for two markets;
- Summer service initiated to the two remaining markets;
- Summer frequency increased to two markets;
- Initiation of year-round service for one market and increased weekly seasonal service to one other market;

Medium-Long Term:

- Entry of three-times weekly regional airline service under major airline banner and adjustment of Taos Air schedule and destinations;
- Increase of regional airline service to five weekly flights;
- Increase of regional airline service to daily flights;
- Entry of second regional airline on three-times weekly schedule and increased capacity by first regional carrier during peak months;
- Adjustments by second regional airline to five weekly flights and year-round capacity increase by first regional carrier; and
- Market maturity and capacity adjustments on an as-needed basis.

This would only occur if the Airport were able to meet the facility and operational requirements to achieve Part 139 certification and accommodate a CFR Part 121 carrier, which will be further evaluated in Chapter Four, *Facility Requirements*. This scenario, listed in **Table 3-9**, results in 10,147 total annual operations and 53,750 passenger enplanements in 2039.

Table 3-9 Scenario 2: Part 121 / Part 380 (Low)

Year	Air Service Operations		General Aviation Operations		Military	Operation Total	Enplanement Total
	Air Carrier	Air Taxi	Local	Itinerant			
2019	0	360	2,577	4,030	200	7,167	3,755
2024	0	1,312	2,463	4,196	200	8,171	16,386
2029	730	1,572	2,354	4,390	200	9,246	42,331
2034	730	1,864	2,250	4,614	200	9,658	47,700
2039	730	2,193	2,150	4,874	200	10,147	53,750

Note: Does not include Part 135 enplanements

Source: Embark Aviation and Armstrong Consultants, Inc., 2020

Scenario 3 assumes the commencement of commercial air service by a CFR Part 121 airline within the short-term period, on a larger scale compared to Scenario 2, in addition to expanded CFR Part 380 service offered by Taos Air. The generalized timeline of proposed service includes:

Short Term:

- Continuation of current level of service by Taos Air;
- Expansion of Taos Air service including frequency and seasonal duration;
- Increased frequency and duration of service to two markets;
- Entry of daily regional airline service under major airline banner and adjustment of Taos Air schedule;

Medium-Long Term:

- Adjustments to regional airline capacity based on seasonal demand changes;
- Adjustments to regional airline capacity year-round;
- Entry of second daily regional airline;
- Adjustments to second regional airline capacity based on seasonal demand changes;
- Adjustments to second regional airline capacity year-round; and
- Market maturity and capacity adjustments on an as-needed basis.

This would only occur if the Airport were able to meet the facility and operational requirements to achieve Part 139 certification and accommodate a CFR Part 121 carrier, which will be further evaluated in Chapter Four, *Facility Requirements*. This scenario, listed in **Table 3-10**, results in 10,482 total annual operations and 68,993 passenger enplanements in 2039.

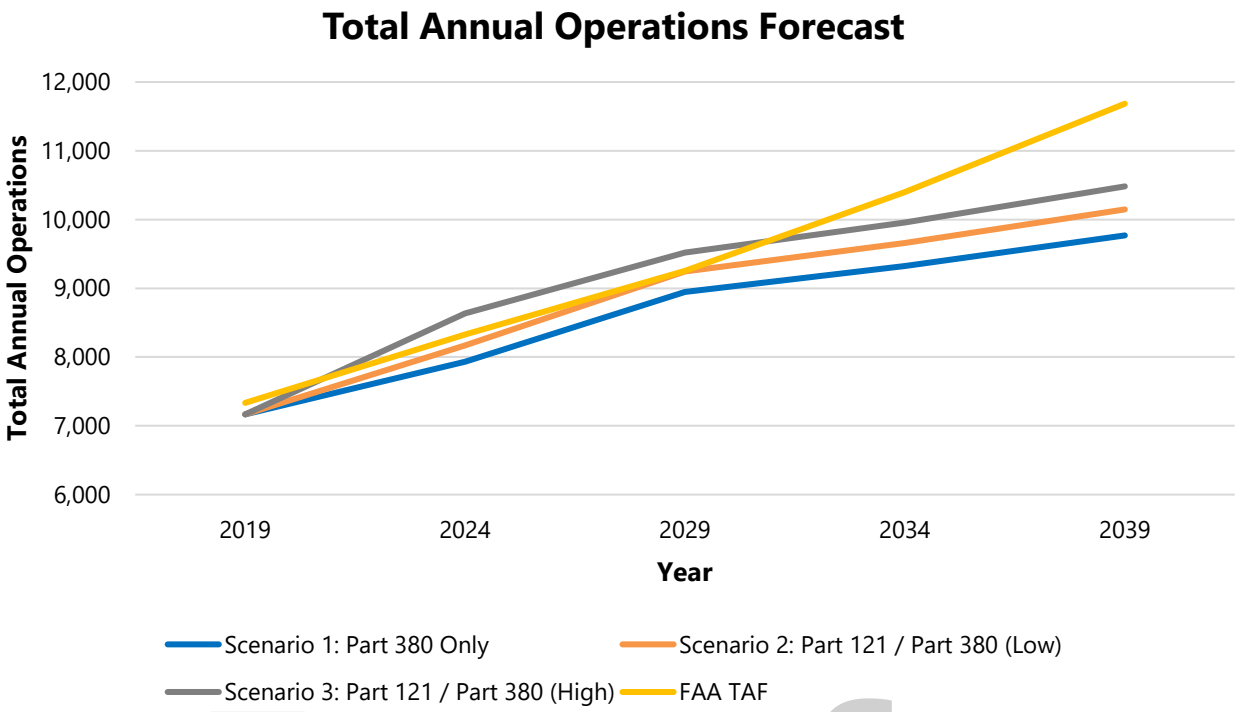
Table 3-10 Scenario 3: Part 121 / Part 380 (High)

Year	Air Service Operations		General Aviation Operations		Military	Operation Total	Enplanement Total
	Air Carrier	Air Taxi	Local	Itinerant			
2019	0	360	2,577	4,030	200	7,167	3,755
2024	240	1,534	2,463	4,196	200	8,633	28,593
2029	1,488	1,086	2,354	4,390	200	9,518	54,318
2034	1,677	1,214	2,250	4,614	200	9,955	61,221
2039	1,890	1,368	2,150	4,874	200	10,482	68,993

Note: Does not include Part 135 enplanements

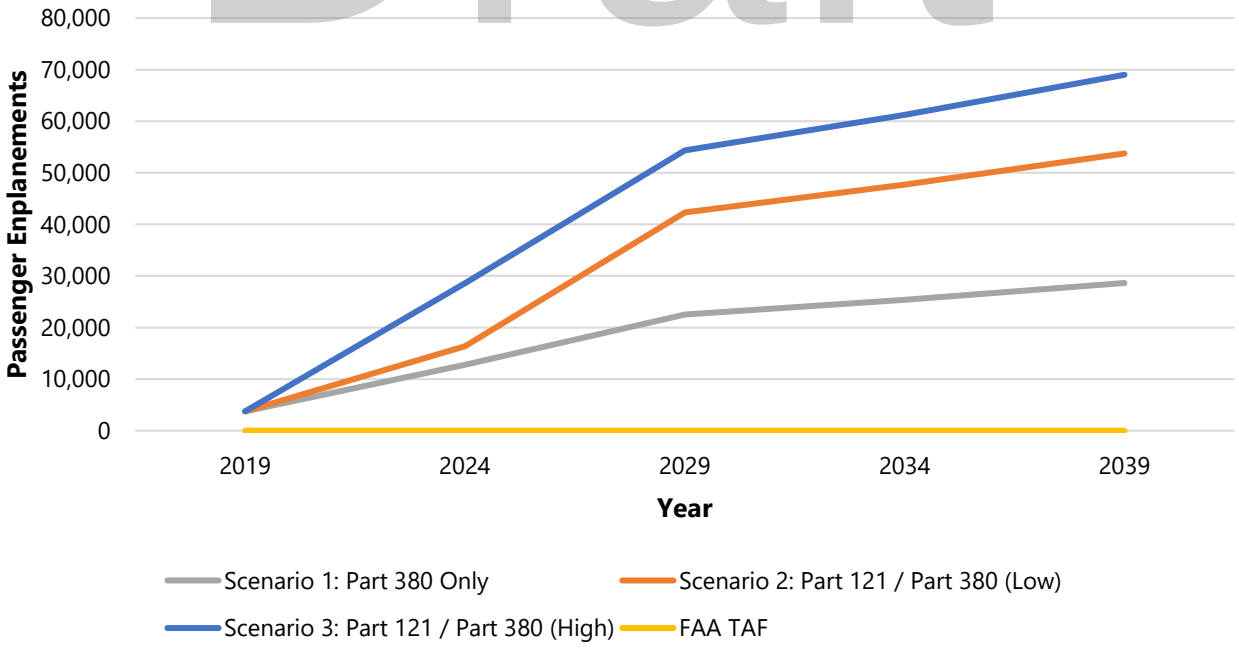
Source: Embark Aviation and Armstrong Consultants, Inc., 2020

These methods provide the likely estimate for future operations and enplanements at the Taos Regional Airport. The TAF was used for comparison, which forecasts 11,684 annual operations and no passenger enplanements throughout the planning period. **Figure 3-10** and **Figure 3-11** depict the operation and enplanement forecasts, respectively. Based on an evaluation of operations and enplanements forecast scenario 2 was selected as the preferred method as it reflects the anticipated growth for both Part 121 and Part 380 operators to continue into the future.



Source: Armstrong Consultants, Inc., 2020;
Federal Aviation Administration, 2020

Figure 3-10 Total Annual Operations



Source: Armstrong Consultants, Inc., 2020;
Embark Aviation, 2020;

Figure 3-11 Passenger Enplanement

Federal Aviation Administration, 2020

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.

Taos Aviation Service records indicated a fluctuation throughout with year with operations predominately throughout the winter months when weather is favorable for regional tourism activities. Lower activity traditionally occurs in the spring and summer months. The peak month of operations has been determined to be March, as shown in **Figure 3-12**, and this will be utilized to determine monthly/hourly peaking tendencies at the airport.

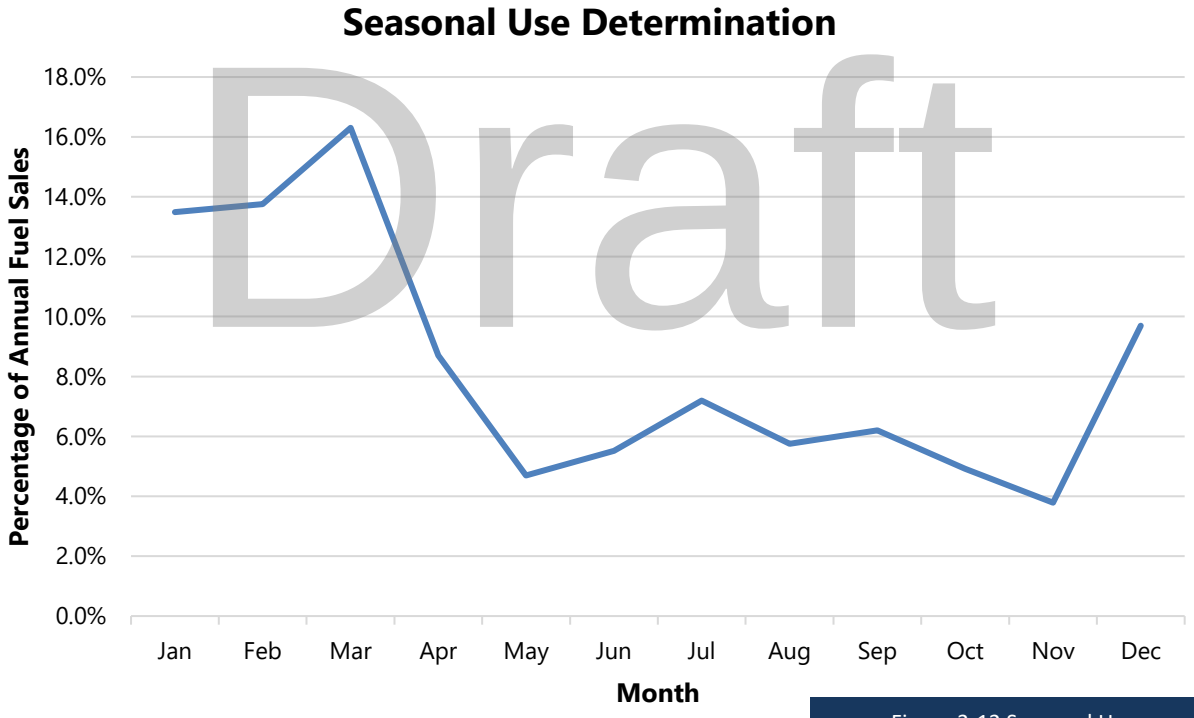


Figure 3-12 Seasonal Use

Source: Taos Aviation Services, 2020

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.

Airport management records were used as a tool to determine the peaking characteristics for Toas Regional Airport. 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 3-11**. The Design Day and Design Hour peak demand in the planning year occurs under VFR weather conditions in March (highlighted in bold), with an average of 54 daily operations and approximately 6.1 operations per hour in 2039.

Table 3-11 Monthly/Daily/Hourly Demand

Planning Year: 2024 Operations: 8,171					Planning Year: 2029 Operations: 9,246				
		Operations					Operations		
Month	% Use	Monthly	Daily	Hourly	Month	% Use	Monthly	Daily	Hourly
January	13.5%	1,103	36	4.1	January	13.5%	1,248	41	4.6
February	13.8%	1,128	37	4.2	February	13.8%	1,276	42	4.7
March	**16.0%**	**1,332**	**43**	**4.9**	**March**	**16.0%**	**1,507**	**49**	**5.6**
April	8.7%	711	23	2.6	April	8.7%	804	26	3.0
May	4.7%	384	12	1.4	May	4.7%	435	14	1.6
June	5.5%	449	14	1.6	June	5.5%	509	16	1.8
July	7.2%	588	19	2.2	July	7.2%	666	21	2.5
August	5.8%	474	15	1.8	August	5.8%	536	17	2.0
September	6.2%	507	16	1.9	September	6.2%	573	18	2.1
October	4.9%	400	13	1.5	October	4.9%	453	14	1.7
November	3.8%	310	10	1.1	November	3.8%	351	11	1.3
December	9.7%	793	26	2.9	December	9.7%	897	29	3.3
Planning Year: 2034 **Operations: 9,658**					**Planning Year: 2039** **Operations: 10,147**				
		Operations					Operations		
Month	% Use	Monthly	Daily	Hourly	Month	% Use	Monthly	Daily	Hourly
January	13.5%	1,304	42	4.8	January	13.5%	1,370	45	5.1
February	13.8%	1,333	43	4.9	February	13.8%	1,400	46	5.2
March	**16.0%**	**1,574**	**51**	**5.8**	**March**	**16.0%**	**1,654**	**54**	**6.1**
April	8.7%	840	27	3.1	April	8.7%	883	29	3.3
May	4.7%	454	14	1.7	May	4.7%	477	15	1.8
June	5.5%	531	17	2.0	June	5.5%	558	18	2.1
July	7.2%	695	22	2.6	July	7.2%	731	24	2.7
August	5.8%	560	18	2.1	August	5.8%	589	19	2.2
September	6.2%	599	19	2.2	September	6.2%	629	20	2.3
October	4.9%	473	15	1.8	October	4.9%	497	16	1.8
November	3.8%	367	12	1.4	November	3.8%	386	12	1.4
December	9.7%	937	30	3.5	December	9.7%	984	32	3.6

Source: Armstrong Consultants, Inc., 2020

3.11 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 Taos Regional Airport is approximately 230,000 operations.

Based on existing and forecasted activity levels, operations are not expected to exceed two percent of capacity over the 20-year planning period. Therefore, no additional runways are needed to accommodate the existing or forecasted activity. **Table 3-12** summarizes the ASV relationship developed in this section.

Table 3-12 Annual Service Volume

Year	Total Annual Operations	Annual Service Volume	Annual Service Ratio
2019	7,167	230,000	3.1%
2024	8,171	230,000	3.5%
2029	9,246	230,000	4.0%
2034	9,658	230,000	4.2%
2039	10,147	230,000	4.4%

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

3.12 Design Aircraft

The design aircraft, which may also be referred to as the critical aircraft, represents the most demanding aircraft type or family of aircraft that uses an airport on a regular basis. The FAA provides the following definition: "The critical aircraft is the most demanding aircraft type, or grouping of aircraft with similar characteristics, that make regular use of the airport. Regular use is 500 annual operations including both itinerant and local operations, but excluding touch-and-go operations. An operation is either a takeoff or landing."

As was noted in earlier chapters, the existing and future design aircraft are used to make the selection of airfield design standards and to define the airport reference code (ARC) to be used in planning airfield facilities. The Airport Reference Code is determined via the three components of the Runway Design Code. The first component is the Aircraft Approach Category (AAC). This component is depicted by a letter (A-E) and relates to the approach speed of an aircraft. The second component is the Airplane Design Group (ADG) and relates to physical characteristics of the critical aircraft, such as the wingspan and tail height. The ADG is depicted by a Roman numeral (I-VI). The third component relates to the visibility minimum expressed by Runway Visual Range (RVR) values in feet which include 1,200, 1,600, 2,400, 4,000, and 5,000 feet, or will read "VIS" for runway designated with visual approaches only.

A variety of aircraft, ranging from a RDC of A-I through C-II, are expected to utilize the airport in the short, medium and long-term time frames with some occasional use by D-II aircraft. Examples of the various types of aircraft that operate at the Airport frequently and specifications are illustrated in **Table 3-13**.

Table 3-13 Example of Similar Aircraft Types Operating at Taos Regional Airport

Aircraft	AAC/ADG	Approach Speed (kts)	Wingspan (ft)	Tail Height (ft)	Max. Take Off Weight (lbs.)
Beech Bonanza V35B	A-I	70	33.5	6.6	3,400
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 King Air B-100	B-I	111	45.9	15.3	11,799
Cessna 182	B-I	64	36.0	9.2	2,950
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
Cessna Citation 750 X	C-II	131	63.6	18.9	36,100
Dassault Falcon 900 EX	C-II	126	63.5	24.2	48,300
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

Source: FAA Advisory Circular 150/5300-13A, Change 1 *Airport Design*, 2020

At Taos Regional Airport, the current design aircraft is the Canadair CL-600 (**Figure 3-13**), which is a C-II aircraft. The future design aircraft is projected to be the Bombardier CRJ 700 and/or the Gulfstream IV (**Figure 3-14**), which are both C-II aircraft as well. The existing and future design aircraft as they relate to the RDC will be further evaluated in Chapter Four, *Facility Requirements*. Per FAA Order 1050.1, *Environmental Impacts: Policies and Procedures*, the FAA must evaluate the potential for environmental impacts associated with proposed airfield development as a prerequisite to said development. The initiation of commercial air service would require the completion of an Environmental Analysis (EA) for jet service to ensure no significant impacts would occur.

Source: Jetphotos.com, 2020

Figure 3-13 Canadair CL-600

Source: Airliners.net, 2020

Figure 3-14 Bombardier CRJ 700

3.13 Forecast Summary

Table 3-14 provides a summary of the preferred forecast for the Taos Regional Airport through the 20-year planning period, while utilizing the most current based aircraft data for the baseline year. **Table 3-15** shows the preferred forecast against the FAA TAF.

The FAA TAF's based aircraft levels vary from the actual baseline activity data for Taos Regional Airport. At the time of the TAF's development, the based aircraft figures utilized projections made on historical data which is no longer accurate. The construction of the Runway 13-31 has resulted in an increase in corporate aircraft as well as the development of air service at the airport. Future development projects at the airport should be based on actual documented demand and not time-based forecast milestones. The forecasted activity for the airport is not anticipated to result in significant changes to the facility over the course of the 20-year planning period.

Table 3-14 Preferred Forecast Summary

Year	Based Aircraft	Operations				Enplanements*
	Total	Air Service*	General Aviation	Military	Total	Total
2019	38	360	6,607	200	7,167	3,755
2024	45	1,312	6,659	200	8,171	16,386
2029	45	2,302	6,744	200	9,246	42,331
2034	45	2,594	6,864	200	9,658	47,700
2039	45	2,923	7,024	200	10,147	53,750

Source: Armstrong Consultants, Inc., 2020

* The preferred forecasts reflect a scenario in which a regional airline provides service at the Taos Regional Airport.

Table 3-15 FAA TAF Comparison

Year	Total Enplanements		Total Based Aircraft		
	Airport Forecast	TAF	Airport Forecast	TAF	Difference
2019	3,755	0	38	37	2.7%
2024	16,386	0	45	40	12.5%
2029	42,331	0	45	40	12.5%
2034	47,700	0	45	40	12.5%
2039	53,750	0	45	40	12.5%

Year	Itinerant Operations			Local Operations		
	Airport Forecast	TAF	Difference	Airport Forecast	TAF	Difference
2019	4,590	4,608	-0.4%	2,577	2,726	-5.5%
2024	5,708	5,166	10.5%	2,463	3,071	-19.8%
2029	6,892	5,793	19.0%	2,354	3,462	-32.0%
2034	7,408	6,501	14.0%	2,250	3,896	-42.2%
2039	7,997	7,295	9.6%	2,150	4,389	-51.0%

Year	Total Operations		
	Airport Forecast	TAF	Difference
2019	7,167	7,334	-2.3%
2024	8,171	8,237	-0.8%
2029	9,246	9,255	-0.1%
2034	9,658	10,397	-7.1%
2039	10,147	11,684	-13.2%

Source: FAA Terminal Area Forecast, 2020

Chapter Four
Facility Requirements

ARMSTRONG

Chapter 4 – Facility Requirements

4.1 Introduction

The evaluation of airport facility requirements uses the results of the inventory and forecasts contained in Chapter Two and Three, as well as established planning criteria, to determine the existing and future facility needs for Taos Regional Airport throughout the twenty-year planning period. The facility requirements are based on information derived from capacity and demand calculations, information from advisory circulars and design standards developed by the Federal Aviation Administration (FAA), 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 facilities;
- Commercial service facilities;
- Runways, Taxiways, and Aircraft parking aprons;
- Support facilities, including the Passenger Terminal Building;
- Ground access, circulation, and parking requirements;
- Infrastructure and utilities; and
- 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. Long-term planning primarily focuses on the ultimate role of the airport and is related to overall development. Medium-term planning focuses on a more detailed assessment of needs, while the short-term analysis focuses on immediate action items. Most important to consider is that a good plan is one that is 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. This is especially true during the ongoing COVID-19 pandemic, during which time the future of air travel is uncertain. Any recommended action outlined in the following text shall be driven by actual demand/need, regardless of the timeframe in which the proposed future development may be outlined in the preceding and following chapters. The three planning milestones described above (short, medium and long-term) shall only be referenced as a tool to tentatively plan for future needs. This approach will result in a financially responsible and demand-based development of the Airport.

4.2 Runway Design Code

As was prenoted in earlier chapters, the FAA Advisory Circular 150/5300-13A, Change 1, *Airport Design*, provides design standards for use in the design of the operational and physical characteristics of the aircraft that are currently operating and/or forecast to operate at the airport. Airport design standards provide basic guidelines for a safe, efficient, and economically beneficial airport system.

The design aircraft and Runway Design Code (RDC) are key components of the FAA's design standards. The RDC, along with the design aircraft (or family of design aircraft), 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. These include but are not limited to runway width and length, Runway Safety Area dimensions (RSA), Runway Protection Zone (RPZ) dimensions, and runway separation requirements. To arrive at the RDC, three components are considered including the Aircraft Approach Category (AAC), the Airplane Design Group (ADG), and approach visibility minimums.

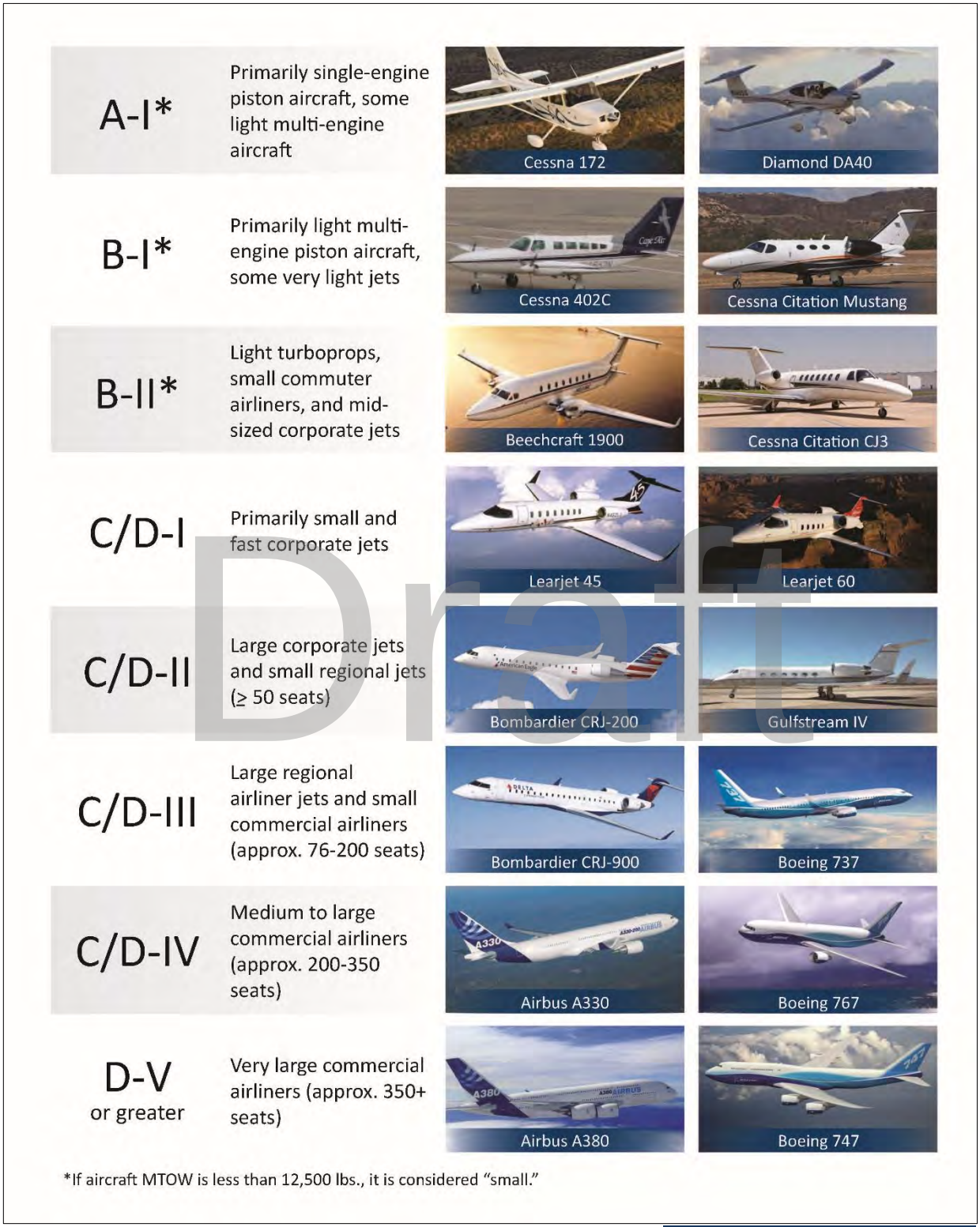
The FAA groups aircraft into five categories (A-E) based upon their approach speeds. Aircraft Approach Categories (AAC) A and B include small propeller aircraft, small or medium business jet aircraft, and some larger aircraft with approach speeds of less than 121 knots. Categories C, D, and E consist of the remaining business jets as well as larger jet and propeller aircraft generally associated with commercial and military use with approach speeds of 121 knots or more. The FAA also establishes six Airplane Design Groups (ADG) which are assigned a roman numeral (I-VI), based on the wingspan and tail height of the aircraft. The categories range from ADG I, for aircraft with wingspans of less than 49 feet, to ADG VI for the largest commercial and military aircraft. In general, the approach category of the design aircraft drives the required design parameters for runway and runway facilities while the aircraft wingspan or tail height drive the required taxiway and taxilane separation criteria. The third component of the RDC depicts the visibility minimums expressed by Runway Visual Range (RVR) with values listed in feet (1,200, 1600, 2,400, 4,000 and 5,000). If the airport does not have an instrument approach procedure it is listed as visual (VIS). **Table 4-1** below lists the RDC criteria. Examples of each of these RDC are depicted in **Figure 4-1**.

Runway 13-31 at Taos is classified as C-II-4,000 while Runway 4-22 is classified as B-II-5,000. The existing design aircraft for the Airport is the Canadair CL-600 (**Figure 4-2**), with the future design aircraft being a Bombardier CRJ 700 (**Figure 4-3**).

Table 4-1 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 150/5300-13A, Change 1, *Airport Design*



Source: Armstrong Consultants, 2020

Figure 4-1 RDC Examples by Aircraft

As previously discussed in Chapter Three, *Forecasts of Aviation Demand*, under the Hangar Demand/National Trend Demand Scenario, the fleet mix at the Airport is expected to experience a continual increase in the operational number of higher performance multi-engine jet and turboprop aircraft, the introduction of various commercial service aircraft and a potential decline in single-engine piston aircraft operations. Based on existing and forecasted demand levels, these aircraft represent the most likely types of aircraft to use the facility in the planning period. While there may be occasional operations by aircraft that fall within the ADG III category, activity by Group III aircraft is not anticipated to exceed 500 operations per year and it is reasonable to maintain the existing RDC of C-II for Runway 13-31 and B-II for Runway 4-22 over the course of the planning period.

Figure 4-2 Canadair CL-600

Source: Jetphotos.com, 2020

Figure 4-3 Bombardier CRJ 700

Source: Airliners.net, 2020

4.3 Airfield Capacity

The 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 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 similar to Taos Regional Airport (a single primary runway with a crosswind runway configuration) is approximately 230,000 annual operations.

The existing 7,000 aircraft operations in 2019 and the 230,000 ASV per Advisory Circular 150/5060-5, account for approximately 3.0 percent of Taos Regional Airport's ASV. Using the preferred forecast, Scenario 2, from Chapter Three, *Forecast of Aviation Demand*, indicates that by 2039, the forecasted operations are estimated to be at approximately 4.4 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 Volume Ratio
2019	7,167	230,000	3.1 %
2024	8,171	230,000	3.5 %
2029	9,246	230,000	4.0 %
2034	9,658	230,000	4.2 %
2039	10,147	230,000	4.4 %

Source: FAA AC 150/5060-5, *Airport Capacity and Delay*; Armstrong Consultants, 2020

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 Crosswind Coverage

The FAA Advisory Circular 150/5300-13A, Change 1, *Airport Design*, recommends that a runway's orientation provide at least 95 percent crosswind coverage. Based on the wind data collected from the Airport's Automated Weather Observing System (AWOS) between 2008 and 2018, and as depicted in **Table 4-3** below, it is indicated that Runway 13-31 provides less than the recommended coverage for A-I/B-I aircraft (10.5 knots) and A-II/B-II aircraft (13 knots). Runway 4-22 provides less than the recommended coverage for A-I/B-I aircraft (10.5 knots).

Table 4-3 All Weather Wind Data for Taos Regional Airport

Crosswind (knots)	Runway 13-31 Percent of Coverage	Runway 4-22 Percent of Coverage	Combined Coverage
10.5	89.69%	93.61%	98.66%
13.0	93.43%	96.43%	99.63%
16.0	97.38%	98.76%	99.93%
20.0	99.25%	99.76%	99.99%

Source: Taos Regional Airport AWOS, 2008-2018, Number of Observations: 243,970

Independently, Runway 13-31 and Runway 4-22 do not provide the recommended coverage in certain crosswind conditions however, the combined coverage does meet the recommended 95 percent coverage for all crosswind components. The existing length and crosswind coverage provided by the runway system at the Airport is sufficient for the planning period. Based on combined wind coverage percentages, the Airport meets the recommended 95 percent coverage for all categories of aircraft, therefore no additional crosswind runway developments are recommended for the future.

4.4.2 Runway Length

There are many factors that may influence and determine the needed 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 Taos Regional Airport was used for the runway length analysis:

- Field elevation: 7,094.6 feet mean sea level (MSL)
- Mean maximum temperature of hottest month (July): 85.6° F
- Difference in runway centerline elevation:
  - Runway 13-31: 22’
  - Runway 4-22: 42’
- Performance characteristics and operating weight of aircraft

The process to determine recommended runway lengths for a selected list of aircraft begins with determining the weights of the 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 4-4** depicts the aircraft weight categorization as recommended by the FAA.

Table 4-4 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

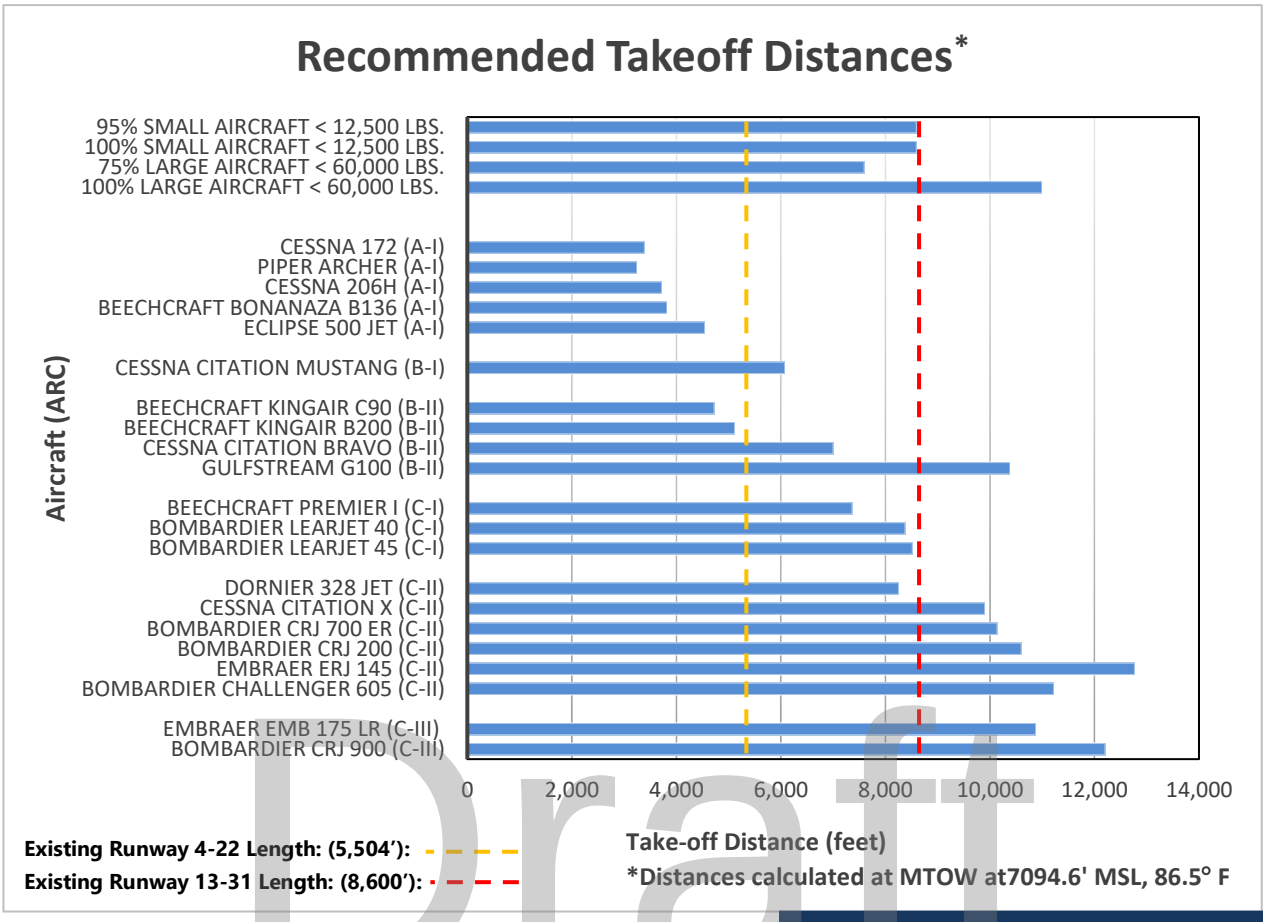
Source: FAA Advisory Circular 150/5325-4B, *Runway Length Requirements for Airport Design*

Recommended runway lengths are determined using charts in Advisory Circular 150/5325-4B, *Runway Length Requirements for Airport Design*. When determining runway length requirements for an airport it is necessary to consider the types of aircraft (aircraft design group and design aircraft) that will be using the airport and their respective takeoff distance requirements, seating capacity of the aircraft, as well as airport elevation and the mean daily maximum temperature of the hottest month of the year at the airport. The FAA Advisory Circular provides several runway length recommendations for both small and large aircraft according to varying percentages of aircraft fleet and 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. A summary of the recommended runway lengths for Taos Regional Airport is listed in **Table 4-5**. **Figure 4-4** provides examples of takeoff distance requirements for some of the aircraft currently using and projected to utilize the Airport in different design codes.

Table 4-5 Runway Length Analysis

Description	Runway Length
Existing Runway 13-31 Length	8,600′
Existing Runway 4-22 Length	5,504′
Small Aircraft (<12,500 lbs., < 10 passenger seats)	
95 percent of these small planes	8,600′
100 percent of these small planes	8,600′
Large Aircraft (<60,000 lbs.)	
75 percent of these planes at 60 percent useful load	7,600′
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′

Source: FAA Advisory Circular 150/5325-4B, *Runway Length Requirements for Airport Design*, 2005



Source: Armstrong Consultants, 2020

Figure 4-4 Recommended Takeoff Distances

According to the runway length analysis calculated using the methods outlined in the above referenced Advisory Circular, 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 require a runway length of 8,600 feet in order to accommodate 95 and 100 percent of the fleet.

For large aircraft weighing over 12,500 pounds but less than 60,000 pounds, to accommodate 75 percent of the fleet at 60 and 90 percent useful load requires runway lengths of 7,600 and 8,500 feet respectively. For accommodating 100 percent of the large fleet, operating at 60 and 90 percent useful load, requires a runway length greater than 11,000 feet. Due to the high field elevation of the Airport, the existing length of the runway system at Taos Regional Airport may not be adequate to accommodate up to 100 percent of the large aircraft fleet during the warmest month at the hottest time of day at 60 or 90 percent their useful load.

With an existing runway length of 8,600 feet on Runway 13-31, the majority of the aircraft that fall within the large aircraft category can be accommodated. Based on the analysis, it is determined that Runway 13-31 length is adequate for the planning period and that the runway be maintained at a length of 8,600 feet.

As a B-II runway, Runway 4-22, provides adequate length for aircraft using this runway throughout the planning period, and it is recommended that a length of 5,504 feet be maintained.

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 widths of 100 feet for Runway 13-31 and 75 feet for Runway 4-22 meet the FAA C-II and B-II design standards. The 100-foot width on Runway 13-31 would also accommodate C-III design standards for airplanes with maximum certificated takeoff weight of 150,000 pounds or less and approach visibility minimums of not less than ¾ mile. It is recommended that the existing width of both Runway 13-31 and Runway 4-22 be maintained at 100 feet and 75 feet, respectively, throughout the planning period.

4.4.4 Runway Pavement Strength and Condition

According to FAA guidance on pavement strength, the aircraft types and the design aircraft, also referred to as 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 design aircraft's Aircraft Classification Number (ACN). PCN, as well as the published strength, is not the maximum allowable weight; in some conditions 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 could shorten the lifespan of the pavement.

As was previously discussed in Chapter Two, *Inventory of Airport Assets*, the existing reported PCN for Runway 13-31 is 51/F/D/X/T, and it has a reported strength of 60,000 pounds single wheel gear (SWG). The reported PCN for Runway 4-22 is 4/F/D/Y/T and its reported strength is 24,000 pounds single wheel gear (SWG). The maximum ACN for the future design aircraft, (CRJ-700/Gulfstream IV), is reported to be no greater than 24 and 25, respectively, for flexible pavement, (Asphalt). The pavement strength for both Runway 13-31 and 4-22 is considered to be adequate for the planning period.

In addition to having adequate runway strength, maintaining good condition of runway pavement is also an important factor to providing a safe environment for aircraft operations. As shown in **Figure 2-8** of Chapter Two, the condition of the pavement on Runway 4-22 is listed as being in fair to poor condition. It is recommended that preventative maintenance be regularly performed and, as necessary, to rehabilitate partial sections where pavement is failing. Runway 13-31 was constructed in 2017 and is considered to be in excellent condition; however, it is recommended to perform regularly scheduled preventative maintenance to preserve the condition of the pavement.

4.4.5 Taxiway and Taxilane Requirements

The primary function of a taxiway system is to provide efficient access of aircraft from one part of an airport to another. Taxiways are a defined path on the airport for taxing aircraft. The taxiways should be located so that aircraft exiting the runway will have minimal interference with aircraft operating on the runway. Taxiways expedite aircraft departures from the runway and increase operational safety and efficiency. Taxilanes differ from taxiways by providing access from taxiways to aircraft parking, hangars, terminals and other facilities.

FAA AC 150/5300-13A, Change 1, *Airport Design*, provides planners with guidance on recommended taxiway and taxilane configurations 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 the above referenced Advisory Circular, "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." Existing taxiway geometry should be improved whenever feasible with emphasis on "hot spots," and to the extent practical, the removal of existing pavement to correct confusing layouts is advisable.

As was previously discussed in Chapter Two, to arrive at the Taxiway Design Group (TDG), 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/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 different TDG standards based on anticipated use. Conversely, the Airplane Design Group (ADG) is based on the wingspan and tail height of the design aircraft and determines the safety area, object free area, and separation standards for a taxiway.

Taos Regional Airport is served by two full length parallel taxiways which provides circulation for aircraft operations on either end of Runway 4-22 or Runway 13-31. Taxiway A, serving Runway 4-22, has a width of 35 feet and meets TDG 2 standards. Referencing **Figure 2-8**, Taxiway A is considered to be in poor condition and as such, the taxiway and associated connectors have been scheduled for reconstruction in the summer of 2021. A portion of Taxiway A which runs from the intersection of Taxiway B to the aircraft parking apron will be reconstructed to meet TDG 3 standards. The ultimate Taxiway A dimensions will be 50 feet by 5,250 feet, which will accommodate existing aircraft operating on Runway 4-22, as well as be adequate for the future design aircraft. The existing runway to taxiway separation for Taxiway A is 254'. This is non-standard dimension but exceeds the required design standards. Runway to taxiway separation will remain the same in the future. Other recommended improvements for Taxiway A include the construction of a by-pass taxiway and associated connectors at Runway 4 end to alleviate circulation issues which occur at that end of the airfield.

Conversely, Taxiway B, which serves Runway 13-31, was constructed in 2017 and is considered to be in excellent condition. Taxiway B has a current width of 50 feet and meets TDG 3 standards It is recommended that the Airport maintain the condition of Taxiway B by performing regularly scheduled preventative maintenance.

Other factors to consider in Taxiway design is the Airplane Design Group (ADG). ADG is an FAA defined grouping of aircraft types, separated into six categories based on wingspan and tail height. ADG is considered in conjunction with TDG and Aircraft Approach Category (AAC) to ensure the safe operations of aircraft likely to use the Airport. Both Taxiway A and B at Taos are ADG II existing and future.

The design standards for Taxiway A and Taxiway B are listed in **Table 4-6**.

Table 4-6 Taxiway Design Group and Airplane Design Group Standards

Design Criteria	Dimension	
	Taxiway A	Taxiway B
Taxiway Design Group	TDG 2 (Partial TDG 3 Future)	TDG 3
Aircraft Design Group	ADG II	ADG II
Taxiway Width	35′	50′
Taxiway Safety Area	79′	118′
Taxiway Object Free Area	131′	131′
Taxilane Object Free Area	115′	115′
Runway Centerline to Parallel Taxiway Centerline Separation	240′ (254′ Actual)	300′

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. Taos Regional Airport has two aircraft parking aprons, which combined, accounts for a total of 20,060 S.Y. of asphalt apron area and a total of 33 tiedowns that accommodate based and transient aircraft as well as those used for charter service by Taos Air.

- **Terminal/itinerant aircraft apron:** These aprons are adjacent to the FBO and Passenger Terminal Building where passengers enplane and deplane from the aircraft. The apron also accommodates multiple activities such as fueling, maintenance, limited aircraft service, etc. Itinerant aprons handle itinerant aircraft activities which are usually only on the airport for a few days. At Taos Regional Airport, there is insufficient apron to accommodate existing activity levels. See **Figure 4-5** for an example of activity levels. Expansion of the itinerant ramp is recommended to accommodate existing and future demand.

Source: Armstrong Consultants, 2020

Figure 4-5 Taos Terminal Apron

Further, concrete hardstands may be developed as a cost-effective approach to parking heavier aircraft without construing the entire apron in concrete. Hardstands would protect the apron from damage and excessive pavement maintenance. It is recommended to locate hardstands near the terminal building to efficiently unload passengers/cargo, however locations and layouts will be discussed in Chapter Five, *Development Alternatives*.

- **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.

- **Tie-down apron:** An apron area for both short-term and long-term aircraft parking (based and itinerant aircraft). Aircraft tie-downs should be provided for small and medium sized aircraft that utilize the airport. These aircraft risk being damaged from the presence of sudden wind gusts if not properly secured. The current tie-down layouts are based on ADG II Taxilane Object Free Areas (OFA). Typically, large aircraft, including business jets, are not tied down and can usually be parked overtop multiple tie-downs. A mix of ADG I and II design standards for tie-downs are recommended for the planning period. It is recommended that the Airport consider adding additional future tie-downs and hardstands for transient aircraft, including large corporate jets.

- **Helicopter Apron:** This is an area that is designated specifically for helicopter parking and is typically connected or adjacent to other aircraft parking aprons. Taos Regional Airport has one designated space for helicopter parking on the apron area. It is recommended to expand and possibly relocate the helicopter parking area to separate fixed-wing and rotorcraft operators. Also recommended is the construction of concrete hardstands dedicated to helicopter parking. This will be further evaluated in Chapter Five, *Development Alternatives*. **Figure 4-6** depicts a helicopter parked on the existing apron.

Source: Armstrong Consultants, 2020

Figure 4-6 Taos Helicopter Apron

- **Commercial Service Apron**: The commercial service apron should be able to accommodate the projected types and volume of commercial service aircraft that are anticipated to use the airport during the planning period. The commercial service apron needs to provide adequate space for the movement of baggage carts, fuel trucks and other aircraft service equipment and ground power units. Apron configurations should be planned so that future commercial service utilizing Taos Regional Airport are able to park in front of the terminal building to efficiently load/unload passengers and cargo. The utilization of aircraft loading ramps for loading and unloading is also recommended; once the aircraft is loaded the airplane is able to turn around on its own power without requiring a push back from an aircraft tug. This type of loading and unloading is preferred by the airlines to help reduce the turnaround time at the gate and ground support equipment required to push back the aircraft.

  It is recommended to protect for the development of aircraft parking hardstand(s) dedicated to commercial service aircraft. Should commercial service commence at the Airport, concrete hardstand(s) would protect the commercial apron and aircraft from damage and excessive pavement maintenance. It is also recommended to install a deicing pad adjacent to the commercial aircraft parking apron. The future commercial service apron area should accommodate passenger service requirements. Areas for commercial apron space will be further evaluated in Chapter Five, *Development Alternatives*.

4.4.7 Instrument Approaches and Navigational Aids

For aircraft operating under Instrument Flight Rule (IFR), an instrument approach procedure is a series of predetermined maneuvers under instrument meteorological conditions (IMC) from the beginning of the short approach to a landing, or to a point from which a landing may be made visually. An instrument approach procedure increases the utility of the airport by providing for the capability to operate in inclement weather conditions. This is especially important for air ambulance, physicians transport and business flights.

Taos Regional Airport is served by a non-precision Global Positioning System (GPS) instrument approach on Runway 4 and 13. GPS approaches do not require ground-based facilities on or near the airport for navigation. The GPS receiver uses satellite technology coupled with instrumentation on board the aircraft and does not require the use of ground-based NAVAIDS. GPS was originally developed by the United States Department of Defense for military use and is not available for civilians.

The GPS procedure for Runway 4 provides for visibility minimums as low as one-statue mile and cloud ceiling down to 400 feet AGL. The GPS procedure to Runway 13 provides visibility minimums with three-quarter mile visibility minimums and cloud ceiling down to 200 feet AGL. The instrument approach procedures at Taos are considered adequate for the planning period.

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

Airfield lighting, signage and visual aids enhance safety during periods of inclement weather and nighttime operations by providing visual guidance to pilots in the air and on the ground. The airfield lighting and visual aids at Taos Regional Airport consists of:

- Precision-approach markings on Runway 13

- Non-precision approach markings on Runway 4 and 31
- Basic markings on Runway 22
- Pilot controlled Medium Intensity Runway Lights (MIRLs) on Runway 13-31 and Runway 4-22
- Four-Light Precision Approach Path Indicators (PAPI) on Runway 13, 31, 4 and 22
- Runway End Identifier Lights (REILs) on Runway 4, 13 and 31
- LED Medium Intensity Taxiway Lights (MITLS) on Taxiway B and connectors
- Retroreflectors on Taxiway A
- Two lighted wind cones with segmented circles
- Rotating Beacon

The existing airfield signage, marking and lighting is considered to be in good condition. It is recommended to maintain and replace these facilities as needed. Light-Emitting Diodes (LED) lights should be considered for any new lighting system on the Airport. LED's are energy efficient and have a longer useful life. It is recommended that Taxiway A be equipped with MITLS to enhance the safety of aircraft movements at night. It is also recommended to install a Medium-Intensity Approach Lighting System with Runway Alignment Indicator (MALSR) on Runway 13. These lights provide information to pilots regarding runway alignment, height perception, roll guidance, and horizontal references and assist pilots in transitioning from instrument flight to visual flight as they land on the runway. Also recommended is the removal of the wind cone located adjacent to Runway 4-22. The location of the wind cone in proximity to the runway poses a risk to the safety of airport users and increases the likelihood of a collision should an aircraft deviate from the runway. According to FAA Advisory Circular 150/5300-13A, *Airport Design*, any object, including NAVAIDS, that are located near an active runway can present an increased risk to aircraft operations. As such, the potential risk of an aircraft striking the NAVAID outweighs the safety benefit derived from its operation, and it is recommended the NAVAID be removed.

4.4.9 Weather Aids

The existing Airport AWOS meets the existing and projected needs of the Airport and is in good overall condition. Replacement of the AWOS equipment may be necessary during the planning period due to technological improvements. Relocation of the AWOS may be necessary to accommodate future development and will be further evaluated in Chapter Five, *Development Alternatives*.

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. Aspect of landside facilities typically include the terminal or pilot lounge, FBO, hangars, fueling facilities, vehicle access and parking, and other maintenance and support facilities. Landside facilities serve as the processing interface between two modes of transportation – air and ground. Likewise, these facilities also offer travelers the first impression of the airport and the local community. Landside facilities house the support infrastructure for airside operations and can also generate additional revenue for the airport sponsor.

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 Passenger Terminal Building

Terminal buildings typically offer various amenities to passengers, local and transient pilots and airport management. A typical terminal building design will factor in sizing accommodations for the following, as defined by Airport Cooperative Research Report 25, *Airport Passenger Terminal Planning and Design*.

- Passenger check-in area: A place for airlines to provide staff to assist with ticket sales and seating assignments, confirms passenger identification, and undertakes baggage check-in prior to delivery to the Transportation Security Administration (TSA) baggage screening process.
- Baggage screening: That part of the baggage handling system to or through which all originating and international re-check baggage will be delivered for explosives detection screening by the TSA.
- Baggage make up: Area of the baggage handling system in which departing baggage is sorted and placed in carts or containers for loading onto aircraft.
- Security Screening Checkpoint: A checkpoint area established to conduct security screening of persons and their possessions prior to their entering a sterile or secured area.
- Hold rooms: Seating area at the gate for passengers to wait prior to departure and load onto the aircraft.
- Baggage claims: Area located in the passenger terminal building for checked baggage that has arrived at the final destination for passengers to reclaim.
- Facility circulation: Open space needed for passengers to move throughout the terminal building.

Additionally, a terminal building will usually accommodate concessions, rental car areas, support facilities, and building systems rooms. These particular functional areas are heavily dependent on specific user needs and not intrinsically related to activity levels, they will not be evaluated for sizing requirements in this study but may need to be accommodated in actual passenger terminal building design.

Although the Taos Regional Airport is classified as a general aviation airport, it currently services public charter commercial flights and is anticipated to serve scheduled commercial flights in the future. The existing terminal building at Taos Regional Airport is a single-level building located to the north of Runway 4-22. The terminal building has a total square footage of approximately 1,430 square feet. It includes a small podium to check in travelers, a storage room and two single-stall restroom facilities. The existing facilities become constrained when two Dornier 328 jets are both departing concurrently.

In regards to passenger facilities, a set of portable, modular restrooms have been situated adjacent to the terminal building in order to provide a sufficient number of restrooms for arriving and departing passengers. This temporary solution does not provide the level of service or customer experience desired by the community and a new, larger facility is needed.

It is recommended that an airport's terminal building be able to satisfy the forecasted peak-hour passenger demand. The facility needs will be driven by the decision to accommodate Part 121 airline service versus maintaining Part 380 service only. **Table 4-7** depicts the facility requirements based on forecasted passenger service activity. Configuration and siting options for the passenger terminal building will be further discussed in Chapter Five, *Development Alternatives*.

Table 4-7 Terminal Building Facility Requirements

	Part 380 Service		Part 380/ Part 121 Service	
	2 Dornier 328 (Existing)	2 Dornier 328 (Recommended)	2 Dornier 328 / 1 CRJ-700	2 Dornier 328 / 2 CRJ-700
Check- In Area (S.F)	100	850	1,120	1,390
Security (S.F.)	0	0	2,625	3,500
Baggage Screening (S.F.)	0	0	1,740	2,540
Baggage Make Up (S.F.)	0	2,300	2,300	2,300
Hold Rooms (S.F.)	800	2,020	3,380	4,740
Baggage Claim (S.F.)	0	495	1,035	1,575
Circulation (S.F.)	530	6,000	10,200	13,200
Total Facility Needs (S.F)	**1,430**	**11,665**	**22,400**	**29,245**

Source: ACRP Report 25, *Airport Passenger Terminal Planning and Design*
Note: Does not include concessions, rental car facilities, or airport administration facilities.

4.5.2 Commercial Passenger Service Requirements

Current service at Taos Regional Airport includes Part 135/380 unscheduled charter service by Taos Air. Should the size of the aircraft increase or an airline commit to scheduled passenger service at the Airport, various infrastructure and service requirements would need to be re-evaluated to meet FAA requirements. The following matrix, **Table 4-8**, was developed as a means of displaying the varying requirements of different levels of airport operations and service levels.

As an airport evolves from one threshold of service to the next, requirements for environmental clearance, design standards, operations infrastructure and services may change. In the matrix below, air operations on the left side of the double line do not require an airport operating certificate, security, or Aircraft Rescue and Firefighting (ARFF). Operations on the right side, however, requires a FAR Part 139 airport operating certificate, on-site ARFF, an airport security plan and additional environmental evaluation. Currently, Taos Regional Airport meets all of the listed standards, with the exception of those highlighted in yellow. Should the Airport gain scheduled passenger air service, or the size of the aircraft serving the current unscheduled charter service increase, the Airport would need to accommodate the specific needs required of those services, as outlined in the matrix below.

Table 4-8 Air Service Development Matrix

	Charter	Charter	Regional	Charter	Regional	Regional	Charter	Regional	Regional	Charter	Air Carrier
	Metroliner (Key Lime)	Dornier 328 Jet (Taos Air)	PC-12 (Boutique)	Q300 (Kachina Air)	Q300 (Kachina Air)	Q400 (Kachina Air)	CRJ 200	CRJ 200	CRJ 700	B737/A320	B737/A320
Service Level											
Operating Certificate Type (FAR Part)	135/ 380	135/380	135	135/380	121	121	135	121	121	135	121
Turboprop	Y	N	Y	Y	Y	Y	N	N	N	N	N
Jet	N	Y	N	N	N	N	Y	Y	Y	Y	Y
Scheduled	N	N	?	N	Y	Y	Y	Y	Y	N	Y
Unscheduled	Y	Y	?	Y	N	N	N	N	N	Y	N
# Seats (+/-31 seats)	19	30	9	30	50	60	50	50	70	150	150
Operations Specification Required	N	N	N	N	Y	Y	?	Y	Y	?	Y
Max Certified Takeoff Weight (MCTOW)	16K	35k	11k	43k	43k	68k	53k	53k	73k	150k+	150k+
Runway Design Code (RDC)	B-II	C-II	B-II	B-III	B-III	B-III	C-II	C-II	C-II	C-III	C-III
Scheduled Days per Week (Max)	4	4	7	4	7	7	7	7	7	7	7
Authorizations											
FAA ADO Notification/Coordination	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Part 139 Certification	N	N	N	N	Y	Y	Y	Y	Y	Y	Y
Aircraft Rescue & Firefighting (ARFF)	N	N	N	N	Y	Y	Y	Y	y	Y	Y
Noise Analysis	N	N	N	N*	TBD	TBD	TBD	Y	Y	Y	Y
CatEX	N	N	N	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
EA	N	N	N	TBD	TBD	TBD	TBD	Y	Y*	Y*	Y*
Stormwater Pollution Prevention Plan (SWPPP)	Y*	Y*	N	Y*	Y*	Y*	Y	Y	Y	Y	Y
TSA/Airport Security Program	N	N	N	N	Y*	Y*	Y*	Y*	Y	Y	Y
Airport Layout Plan (ALP) Approval	N	N*	N	N*	Y*	Y	Y	Y	Y	Y	Y
Infrastructure											
Passenger Terminal	Exist/ New	Exist/ New	Exist/ New	Exist/ New	Exist/ New	New	New	New	New	New	New
ARFF Facility	N	N	N	N	Y	Y	TBD	Y	Y	TBD	Y
Pavement Strengthening	N	N	N	N	N	N	N*	N*	TBD	TBD	Y
De-ice Containment Pad	N	N	N	N	N*	N*	N*	TBD	TBD	N*	TBD

Security Fencing/Access Control	N	N	N	N	Y*	Y*	Y*	Y*	Y	Y	Y
Snow Removal Equipment Building	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Vehicle Parking (Paid/Unpaid)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Equipment											
De-icing Equipment	Y*	Y*	Y*	Y*	Y	Y	Y	Y	Y	Y	Y
Snow Removal Equipment	Y*	Y*	Y*	Y*	Y	Y	Y	Y	Y	Y	Y
ARFF Equipment	N	N	N	N	Y	Y	Y	Y	Y	Y	Y
Services											
Line/Fueling	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
De-ice	Y*	Y*	Y*	Y*	Y	Y	Y	Y	Y	Y	Y
Customer Service	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Rental Car	TBD	TBD	TBD	TBD	Y	Y	Y	Y	Y	Y	Y
ARFF	N	N	N	N	Y	Y	Y	Y	Y	Y	Y
Security Badging and Access Control	N	N	N	N	Y*	Y*	Y*	Y*	Y	Y	Y

Triggers	
FAR Part 139 Certification	Scheduled with > 9-seats or Unscheduled with > 30-seats
ARFF	Part 139 Certificated Airports require ARFF
National Environmental Policy Act (NEPA)-Noise Analysis/CatEx	Federal Action - development that required a revision/approval of Airport Layout Plan (i.e. on airport development) or Connected action to air service development (i.e. terminal building, ARFF Building or equipment)
NEPA Environmental Assessment (EA)	Ops Spec authorizing scheduled service which may cause noise, air or other environmental impacts or impacts potentially exceeding CatEx thresholds or significant controversy on environmental grounds
Airport Security Program/TSA	Full Program: >60 seats or <60 to or from sterile area; Partial Program: 31 to 60 seats not to or from sterile area
De-icing Containment System	Greater than 100,000 gallons per year and feasibility of construction
Pavement Strengthening	Regular use (250 landings per year) by aircraft heavier than published strength

Legend	
*	Depending on Circumstances or FAA Determination
	Key Trigger Point/Requirement

Source: Armstrong Consultants, 2020

This matrix is for preliminary planning only. All information subject to verification and final determination for each category subject to FAA, and other Federal, State and Local regulations

4.5.3 FBO and Pilot Services

A single fixed based operator (FBO), Taos Aviation Services (TAS) serves the Airport. TAS is a full service FBO, providing professional line services, transient parking, catering, courtesy and rental cars, pilot lounge/flight planning area, heated hangar space, tie-downs, deicing and competitively priced fuel. However, existing facility constraints are limiting their ability to fully accommodate demand. The FBO is in need of a longer hangar, with greater door height, additional fuel storage capacity, and expanded transient aircraft parking apron. It is recommended that the Airport protect for additional or expanded FBO facilities to accommodate existing and growing corporate aircraft utilization of the Airport. Options for the expansion of FBO facilities will be identified in Chapter Five, *Development Alternatives*.

4.5.4 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 twenty-three T-hangar structures and three conventional box hangar structures located on the Airport. Hangars for all existing and forecasted based aircraft are recommended.

Based Aircraft Hangar Requirements: The facility requirements for based aircraft typically determine the number of tiedown locations, number of shaded spaces, number of T-hangars, and number of conventional type hangars required for the future. It is recommended to plan for expanded general aviation tie-downs, T-hangars, and conventional type hangars to meet forecasted demand at Taos Regional Airport. Hangars for all existing and forecasted based aircraft are recommended. Discussions with the FBO have indicated a need for hangars ranging from 50-feet by 50-feet to 120-feet by 100-feet in size, and potentially larger. Hangar development areas will be identified in the Development Alternatives chapter as well as the ALP, and will explore options for additional tie-downs and configuration of a mix of T-hangars and conventional box hangars.

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, multi-engine and jet aircraft operators may desire overnight aircraft storage or a heated hangar, especially in the winter. It is recommended to plan for additional corporate/FBO hangar development for transient aircraft and aircraft maintenance operations. Taos Aviation Services has indicated the need for a hangar to accommodate at least a single engine Gulfstream G650, and Taos Air has indicated a desire for a hangar to simultaneously accommodate two Dornier 328 aircraft. Development areas for additional transient hangar space will be identified in the Development Alternatives chapter and on the ALP.

4.5.5 Air Cargo Operations & Facilities

Air Cargo operations, also known as air freight, refers to the movement of domestic and international goods and property through the air via an air carrier. Air freight is a valuable asset for an airport as it

facilitates and expedites the transportation of essential goods to a community as well as contributes to economic development. According to the 2019-2039 FAA Aerospace Forecast it is estimated that from the baseline year of 2019 to 2039, total revenue ton miles (RTM) flown by air carriers will grow at an annual average rate of 3.3. percent. Air cargo carriers account for approximately 78.7 percent of total RTM, with cargo space in the belly of passenger carriers accounting for the remaining 21.3 percent.

In order to prepare a comprehensive, long-term development plan, it is recommended that the airport consider and plan for the introduction of scheduled/unscheduled air cargo service at SKX. Should an air cargo provider, such as FedEx or UPS, express interest in developing a market at Taos Regional Airport, then air cargo needs and land use requirements should be evaluated in greater detail and it is recommended that the airport conduct a site utilization study to determine specific infrastructure needs to support air cargo operations. Generally, however, space should also be allocated for container storage, vehicle access, truck docks, loading/unloading facilities as well as adequate ramp space to accommodate air cargo aircraft, such as the Cessna 208B or Beech 1900. The existing airside facilities could easily accommodate this type of air cargo operation. It is important to note that the development of any air cargo facilities or airside development intended to support cargo operations should be warranted by actual demand.

4.5.6 Aviation Fuel Facilities

As discussed in Chapter Two, *Inventory of Airport Assets*, the FBO owns and operates two fuel storage tanks on the Airport. Each fuel tank has a capacity of 12,500 gallons; 100LL AvGas and Jet A are available. Aircraft refueling is conducted via fuel trucks owned by the FBO, as well as a self-serve credit card reader on the 100LL AvGas tank. It is recommended to update and expand the fueling facilities. This could be achieved with the development of a bulk fuel storage facility on the Airport. Bulk fuel storage with an additional 20,000 gallons of Jet-A fuel and 12,500 gallons of 100LL AvGas would provide the needed capacity and reduce the need for continuous fuel deliveries during peak seasons.

4.5.7 Airport Access and Vehicle Parking

The Taos Regional Airport can be accessed by traveling northwest of Taos on US Highway 64 and turning south on to the Airport access road. The existing entrance road is expected to be adequate to accommodate current and future activity for the planning period. Possible reconfiguration or additional access roads will be evaluated in Chapter Five, *Development Alternatives* to accommodate additional vehicle parking.

The existing terminal, FBO and hangar facility vehicle parking area consists of approximately 8,000 square yards of asphalt and has an estimated forty-seven paved parking spaces. It is recommended to protect for an improved vehicle parking layout with designated areas for the passenger terminal, FBO and hangar facilities. Additionally, it is recommended to protect for a potential long-term paid parking lot or long-term vehicle storage/parking garage located near the passenger terminal building or FBO for second home owners, extended-stay visitors, or part-time residents who use the Airport. Chapter Five, *Development Alternatives* will provide concepts for vehicle parking configurations as well as make considerations regarding electric vehicle charging stations as part of the Airport parking lot development.

4.5.8 Fencing

According to FAA AC 150/5300-13A, Change 1, *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.

The Airport apron and terminal building area has six-foot chain link fencing encompassing it. The remainder of the Airport is surrounded by three strand barb wire. The existing perimeter fencing is currently adequate for the needs of the Airport. Throughout the terminal area, there are three electric vehicle access gates. It is recommended to maintain the existing perimeter and terminal area fencing for the short-term period. Should scheduled commercial service commence with a requirement to meet FAR Part 107 security plan, the perimeter and terminal area fencing may be required to be upgraded to a chain link security fence with controlled access gates. Options for reconfiguration of the terminal and perimeter area fencing as well as the addition of controlled access gates will be further evaluated in Chapter Five, *Development Alternatives*.

4.5.9 Aircraft Rescue and Fire Fighting (ARFF) Equipment

According to FAA guidance, operators of FAR Part 139 certificated airports must provide Aircraft Rescue and Fire Fighting (ARFF) services. Taos Regional Airport is currently not classified as a FAR Part 139 airport. In the past, the Airport met the standards for requirements for an Index A, which allowed for scheduled small air carrier service. Should the Airport decide to proceed with scheduled airline services by Part 121 or Part 135 operators, then FAR Part 139 certification will be required, including ARFF.

The ARFF Index level required is determined by the longest passenger aircraft with an average of five daily departures serving the Airport (**Table 4-9**). Based on the forecasted demand for multiple CRJ-700 operations at the Airport, it is recommended to consider the acquisition of an Index B ARFF vehicle, and associated ARFF facility, to meet the FAA requirements. The justification for the ARFF vehicle should be based on actual demand. If an ARFF vehicle is acquired, the development of an ARFF station is recommended to house and protect the vehicle.

Table 4-9 ARFF Requirements

Index	Aircraft Length	Vehicle and Extinguishing Agent Requirements
A	Less than 90 feet	One vehicle carrying the following: One vehicle carrying at least 500 pounds of sodium based dry chemical, halon 1211, or clean agent, or One vehicle carrying 450 pounds of potassium based dry chemical and water with a commensurate quantity of ARFF to total 100 gallons.
B	At least 90 feet but less than 126 feet	Either of the following: One vehicle carrying at least 500 pounds of sodium based dry chemical or halon 1211 and 1,500 gallons of water and the commensurate quantity of AFFF for foam production Two vehicles: One vehicle carrying the extinguishing agents as specified for in Index A; and one vehicle carrying an amount of water and the commensurate quantity of AFFF so that the total quantity of water for foam production carried by both vehicles is at least 1,500 gallons
C	At least 126 feet but less than 159 feet	Either of the following: Three vehicles: One carrying the extinguishing agents as specified for Index A; and two vehicles carrying an amount of water and the commensurate quantity of AFFF so that the total quantity of water for foam Two vehicles: One vehicle carrying the extinguishing agents as specified for in Index B; and one vehicle carrying an amount of water and the commensurate quantity of AFFF so that the total quantity of water for foam production carried by both vehicles is at least 3,000 gallons Each ARFF vehicle used to comply with Index B and C requirements with a capacity of at least 500 gallons, but less than 2,000 gallons shall be equipped with a turret. Vehicle turret discharge rate should be at least 500 gallons per minute but less than 1,000 gallons per minute.

Source: 14 CFR Part 139

4.5.10 Airport Support and Maintenance Equipment and Buildings

The Airport maintains and operates a dedicated Snow Removal Equipment (SRE) vehicle. The existing SRE vehicle, a 2009 Kodiak snowplow with a dump bed, was adequate when the Airport only had Runway 4-22 (75' x 5,504'). However, with the construction of Runway 13-31 (100' x 8,600') and its full-length parallel Taxiway B (50' x 8,600') additional SRE is needed. Airport management indicates that an attachable rotary broom unit is urgently needed to adequately conduct snow removal operations at the Airport. See **Figure 4-7** for an example of the recommended SRE equipment.

The existing SRE storage facility was constructed in 2013 and measures approximately 1,500 square feet and is in good condition. Expanded SRE storage should be developed as demand warrants and in conjunction with the acquisition of additional equipment.

Figure 4-7 Recommended SRE Equipment

Source: Kodiakamerica.us, 2020

4.5.11 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 or 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, and who is responsible.
The waste streams listed are:

- Terminals;
- Airfields;
- Cargo Hangars;
- Aircraft;
- Airport Construction;
- Flight Kitchens; and
- Administrative Offices.

The applicable waste streams for Taos Regional Airport are discussed below.

Terminal Building And FBO: The buildings serve as a pilot's lounge, airport administrative office, passenger terminal, TSA security checkpoint, and maintenance facility storage. Typical generated waste includes food, paper, plastic, aluminum cans, and trash. The Town and FBO 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. The Town 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), trash, 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 Taos Regional Airport 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 and metal. 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.

4.6 Infrastructure Needs

The existing electric and telecommunication utilities are considered adequate for the current facility. Upgrades and extensions to the existing utilities are recommended, as needed, in order to accommodate increased demand and recommended development. It would also be recommended to protect for additional infrastructure and circulation for electric aircraft charging stations (currently in development) which may utilize the Airport over the planning period. Burying overhead power lines located both on and adjacent to the Airport is recommended for the future to avoid airspace issues with arriving and departing aircraft.

The existing water well and septic tanks are considered to be inadequate for the planning period. The extension of primary municipal utilities including water and sewer are recommended as soon as practicable for existing and future demand. Options for these utilities include either 1) extending water and power from the Town of Taos, or 2) on-site development including drilling a new well, pump house, 250,000-gallon storage tank, and on-site waste water treatment facility.

The Airport also utilizes individual propane tanks for heating purposes. This is acceptable for the future; however, an extension of a natural gas line would eliminate the need for individual tanks.

4.7 Land Use Compatibility and Control

As previously discussed in Chapter Two, Section 2.6.10, 14 CFR Part 77 establishes several imaginary surfaces that are used as a guide to provide a safe and unobstructed operating environment for aviation. In addition to ensuring that penetrations to these imaginary surfaces are avoided or appropriately marked and lighted, the FAA recommends that the airport sponsor make reasonable efforts to prevent incompatible land uses, such as residential encroachment, from developing in the immediate area of the airport.

Private development proposals should also be reviewed to ensure compatibility in the vicinity of the airport. Land use compatibility considerations include safety, height hazards, and noise exposure. 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.

4.7.1 Airport Property

The existing airport property encompasses approximately 859 acres. The land located within the Runway 13 approach end and Runway 22 end Runway Protection Zone (RPZ) is currently controlled via fee simple ownership. The land located within the Runway 13 departure end, Runway 31 end and Runway 4 end is fee simple ownership. Small portions of the Runway 13 approach end RPZ and Runway 22 end RPZ extend off of existing Airport property and are uncontrolled.

The RPZ is a trapezoidal area extending 1,200 feet beyond the ends of the runway and is typically included within the airport property boundary. Residential properties, roadways, wildlife attractants and other uses that result in congregation of people are restricted from the RPZ. While the current RPZ land uses are considered to be compatible with the Airport, FAA recommends that airports control the land within the RPZ. It is recommended that the Airport control all land located within the existing RPZs via fee simple or avigation easements and protect for future RPZs. Any future development requiring land acquisition will be evaluated in Chapter Five, *Development Alternatives*.

4.7.2 Airport Zoning and Compatible Land Use

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 buildings and other structures do not penetrate the Part 77 Airspace 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.

As previously discussed in Chapter Two, Section 2.6.10, 14 CFR Part 77 establishes several imaginary surfaces that are used as a guide to provide a safe and unobstructed operating environment for aviation. In addition to ensuring that penetrations to these imaginary surfaces are avoided or appropriately marked and lighted, the FAA recommends that the airport sponsor make reasonable efforts to prevent incompatible land uses, such as residential encroachment, from developing in 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. Many times, this can be achieved by creating an airport overlay zone.

FAA Advisory Circular 150/5200-33B, *Hazardous Wildlife Attractants On or Near Airport*, states 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. The Taos wastewater treatment pond is located approximately eleven miles south of the Airport. This is considered an adequate distance, and no impacts or hazards to wildlife are expected.

Currently, the County has zoned the Airport as County Rural. As outlined in the Taos City Ordinance of Land Use Regulations, lands designated as County Rural are exempt from additional zoning regulations within the county. These additional regulations are reserved for areas zoned as Community Zone, Neighborhood Zone or Planned Unit Development Zone, and are intended to preserve unique cultural, historical and neighborhood characteristics of specific areas. Allowable uses for County Rural lands includes single-family development and cottage industries. It is recommended that the County continuously update the Airport Zone, and Airport Corridor Protection restrictions based on the existing and future airport configuration to protect from any incompatible development.

4.8 Summary of Facility Requirements

The facility requirements for the Airport are summarized in **Table 4-10**. 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 plan 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 4-10 Summary of Facility Requirements

Runway 4-22	Existing	Future
Runway Design Code	B-II-5000	Same
Length	5,504′	Same
Width	75′	Same
Strength (pounds)	12,500 SWG	Same
Runway 4 Markings	Non-precision	Same
Runway 22 Markings	Basic	Same
Surface	Asphalt	Same
Runway 13-31	**Existing**	**Future**
Runway Design Code	C-II-4000	Same
Length	8,600′	Same
Width	100′	Same
Strength (pounds)	60,000 SWG	Same
Runway 13 Markings	Precision	Same
Runway 31 Markings	Non-Precision	Same
Surface	Asphalt	Same
Taxiway A		
Taxiway Design Group	TDG 2	Same/ TDG 3 Partial
Taxiway	Full-Length Parallel	Same
Width	35′	Same/ 50′ Partial
Strength (pounds)	12,500 SWG	Same/ 60,000 Partial
Taxiway B		
Taxiway Design Group	3	Same
Taxiway	Full-Length Parallel	Same
Width	50′	Same

Strength (pounds)	60,000 SWG	Same
Airfield Lighting		
Runway Edge	MIRL	Same
Threshold Lights	Yes	Same
REILs	Yes	Same
Approach Slope Indicator	PAPI's, RW: 13, 31,4,22	Same
Approach Lighting System	No	MALSR, RW: 13
Taxiway Edge Lights	TW A: Retroreflectors TW B: MITL	TW A: MITL TW B: MITL
Visual Aids		
Segmented Circle	Yes (2)	Yes (1)
Wind Cone/Wind Tee	Yes (2 Lighted)	Yes (1 Lighted)
Rotating Beacon	Yes	Same
Fencing		
Terminal Area	6' Chain Link	6' Chain Link Security
Perimeter	3 Strand Barb Wire	8' Wildlife or Security
Hangar Facilities		
T-Hangars	23	*30
"Conventional" (Box Hangar)	3	*15
Terminal Building Facilities		
Terminal Building	1,430 S.F.	29,245 S.F.
Fuel Storage Facilities		
100 LL	12,500 Gallons	25,000 Gallons
Jet-A	12,500 Gallons	32,500 Gallons
Other Services		
Fixed Base Operator	Yes	Yes
ARFF Index	N/A	B
Weather Station	AWOS-III	Same
Unicom	Yes	Same
Automobile Parking	4,400 S.Y. Paved 975 S.Y. Unpaved	5,375 S.Y. Paved

Abbreviations: SWG = Single-wheel landing gear, DWG = Dual-wheel landing gear
*Based on Actual Demand
Source: Armstrong Consultants, Inc., 2020

Chapter Five

Development of Alternatives

ARMSTRONG

Chapter 5 – Development Alternatives

5.1 Introduction

This chapter contains the description and evaluation of alternatives to determine the recommended development for Taos Regional Airport. 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 alternatives will only be considered that meet the Town of Taos' planning needs and those that the FAA, NMDOT or the Town will be realistically able to implement. Not all development shown may be eligible or available for FAA or NMDOT 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 forecast 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 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 Town'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 Taos Regional Airport. Currently, the existing lengths of Runway 13-31 and Runway 4-22 are 8,600 feet and 5,504 feet, respectively. These lengths can serve 100 percent of the small aircraft fleet, 100 percent of the existing aircraft fleet at 75 percent useful load and 75 percent of the large aircraft fleet at 90 percent useful load. The existing runway lengths are considered adequate to accommodate the majority of the existing large aircraft, and forecasted future aircraft, utilizing the airport. As such, it is recommended that the existing runway lengths be maintained, as well as the Runway Design Code (RDC) C-II on Runway 13-31 to remain and the RDC B-II on Runway 4-22 to remain.

An analysis of the Runway pavements indicates that both Runway 13-31 and 4-22 are in good to fair condition, and standard preventative maintenance is recommended throughout the planning period. At the present time, no adjustments to the runway configuration are recommended.

5.3.2 Taxiway System

Chapter Four, *Facility Requirements*, recommends the construction of a secondary partial parallel taxiway (Taxiway C) to enhance aircraft circulation. It is recommended this taxiway be constructed on the north side of Runway 4 end at Taos Regional Airport. This location would be considered favorable over the south side of the runway due to proximity to existing/future landside development and existing utilities on the north side of the airfield. Taxiway C would provide circulation, capacity and flexibility related to runway use by creating an alternative path from Runway 13-31 to the ramp areas while enhancing ground maneuvering operations for taxing aircraft. Taxiway C would improve aircraft circulation and enhance airport safety by alleviating traffic congestion at that end of the airfield for pilots taxiing to

and from the apron areas and on Taxiway A and B for departure and takeoff. **Figure 5-4** depicts the proposed Taxiway C development.

Continued maintenance of both Taxiway A and Taxiway B pavement is also recommended. Taxiway A and its associated connectors have been scheduled for a full reconstruction in 2022. The reconstruction will also include upgrading the portion of the taxiway which extends from the intersecting point of Taxiway B to the existing aircraft apron from TDG 2 to TDG 3 standards with an ultimate width of 50 feet.

Operational and Safety Considerations
The addition of Taxiway C serving the midfield ramp area of Runway 4-22 would provide improved circulation and enhanced operational and safety capabilities by providing additional access for aircraft simultaneously taxing on Taxiway A and B, reducing the likelihood of an incursion.

Land Acquisition
The taxiway development could be accommodated on existing airport property.

Potential Environmental Impacts
The taxiway 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 construction of the Taxiway C may require additional environmental considerations.

FAA Funding Eligibility/Justification
The taxiway development is considered eligible and justified, if warranted by documented demand, for Airport Improvement Program funds. Future infrastructure development on the northeast side of the airport would provide increased justification for the development of Taxiway C.

5.3.3 Aircraft Parking Apron

Chapter Four, *Facility Requirements*, identifies the need to protect for the expansion of the existing aircraft parking apron and ramp areas. It is recommended to protect for an expanded apron to both the north and west of the existing aircraft parking apron to accommodate forecasted aircraft operations and future hangar development areas. Additionally, it is recommended to protect for a commercial aircraft parking apron and ramp space, as well as a de-icing pad, in the area identified for future ultimate terminal development at the west most end of the airfield, adjacent to Runway 4 and 13 ends. The development of the aircraft parking apron should occur in phases, as warranted by actual demand. **Figure 5-4** depicts the future apron areas.

Operational and Safety Considerations
The apron expansion areas would be located outside of the Building Restriction Line, Runway Visibility Zone and Taxiway/Taxilane Object Free Areas.

Land Acquisition
The majority of the apron and ramp expansion areas could be accommodated on existing airport property, with a portion requiring land acquisition.

Potential Environmental Impacts
The apron expansion 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 expansion is considered eligible and justified, if warranted by documented demand, for Airport Improvement Program funds; however, would be considered a lower priority project for federal funding.

5.3.4 Helicopter Parking

In order to accommodate transient helicopter traffic, it is recommended that one additional helicopter parking area be incorporated into the existing aircraft parking apron, situated on the apron area directly outside of the Fixed Based Operator (FBO) building. This location would minimize helicopters traversing over the portions of the aircraft parking apron predominately used by fixed-wing aircraft. The new helicopter parking pad should be constructed with concrete to avoid damage to the existing asphalt pavement. **Figure 5-5** outlines the future helicopter parking pads.

Operational and Safety Considerations:
The location of the helicopter parking pad would minimize impacts from rotorwash to fixed-wing aircraft.

Land Acquisition:
The helicopter parking pad could be accommodated on existing airport property.

Potential Environmental Impacts:
The helicopter parking pad 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
A helicopter parking pad is considered eligible and justified for Airport Improvement Program 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 landside 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 Passenger Terminal Building Development

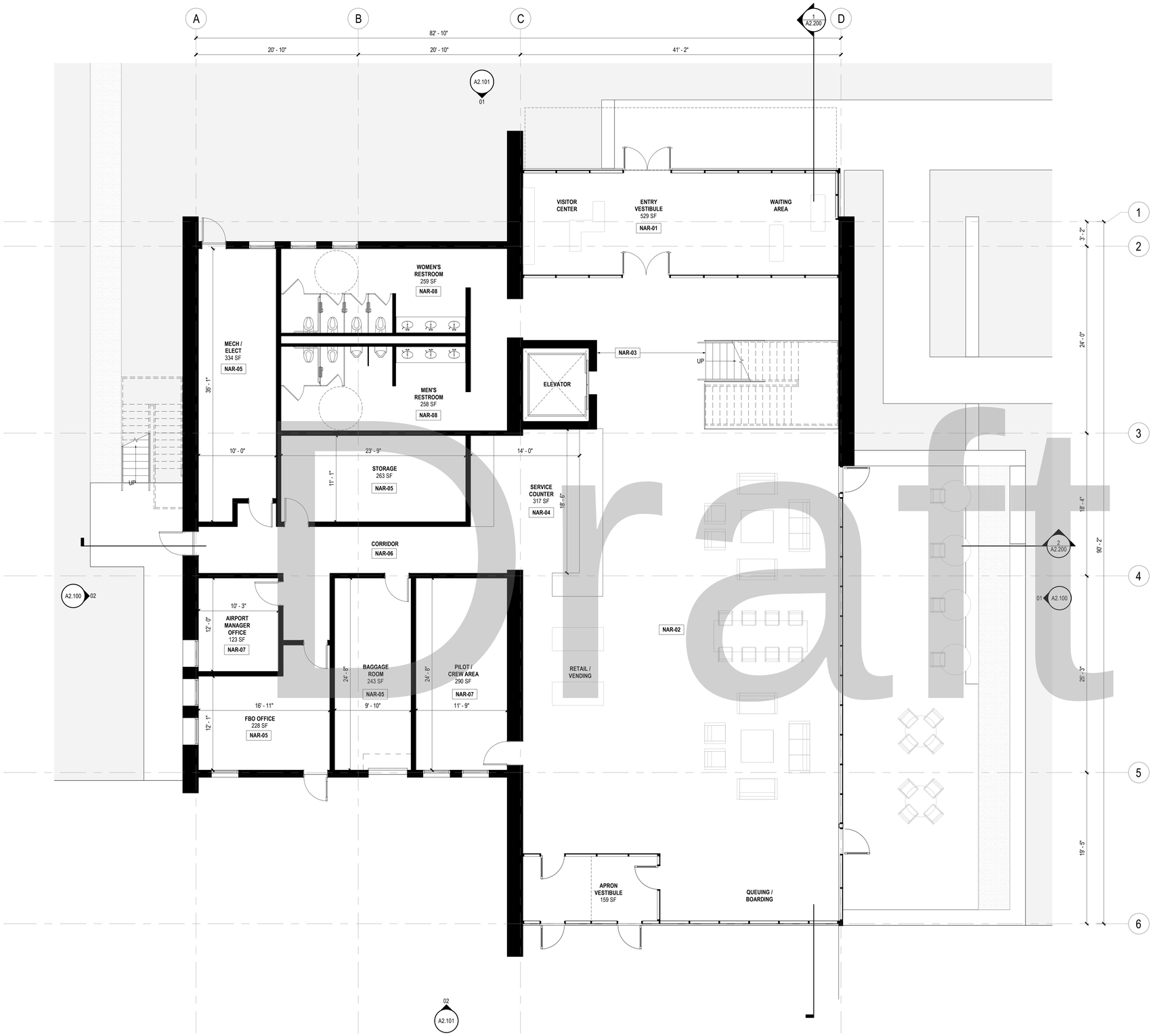
As discussed in Chapter Four, *Facility Requirements*, the existing terminal building at Taos Regional Airport, which is approximately 1,400 square feet and constructed in the early 1980's, does not

currently meet the needs of the airport. As outlined in previous chapters, it is recommended to develop a new multipurpose terminal facility. The new facility is intended to accommodate existing and the forecasted passenger demand by expanded Part 380 service via multiple Dornier 328 jets, and the potential for the introduction of Part 121 air service via the Bombardier CRJ-700. Terminal building development is intended to support existing operations and should include at minimum a passenger holding area, service desk, baggage station, restrooms and airport management offices. It is also recommended to develop the support facilities for the terminal building. This would include protecting for additional automobile parking and enhanced vehicle circulation via access roads, as well as expanded FBO offices.

Three fundamental terminal layouts were considered in regards to the terminal building development, each of which present concepts that meet the forecasted needs of Taos Regional Airport. One addresses the near-term future and the other two face the broader long-range needs that extend beyond the planning period. To protect for the changing needs of the Airport, multiple sites have been identified for terminal building expansion, with development intended to occur in phases, as warranted by demand.

- Initial Location: The site identified for immediate development is located north east of the existing FBO building and landside facilities; on the same site as the existing terminal building. The initial terminal building expansion would remain within the footprint of the existing terminal building but increase in size, to an approximate 10,000 square feet. The initial terminal building is intended to accommodate existing public charter and general aviation air traffic and would include all of the facilities outlined in the above sections as well as additional support facilities including; FBO offices, pilot lounge and weather briefing station, passenger loading and unloading areas, baggage staging and pick up, conference meeting rooms, restaurant/café space and a rental car station. Reference **Figure 5-4** for a depiction of the location of the initial terminal building. **Figure 5-1** and **Figure 5-2** portray the preliminary layout of the initial terminal building in greater detail.

  Based on preliminary projections of terminal building needs, it is recommended that the Airport incorporate a plan to expand and reconfigure the initial terminal building to accommodate the potential for Part 121 air service demand throughout the five-to-ten-year planning period. Should Part 121 service commence, the Airport will need to make adjustments to meet the requirements of regional air service. The expanded area would encompass an additional +/- 7,500 square feet. This expanded area will serve as an interim terminal for scheduled commercial service until the ultimate terminal building can be constructed. At that point, an additional terminal study will be conducted. The terminal building expansion would include the addition of a ticketing desk, TSA security and baggage screening area, additional restrooms and secure passenger hold room. **Figure 5-3** depicts a functional conceptual layout for the expansion of the initial terminal building.



01 LEVEL 01 - FLOOR PLAN
SCALE: 3/16" = 1'-0"

SHEET NOTES

GENERAL NOTES

A. REF. GENERAL SHEETS FOR GRAPHIC SYMBOLS, GENERAL NOTES AND ABBREVIATIONS, ACCESSIBILITY REQUIREMENTS, CLEARANCES AND MOUNTING HEIGHTS.

B. ALL PARTITIONS TO BE TYPE "A" U.O.N.

C. PROVIDE LVL 4 FINISH AT ALL GYP.BD SURFACES, U.O.N.

D. ALL EXISTING PARTITIONS, INCLUDING AT PERIMETER TO BE MODIFIED / EXTENDED AS REQ'D TO BE FULLY FINISHED (GYP. BOARD, TAPED, MUDDED AND PAINTED) TO 12" BELOW DECK ABOVE TO COVER EXPOSED WALL STRUCTURE. COORD. SPECIFIC REQUIREMENTS & LOCATIONS W/ RCP SHEETS.

E. PATCH / REPAIR ALL EXISTING SURFACES AS REQ' FOR REDUCTION OF WALL BASE HEIGHT FROM 4" TO 2 -1/2" THROUGHOUT.

F. PARTITIONS AT BUILDING PERIMETER SHALL BE CENTERED ON CENTERLINE OF WINDOW MULLION U.O.N.

G. INSTALL METAL CORNER BEADS AT ALL EXPOSED WALLBOARD EDGES. INSTALL CASING BEADS WHEREVER WALLBOARD, PLASTER, ETC. ABUTS A DISSIMILAR FINISH MATERIAL & PROVIDE SEALANT AS REQ'D.

H. PROVIDE MIN. 20 GA. BACKING STUDS AND/OR 18 GA. BY 6" WIDE BACK'G PLATES WHEN REQUIRED FOR SUPPORT U.O.N.

J. NOTIFY ARCHITECT IN WRITING OF CONFLICTS, DIMENSIONAL OR OTHER DISCREPANCIES PRIOR TO PROCEEDING WITH WORK OR AREAS AFFECTED.

K. ALL GLASS TO BE TEMPERED. ALL EXPOSED EDGES SHALL BE POLISHED.

L. PREP SLAB AS REQUIRED FOR SPECIFIED FINISH.

M. DOOR JAMB LOCATIONS SHALL BE TYP. 4" FROM ADJ. WALL.

N. PATCH AND REPAIR SURFACES DAMAGED AS A RESULT OF WORK PERFORMED ON THIS PROJECT. PATCH & REPAIR EXIST SURFACES SURFACES AS REQ'D TO RECEIVE NEW FINISH.

P. PROVIDE PAINTED LAYOUT FOR REVIEW BY ARCHITECT PRIOR TO INSTALLATION OF TRACK AND STUDS. LAYOUT TO INCLUDE PARTITIONS, MILLWORK, SOFFITS, LIGHTS AND ALL SIGNIFICANT ARCHITECTURAL FEATURES.

KEY PLAN

TAOS AIRPORT

24662 US-64
EL PRADO, NM 87529

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Suite 300
Golden, CO 80401
United States
Tel 303.421.6655

△	Date	Description
1	05/07/21	SCHEMATIC DESIGN

FIGURE 5-1

Seal / Signature

NOT FOR CONSTRUCTION

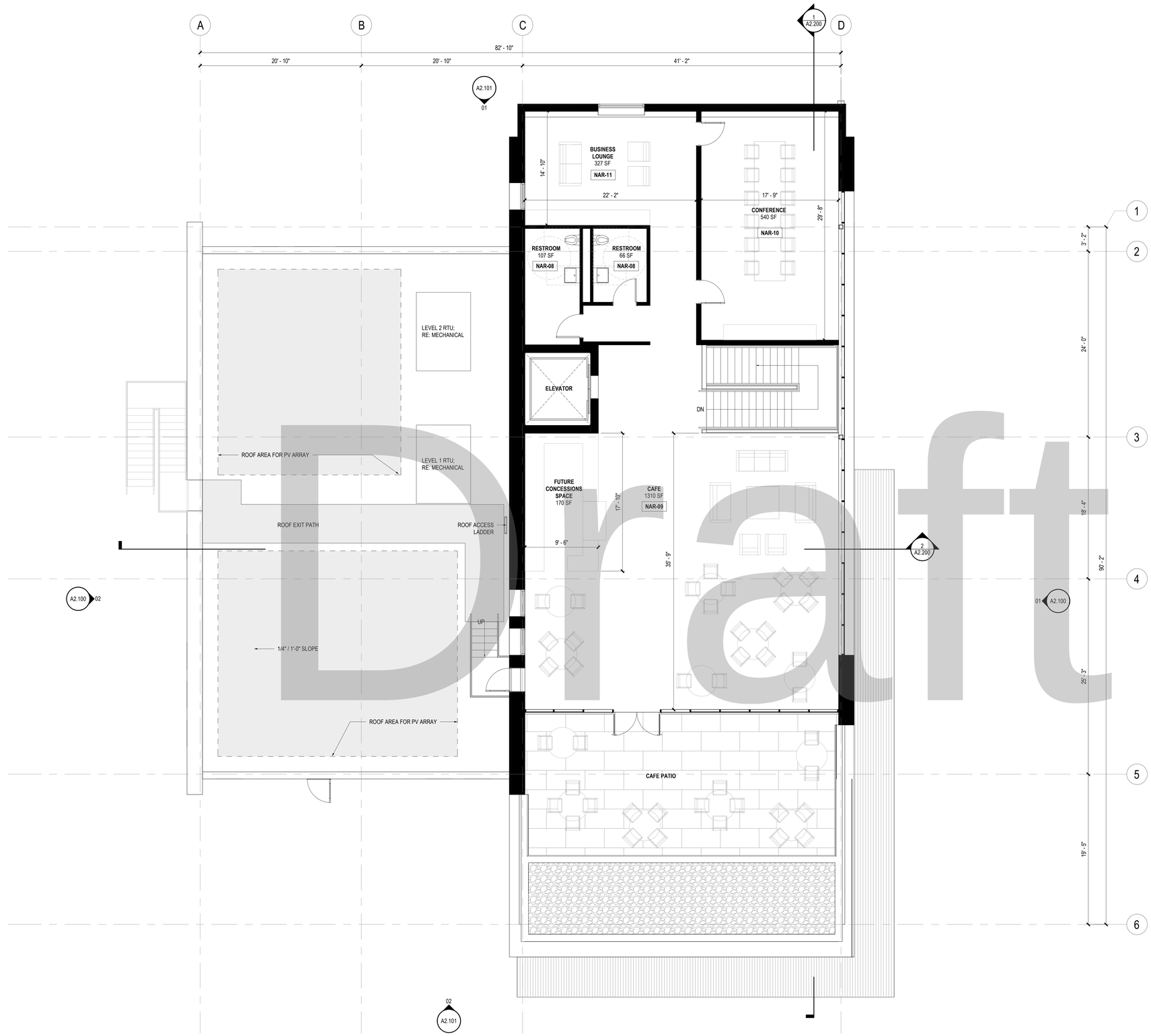
Project Name
TAOS AIRPORT

Project Number
003.7825.000

Description
CONSTRUCTION PLAN - LEVEL 01

Scale
As indicated

A1.201



1 LEVEL 02 - FLOOR PLAN
SCALE: 3/16" = 1'-0"

SHEET NOTES

GENERAL NOTES

A. REF. GENERAL SHEETS FOR GRAPHIC SYMBOLS, GENERAL NOTES AND ABBREVIATIONS, ACCESSIBILITY REQUIREMENTS, CLEARANCES AND MOUNTING HEIGHTS.

B. ALL PARTITIONS TO BE TYPE "A" U.O.N.

C. PROVIDE LVL 4 FINISH AT ALL GYP.BD SURFACES, U.O.N.

D. ALL EXISTING PARTITIONS, INCLUDING AT PERIMETER TO BE MODIFIED / EXTENDED AS REQ'D TO BE FULLY FINISHED (GYP. BOARD, TAPED, MUDDED AND PAINTED) TO 12" BELOW DECK ABOVE TO COVER EXPOSED WALL STRUCTURE. COORD. SPECIFIC REQUIREMENTS & LOCATIONS W/ RCP SHEETS.

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G. INSTALL METAL CORNER BEADS AT ALL EXPOSED WALLBOARD EDGES. INSTALL CASING BEADS WHEREVER WALLBOARD, PLASTER, ETC. ABUTS A DISSIMILAR FINISH MATERIAL & PROVIDE SEALANT AS REQ'D.

H. PROVIDE MIN. 20 GA. BACKING STUDS AND/OR 18 GA. BY 6" WIDE BACK'G PLATES WHEN REQUIRED FOR SUPPORT U.O.N.

J. NOTIFY ARCHITECT IN WRITING OF CONFLICTS, DIMENSIONAL OR OTHER DISCREPANCIES PRIOR TO PROCEEDING WITH WORK OR AREAS AFFECTED.

K. ALL GLASS TO BE TEMPERED. ALL EXPOSED EDGES SHALL BE POLISHED.

L. PREP SLAB AS REQUIRED FOR SPECIFIED FINISH.

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P. PROVIDE PAINTED LAYOUT FOR REVIEW BY ARCHITECT PRIOR TO INSTALLATION OF TRACK AND STUDS. LAYOUT TO INCLUDE PARTITIONS, MILLWORK, SOFFITS, LIGHTS AND ALL SIGNIFICANT ARCHITECTURAL FEATURES.

KEY PLAN

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United States
Tel 303.431.6100

me | engineers
14143 Denver West Parkway
Suite 300
Golden, CO 80401
United States
Tel 303.421.6655

△	Date	Description
1	05/07/21	SCHEMATIC DESIGN

FIGURE 5-2

Seal / Signature

NOT FOR CONSTRUCTION

Project Name
TAOS AIRPORT

Project Number
003.7825.000

Description
CONSTRUCTION PLAN - LEVEL 02

Scale
As indicated

A1.202

Source: Gensler, 2021

Figure 5-3 Terminal Expansion Plan

- Ultimate Location-North: Should Taos Regional Airport transition from primarily Part 380 charter service to scheduled Part 121 air service, terminal building needs will be evaluated in detail. The full transition to Part 121 air service is anticipated toward the end of the twenty-year planning period. As such, it is recommended to protect for the development of a commercial service terminal building. One potential site identified for the ultimate development is located at the western most end of the airfield, adjacent to Runway 13 end and north of Runway 4/22. This location does not have any existing infrastructure and would require utilities including sewer, water, and power to be connected. This site would include a new vehicle access road, additional automobile parking, ground handling equipment including tugs, baggage carts, ground power units and aircraft passenger access ramps. Should the airport transition to large scale commercial service operations, the terminal building would require additional facilities including a TSA security screening area, larger passenger holding areas, more extensive baggage handling and screening stations, and vehicle circulation areas to facilitate curbside pickup/drop-off as well as long-term parking facilities. For planning purposes, the ultimate terminal building would encompass 30,000 or more square feet.

- Ultimate Location-South: A second potential site for the development of the ultimate terminal building is proposed directly south of Runway 4 end, perpendicular to the east side of Runway 13/31. This location is completely undeveloped and also lacks utilities as well as roadways and

vehicle access points. Based on input from the Town of Taos and the onset of potential development of air cargo and aircraft maintenance facilities north of Runway 4/22, it is preferred to move forward with protecting the area south of Runway 4/22 for future terminal building development. While the north location was originally the preferred alternative due to proximity to existing infrastructure, due to recently identified demand, other development is expected to occur in that area in the short-term future. The location of the proposed terminal building site development for the ultimate location is detailed in **Figure 5-4**.

Operational and Safety Considerations

The terminal building development area would be located outside of the Building Restriction Line, Runway Visibility Zone and Taxiway/Taxilane Object Free Areas.

Land Acquisition

The terminal building development could be accommodated on existing airport property

Potential Environmental Impacts

The terminal building 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 terminal building development would create a negligible increase of energy resources to power the development area and support facilities. Additional environmental analysis would be necessary prior to the construction of the terminal building.

FAA Funding Eligibility/Justification

The terminal building development is considered eligible and justified, warranted by documented demand for Airport Improvement funds. At present, funding has been secured for the design and construction of the initial terminal building development. As such, consideration for the future ultimate terminal would be considered a low priority project for federal funding.

5.4.2 Facility 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. These areas should be configured to accommodate both Group I and Group II aircraft. It is recommended to protect for the development of facilities of varying sizes throughout the airfield. Other development items include the expansion of the Snow Removal Equipment (SRE) storage facilities and additional fuel storage capacity.

Several areas have been identified for future development. The following points describe the potential site development areas:

- Areas identified for future hangar development include the east most end of the airfield, directly north of Runway 22 end. This area is currently undeveloped and has been identified for the development of two rows of standard box hangars as well as additional ramp area with accompanying tie downs. This area would primarily accommodate small general aviation aircraft.

Hangar development in this area requires removing the existing perimeter fencing to allow for the second row of hangars and the construction of a new airport access road.

- A second area identified for development includes the midfield point north of Runway 4-22 and Taxiway A. This area is intended to accommodate large general aviation/corporate users. This area should also include protecting for the expansion of the FBO building/hangar and fueling facilities, in their existing location. It is recommended that both the AvGas and Jet-A tanks increase from 12,500-gallon tanks to 25,000-gallon and 32,000-gallon tanks, respectively. It is recommended to enhance vehicle access to this development area by expanding the public parking area intended to support these hangars and additional future infrastructure, including the future FBO and Terminal building.

- An additional development area has been identified at the west end of the airfield, north of Runway 4 end. Development at this end of the airfield is intended to serve future commercial service needs. This area is currently undeveloped and would require the reconstruction of the existing airport access road and expansion of the public parking area to allow access to the future building development. Extension of utilities to this area, including water, sewer and power is also required.

It should be noted that the Town of Taos is considered a destination area and the airport acts as a hub for tourists and second home owners alike. Covered carports and/or enclosed parking garages have been included in the development plan to accommodate long-term vehicle storage at the airport. While not AIP eligible, this still provides a revenue generation opportunity for the Town and the FBO.

Figure 5-4 depicts the future facility development and supporting infrastructure at the airport.

Operational and Safety Considerations

The hangar and infrastructure development would be located outside of the Building Restriction Line, Runway Visibility Zone and Taxiway/Taxilane Object Free Areas.

Land Acquisition

The full extent of the development would require the acquisition of additional airport property to the north.

Potential Environmental Impacts

The hangar and 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 Airport Improvement Program 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 Air Cargo and Distribution Facilities

A recent third-party study has indicated he demand for up to 200,000 square feet of Air Cargo and Warehousing/Distribution facilities. As those facilities are anticipated to be developed prior to the ultimate terminal building, these facilities have been located in the northwest portion of the airport, adjacent to the existing Runway 13 and Runway 4 ends and nearby planned utility infrastructure.

5.4.4 Terminal Area Fencing

It is recommended to relocate the existing terminal area fencing to extend to the north in order to accommodate the future hangar development areas. Relocation of the fence will allow for public access to the vehicle parking areas while restricting access to airside facilities. The terminal area fencing would also include multiple electric gates with card reader/ access code keypads to allow 24-hour access by authorized individuals.

Operational and Safety Considerations
The relocated terminal fencing would prevent unauthorized personnel from entering restricted areas, enhancing the safety of aircraft operations and the airport.

Land Acquisition
The terminal area fencing would be installed within the perimeter of the airport property.

Potential Environmental Impacts
The installation of the terminal fence 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 terminal fencing is considered eligible and justified for Airport Improvement Program funds.

5.4.5 Aircraft Rescue and Fire Fighting Facilities

To accommodate future scheduled airline service, it is recommended that the airport protect for the construction of facilities which support Aircraft Rescue and Fire Fighting Operations (ARFF). Commercial airport certification requirements contained in Federal Aviation Regulations (FAR) Part 139 designate the ARFF index of an airport. The ARFF index drives personnel, equipment and response requirements of the airport. Chapter Four, *Facility Requirements*, anticipates that the future ARFF index for Taos Regional Airport will be Index B, which requires an ARFF vehicle carrying a combined 1,500 gallons of water/extinguishing agent. The location identified for the future ARFF building is situated north of Taxiway A, near the ultimate future Terminal Building. The future ARFF building would need to include an area for emergency personnel, offices, and a bay to house and protect emergency response vehicles. **Figure 5-4** depicts the location of the future ARFF training facility.

The Town has identified a need for an additional structural fire station and training facility at the airport, separate from the ARFF services. The proposed fire station and training facility is to be located

south of Runway 22 end. This structural fire station campus would provide fire services for the area and would require a non-aeronautical land release from the FAA.

Operational and Safety Considerations
The ARFF development would be located outside of the Building Restriction Line, Runway Visibility Zone and Taxiway/Taxilane Object Free Areas. ARFF facilities would enhance safety at the airport by reducing response times from emergency personnel in the case of an on-site incident and are located in areas on airport property to meet the required Part 139 ARFF response times. The proposed structural fire station campus would be located outside of airport property identified for aeronautical use, located along the south east side of Runway 4-22.

Land Acquisition
The ARFF development, as well as the structural fire station campus, could both be accommodated on existing airport property.

Potential Environmental Impacts
The development of ARFF facilities 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 development would create a negligible increase of energy resources to power the development area.

FAA Funding Eligibility/Justification
The ARFF Facility is considered eligible and justified, for Airport Improvement Program funds. AIP funding is only eligible for the ARFF facilities; the municipal fire station and training facility would be constructed separate from the ARFF facility and require alternative funding.

5.4.6 Relocate Support Facilities

It is recommended to relocate the existing Automatic Weather Observing System (AWOS) and Remote Communications Outlet (RCO). The existing AWOS and RCO are located on the north side of Runway 4-22 and are currently situated in areas identified for future apron expansion and hangar development. It is recommended that the AWOS and RCO be relocated to the south end of the airfield, outside of any future development areas.

Taos Regional Airport has two wind cones and segmented circles. It is recommended that the segmented circle and wind cone currently situated on the south side of Runway 4-22 be relocated. As was discussed in Chapter Four, *Facility Requirements*, the current location of the wind cone and segmented circle in proximity to the active runway poses a safety risk should an aircraft deviate from the pavement.

Operational and Safety Considerations
The relocated AWOS and RCO would be necessary for future apron and hangar development, as outlined in **Figure 5-4**. The segmented circle and wind cone relocation would enhance the safety of aircraft operations at the airport by keeping the area beyond the runway clear of objects and reducing the potential for a collision.

Land Acquisition
The relocated support facilities could be accommodated on existing airport property.

Potential Environmental Impacts
Activities associated with the relocation of the support facilities would result in minor air quality impacts; however, these impacts would be temporary and occur during construction only.

FAA Funding Eligibility/Justification
Relocation of the AWOS/RCO, segmented circle and wind cone are eligible and justified for Airport Improvement Program funds.

5.5 Summary of Recommended Development

The development alternatives presented in this Chapter were derived to accommodate the forecasted aviation demand and the corresponding facility requirements for Taos Regional Airport 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 5-4**.

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

- Runway 13-31 and 4-22 existing runway length remains the same but plan for continued pavement maintenance
- Construct Taxiway C and associated connectors at Runaway 4 end
- Expand commercial, general aviation and itinerant aircraft parking apron and ramp areas
- Construct dedicated helicopter parking pads
- Relocate AWOS System/RCO, segmented circle and wind cone
- Construct replacement Terminal Building to accommodate future Part 380 and ultimately Part 121 air service
- Expand FBO hangar and facilities
- Snow Removal Equipment storage building expansion/replacement
- Construct additional hangar facilities to accommodate demand as needed
- Expand existing AvGas and Jet-A fuel storage tanks to accommodate bulk storage needs
- Expand vehicle parking areas and reconstruct existing airport access road
- Relocate terminal area fencing and install controlled access gates
- Construct ARFF Facility and acquire ARFF equipment

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 – 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 Taos Regional Airport is illustrated in **Table 5-3**.

Table 5-3 Environmental Overview for Taos Regional Airport

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** Taos County is not located in a non-attainment area. No significant air quality impacts are anticipated to occur as a result of the development shown.	See **Figure 2-25**
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 Taos Regional Airport.	See **Table 2-13**
Coastal Barriers and Coastal Zone Management (CZM)	The Airport is not located within or adjacent to a coastal zone.	**No impacts** Airport is located in the State of New Mexico.	Not Applicable

Table 5-3 Environmental Overview for Taos Regional Airport

NEPA Resource Category	Potential Environmental Impacts	Anticipated Impact Level	Supporting Documentation
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. 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.	**Minor impacts** The proposed airport improvements are not anticipated to result in significant noise impacts, or attract wildlife. Forecasts do not exceed noise levels evaluated in the Environmental Impact Statement (EIS).	EIS Dated 2012
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 parks, recreation areas, wildlife	See **Section 2.10.2**

Table 5-3 Environmental Overview for Taos Regional Airport

NEPA Resource Category	Potential Environmental Impacts	Anticipated Impact Level	Supporting Documentation
	from a historic site of national, state or local significance.	or waterfowl refuges of National, State, or Local significant near the Airport. The nearest Section 4(f) property includes the Taos Pueblo World Heritage Site, located approximately nine miles east of the Airport. Impacts to the Site as a result of Airport development were discussed and mitigated during the EIS process	
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** All Airport property is designated as Not Prime Farmland. No impacts to farmlands are anticipated.	See **Figure 2-26**
Floodplains	When notable adverse impacts on natural and beneficial floodplain values would occur.	**No impacts** The Airport is listed as Zone X, which indicates an area of minimal flood hazard. There is no historical record of flooding occurring on or adjacent to Taos Regional Airport. While **Figure 2-27** indicates that floodplains are present within the area, the mapped area has a 0.2 percent chance of flooding.	See **Figure 2-27**
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.	EIS Dated 2012
Light Emissions and Visual Effects		**Minor impacts** No significant light emissions or visual effects impacts are	Not Applicable

Table 5-3 Environmental Overview for Taos Regional Airport

NEPA Resource Category	Potential Environmental Impacts	Anticipated Impact Level	Supporting Documentation
	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.	anticipated as a result of the proposed development.	
Secondary (Induced) Impacts	Induced impacts will normally not be significant except where there are also significant impacts in other categories, especially noise, land use, or direct social impacts.	**No impacts**	Not Applicable
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 that 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

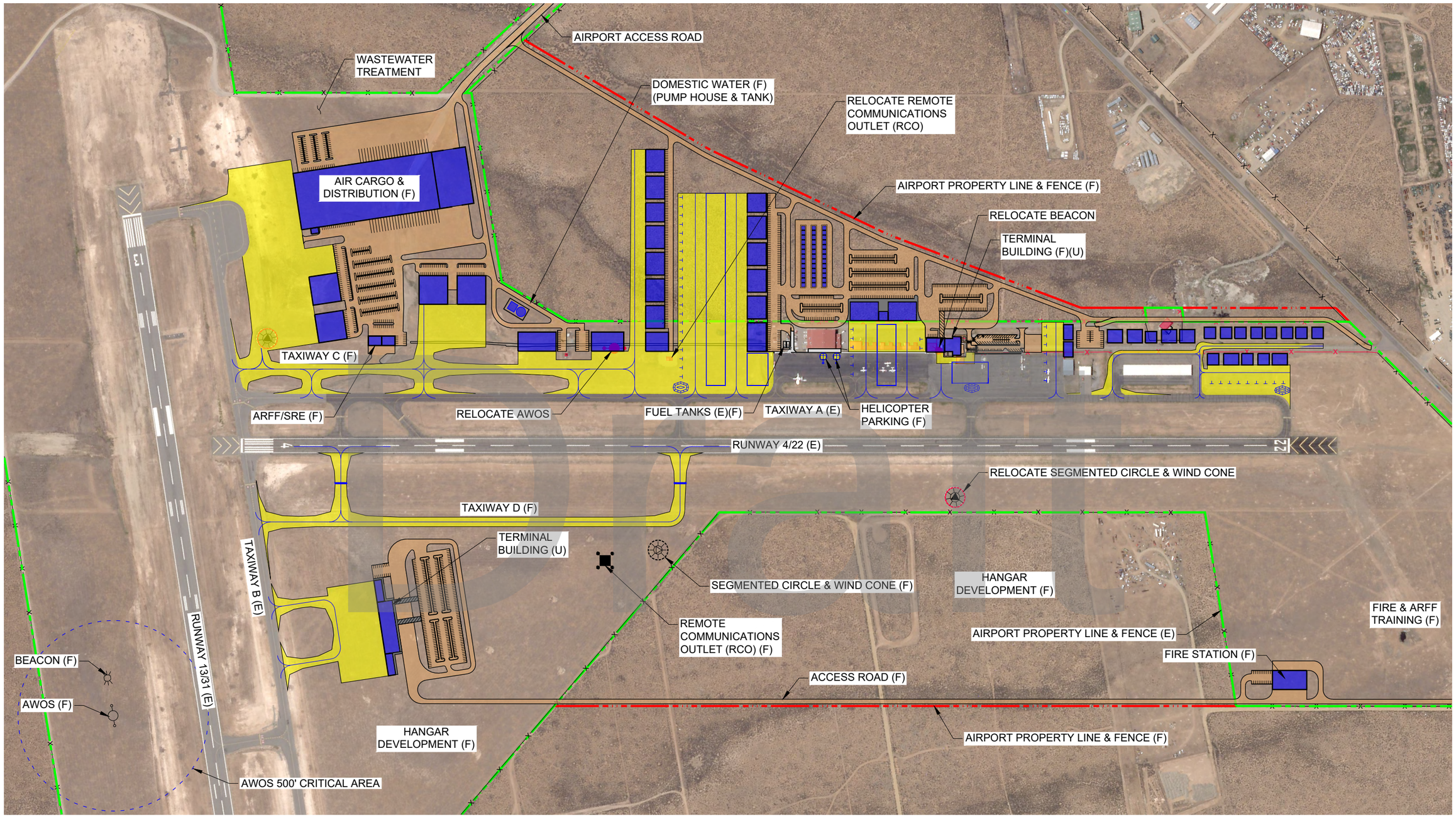
Table 5-3 Environmental Overview for Taos Regional Airport

NEPA Resource Category	Potential Environmental Impacts	Anticipated Impact Level	Supporting Documentation
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
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. Coordination with the U.S. Army Corps of Engineers would be conducted during future NEPA analysis to confirm no significant impacts would occur.	See **Figure 2-28**
Wild and Scenic Rivers	There are no wild or scenic rivers on or near future project areas.	**No impacts** The nearest river is the Rio Grande, located approximately three miles west of the Airport.	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., 2021

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 regard 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; however terminal development may require an Environmental Assessment (EA), pending Section 163 determination. Also, while certification under FAR Part 139 would be eligible for a Categorical Exclusion, the introduction of scheduled jet service would likely require an EA for the airline's Operational Specifications (Ops Specs).



LEGEND

- FUTURE AIRFIELD PAVEMENT
- FUTURE HANGAR/STRUCTURE
- FUTURE ROAD / PARKING
- EXISTING AIRPORT PROPERTY LINE
- FUTURE AIRPORT PROPERTY LINE
- TO BE REMOVED

250 0 250 500
SCALE IN FEET

EXHIBIT 5-1

TAOS, NEW MEXICO
TAOS REGIONAL AIRPORT

RECOMMENDED DEVELOPMENT

ARMSTRONG CONSULTANTS
PLANNING ENGINEERING CONSTRUCTION
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S:_New Mexico\Taos\Project Files\Active Projects\206623 Taos – Airport Master Plan\CAD\dwg\6623600.dwg 1/28/2022 11:06:02 AM LBACHMAN

Chapter Six
Airport Layout Plan

ARMSTRONG

TAOS REGIONAL AIRPORT

TAOS, NEW MEXICO

AIRPORT LAYOUT PLAN

SPONSOR APPROVAL

DRAFT

TOWN OF TAOS DATE

PREPARED BY:

ARMSTRONG CONSULTANTS, INC.

NMDOT NO. SKX-20-03

ACI No. 216623

DECEMBER 2021

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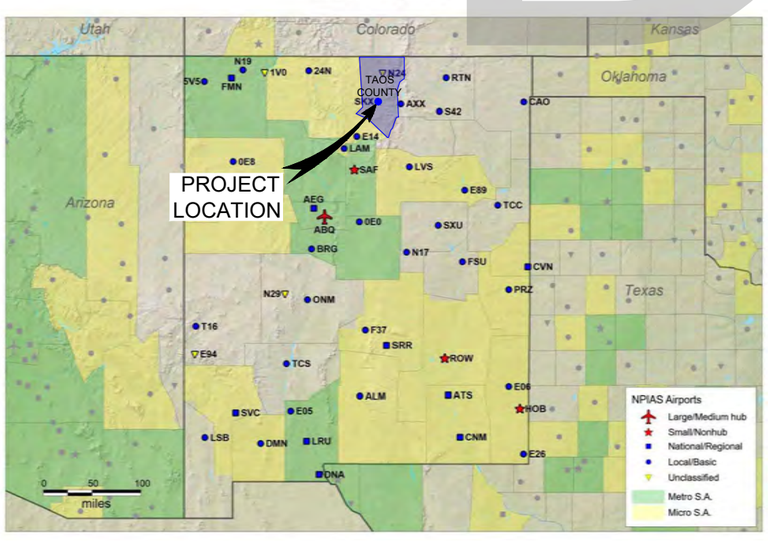
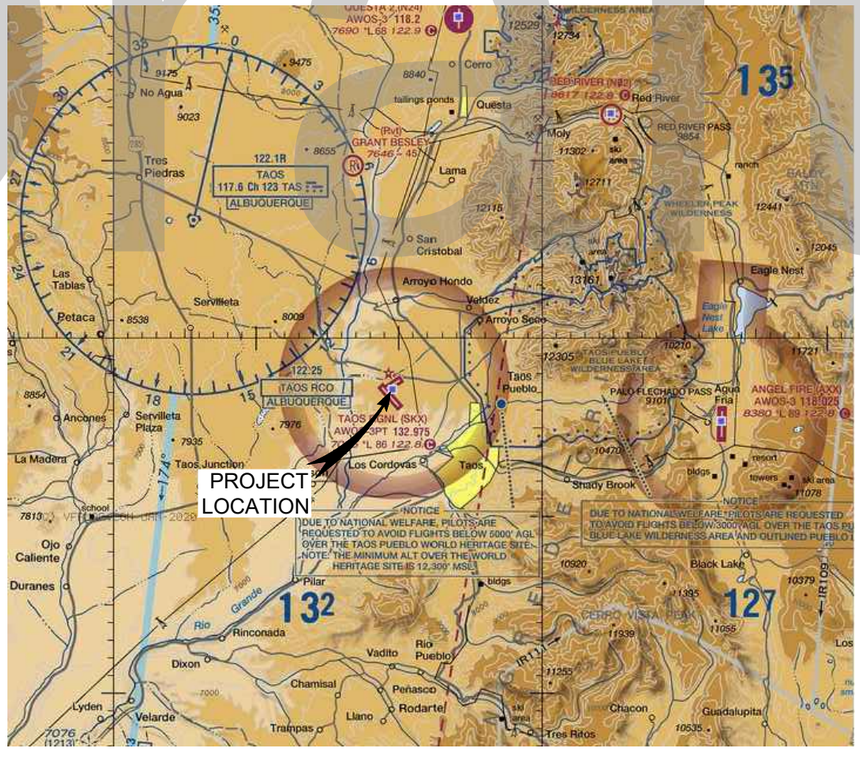
(E = EXISTING, F = FUTURE)



LOCATION MAP



VICINITY MAP

No.	ACI No.	Date	Revision / Description	File	Drwn.	Chkd.	Apprvd.
0	206623	12/2021	ORIGINAL ISSUE	6623501	LKB	JZP	JZP

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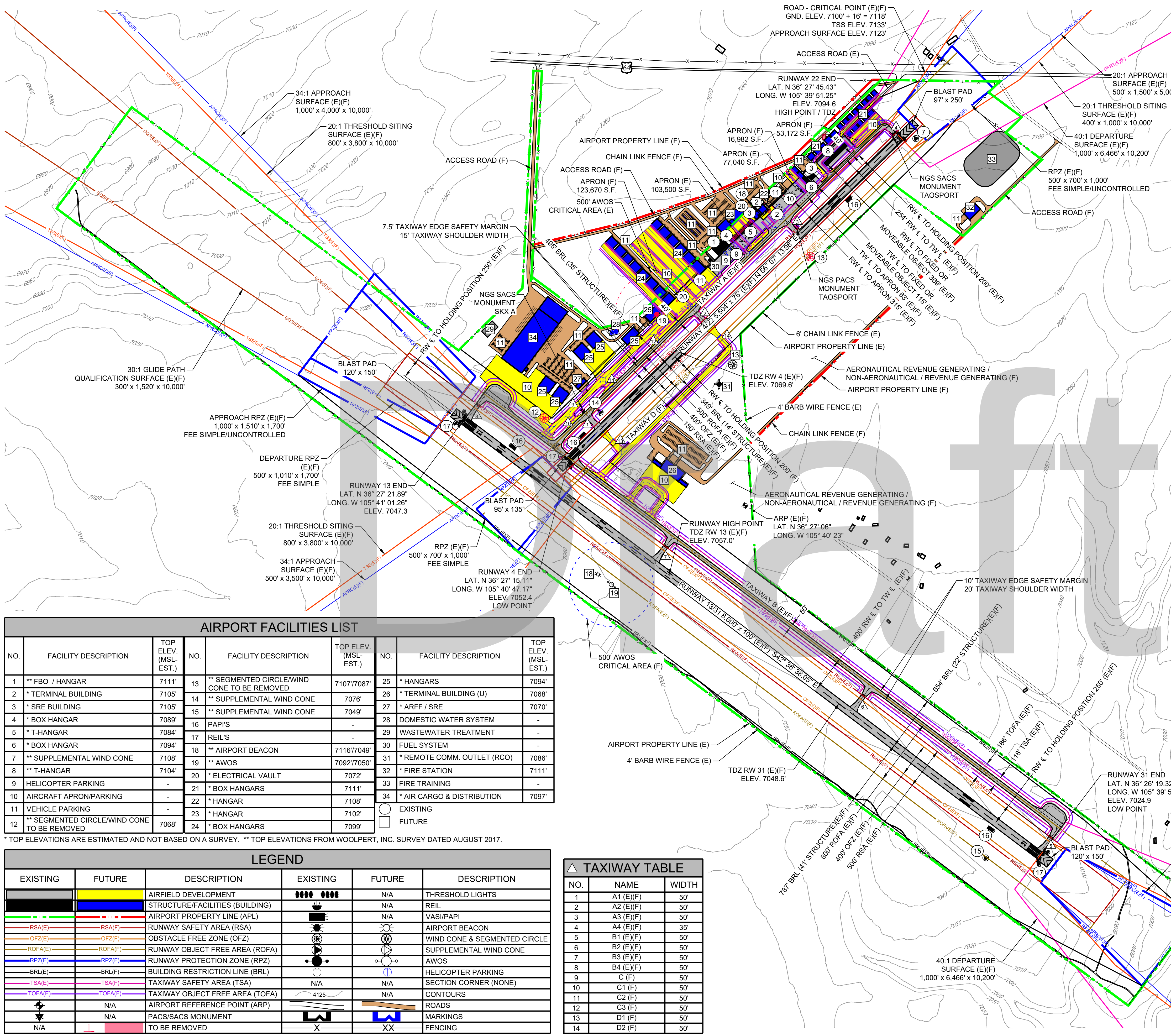

7°56"

ARMSTRONG CONSULTANTS

MAGNETIC NORTH SOURCE:
NOAA GEOPHYSICAL DATA CENTER
MAGNETIC DECLINATION 7°56' EAST
RATE OF CHANGE 0°6' WEST PER YEAR
OBTAINED: 05/21/21

600 0 600 1200
SCALE IN FEET

SPONSOR APPROVAL

DRAFT

TOWN OF TAOS DATE

FAA APPROVAL

AIRPORT FACILITIES LIST

NO.	FACILITY DESCRIPTION	TOP ELEV. (MSL-EST.)	NO.	FACILITY DESCRIPTION	TOP ELEV. (MSL-EST.)	NO.	FACILITY DESCRIPTION	TOP ELEV. (MSL-EST.)
1	** FBO / HANGAR	7111'	13	** SEGMENTED CIRCLE/WIND CONE TO BE REMOVED	7107'/7087'	25	* HANGARS	7094'
2	* TERMINAL BUILDING	7105'	14	** SUPPLEMENTAL WIND CONE	7076'	26	* TERMINAL BUILDING (U)	7068'
3	* SRE BUILDING	7105'	15	** SUPPLEMENTAL WIND CONE	7049'	27	* ARFF / SRE	7070'
4	* BOX HANGAR	7089'	16	PAPI'S	-	28	DOMESTIC WATER SYSTEM	-
5	* T-HANGAR	7084'	17	REIL'S	-	29	WASTEWATER TREATMENT	-
6	* BOX HANGAR	7094'	18	** AIRPORT BEACON	7116'/7049'	30	FUEL SYSTEM	-
7	** SUPPLEMENTAL WIND CONE	7108'	19	** AWOS	7092'/7050'	31	* REMOTE COMM. OUTLET (RCO)	7086'
8	** T-HANGAR	7104'	20	* ELECTRICAL VAULT	7072'	32	* FIRE STATION	7111'
9	HELICOPTER PARKING	-	21	* BOX HANGARS	7111'	33	FIRE TRAINING	-
10	AIRCRAFT APRON/PARKING	-	22	* HANGAR	7108'	34	* AIR CARGO & DISTRIBUTION	7097'
11	VEHICLE PARKING	-	23	* HANGAR	7102'	○	EXISTING	
12	** SEGMENTED CIRCLE/WIND CONE TO BE REMOVED	7068'	24	* BOX HANGARS	7099'	□	FUTURE	

* TOP ELEVATIONS ARE ESTIMATED AND NOT BASED ON A SURVEY. ** TOP ELEVATIONS FROM WOOLPERT, INC. SURVEY DATED AUGUST 2017.

LEGEND

EXISTING	FUTURE	DESCRIPTION	EXISTING	FUTURE	DESCRIPTION
		AIRFIELD DEVELOPMENT		N/A	THRESHOLD LIGHTS
		STRUCTURE/FACILITIES (BUILDING)		N/A	REIL
		AIRPORT PROPERTY LINE (APL)		N/A	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)			HELICOPTER PARKING
TSA(E)	TSA(F)	TAXIWAY SAFETY AREA (TSA)	N/A	N/A	SECTION CORNER (NONE)
TOFA(E)	TOFA(F)	TAXIWAY OBJECT FREE AREA (TOFA)	4125	N/A	CONTOURS
	N/A	AIRPORT REFERENCE POINT (ARP)			ROADS
	N/A	PACS/SACS MONUMENT			MARKINGS
N/A		TO BE REMOVED	X	XX	FENCING

△ TAXIWAY TABLE

NO.	NAME	WIDTH
1	A1 (E)(F)	50'
2	A2 (E)(F)	50'
3	A3 (E)(F)	50'
4	A4 (E)(F)	35'
5	B1 (E)(F)	50'
6	B2 (E)(F)	50'
7	B3 (E)(F)	50'
8	B4 (E)(F)	50'
9	C (F)	50'
10	C1 (F)	50'
11	C2 (F)	50'
12	C3 (F)	50'
13	D1 (F)	50'
14	D2 (F)	50'

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TAOS REGIONAL AIRPORT
TAOS, NEW MEXICO

NMDOT NO. SKX-20-03
AIRPORT LAYOUT PLAN

No.	ACI No.	Date	Revision / Description	File	Drwn.	Chkd.	Apprvd.
0	206623	12/2021	AMP/ALP ORIGINAL ISSUE	6623502	LKB	BNB	JZP

AIRPORT LAYOUT PLAN

RUNWAY DATA

ITEM		RW 13/31 - EXISTING/FUTURE (E)(F)		RW 4/22 - EXISTING/FUTURE (E)(F)	
RUNWAY IDENTIFICATION		13	31	4	22
RUNWAY DESIGN CODE (RDC)		C-II-4000	C-II-VIS	B-II-5000	B-II-VIS
DEPARTURE REFERENCE CODE (DPRC)		C-II-4000		B-II-5000	
SURFACE MATERIAL, PAVEMENT STRENGTH & MATERIAL TYPE	SURFACE MATERIAL	ASPHALT		ASPHALT	
	STRENGTH BY WHEEL LOADING (LBS)	60,000 SWG		24,000 SWG	
	PCN (FOR BEARING STRENGTH OF 12,500 LBS OR GREATER)	51 / F / D / X / T		4 / F / D / 7 / T	
	SURFACE TREATMENT	GROOVED		PFC	
RUNWAY GRADIENT	EFFECTIVE (%)	0.26%		0.77%	
	MAXIMUM (%)	0.80%		1.04%	
	LINE OF SIGHT MET (Y OR N)	Y		Y	
PERCENT WIND COVERAGE (ALL WEATHER)	A-I / B-I - 10.5 KTS	89.91%		92.02%	
	A-II / B-II - 13 KTS	93.73%		95.10%	
	A/B-II - D-III - 16 KTS	97.53%		97.93%	
RUNWAY DIMENSIONS (FT)		8,600 x 100		5,504' x 75	
RUNWAY SAFETY AREA (RSA)	WIDTH (FT)	500		150	
	LENGTH BEYOND RUNWAY END (FT)	1,000	1,000	300	300
RUNWAY COORDINATES (NAD 83)	RUNWAY END LATITUDE	N 36° 27' 21.89"	N 36° 26' 19.32"	N 36° 27' 15.11"	N 36° 27' 45.43"
	RUNWAY END LONGITUDE	W 105° 41' 01.26"	W 105° 39' 50.03"	W 105° 40' 47.17"	W 105° 39' 51.25"
	DISPLACED THRESHOLD LAT.	N/A	N/A	N/A	N/A
	DISPLACED THRESHOLD LONG.	N/A	N/A	N/A	N/A
RUNWAY ELEVATIONS (NAVD 88)	RUNWAY END (FT)	7047.3	7024.9	7052.4	7094.6
	DISPLACED THRESHOLD (FT)	N/A	N/A	N/A	N/A
	TOUCHDOWN ZONE (TDZ) (FT)	7057.0	7048.6	7069.6	7094.6
	HIGH POINT (FT)	7,057.0		7094.6	
	LOW POINT (FT)	7,024.9		7052.4	
RUNWAY LIGHTING TYPE		MIRL		MIRL	
RUNWAY PROTECTION ZONE (RPZ) (FT)	APPROACH	1,000 x 1,510 x 1,700	500 x 1,010 x 1,700	500 x 700 x 1,000	500 x 700 x 1,000
	DEPARTURE	500 x 1,010 x 1,700	500 x 1,010 x 1,700	500 x 700 x 1,000	500 x 700 x 1,000
RUNWAY MARKING TYPE		PRECISION	NON-PRECISION	NON-PRECISION	BASIC
14 CFR PART 77 APPROACH SURFACES	APPROACH TYPE	NON-PRECISION	VISUAL	NON-PRECISION	VISUAL
	VISIBILITY MINIMUMS (FT)	4,000	VISUAL	5,000	VISUAL
	APPROACH SURFACE DIMENSIONS (FT)	1,000 x 4,000 x 10,000	500 x 1,500 x 5,000	500 x 3,800 x 10,000	500 x 1,500 x 500
	APPROACH SURFACE SLOPE	34:1	20:1	34:1	20:1
TYPE OF AERONAUTICAL SURVEY REQUIRED FOR APPROACH		VERTICAL GUIDED		NON-VERTICAL GUIDED	
RUNWAY DEPARTURE SURFACE (YES OR N/A)		YES	N/A	YES	N/A
RUNWAY OBJECT FREE AREA (ROFA)	WIDTH (FT)	800		500	
	LENGTH BEYOND RUNWAY END (FT)	1,000	1,000	300	300
OBSTACLE FREE ZONE (OFZ)	WIDTH (FT)	400		400	
	LENGTH BEYOND RUNWAY END (FT)	200	200	200	200
THRESHOLD SITING SURFACE (TSS)	DIMENSIONS (FT)	800 x 3,800 x 10,000	400 x 1,000 x 10,000	800 x 3,800 x 10,000	400 x 1,000 x 10,000
	SLOPE	20:1	20:1	20:1	20:1
	PENETRATIONS	NONE	NONE	NONE	NONE
VISUAL AND INSTRUMENT NAVAIDS		GPS, PAPI	PAPI	GPS, PAPI	PAPI

TAXIWAY AND TAXILANE DIMENSIONS

TAXIWAYS AND TAXILANES	TAXIWAY A (E)(F)	TAXIWAY B (E)(F)	TAXIWAY C (F)	TAXILANES (E)(F)	TAXILANES (E)(F)
AIRPLANE DESIGN GROUP (ADG) / TAXIWAY DESIGN GROUP (TDG)	ADG II / TDG 2 / 3	ADG III / TDG 3	ADG II / TDG 3	ADG I / TDG 1A	ADG II / TDG 2
TAXIWAY AND TAXILANE WIDTH (FT)	35' / 50'	50'	50'	25'	35'
TAXIWAY AND TAXILANE SAFETY AREA (FT)	79' / 118'	118'	79'	49'	79'
TAXIWAY AND TAXILANE OBJECT FREE AREA (FT)	131' / 186'	186'	131'	79'	115'
TAXIWAY AND TAXILANE SEPARATION (FT)	105' / 152'	152'	105'	70'	105'
TAXIWAY SHOULDER WIDTH / TAXIWAY EDGE SAFETY MARGIN (FT)	15' / 7.5' / 20' / 10'	20' / 10'	20' / 10'	N/A	N/A
TAXIWAY AND TAXILANE LIGHTING	MITL	MITL	MITL	N/A	N/A

HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983 (NAD 83); VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM 1988 (NAVD 88). ELEVATIONS & RUNWAY END COORDINATES FROM WOOLPERT, INC. SURVEY DATA DATED AUGUST 2017.

AIRPORT DATA

ITEM		EXISTING (E)	FUTURE (F)
AIRPORT REFERENCE CODE (ARC)		C-II-4000	C-II-4000
MEAN MAX. TEMP OF HOTTEST MONTH (°F) (JULY)		85.6°	85.6°
AIRPORT ELEVATION (MSL, FT) (NAVD 88) *		7,094.6	7,094.6
AIRPORT REFERENCE POINT (ARP) COORDINATES (NAD 83)	LATITUDE	N 36° 27' 06"	N 36° 27' 06"
	LONGITUDE	W 105° 40' 23"	W 105° 40' 23"
AIRPORT NAVIGATIONAL AIDS		BEACON	BEACON
MISCELLANEOUS FACILITIES		AWOS, WIND CONES	AWOS, WIND CONES
ARC AND CRITICAL AIRCRAFT	ARC	C-II-4000	C-II-4000
	AIRCRAFT	BOMBARDIER CL-600	CANADAIR CRJ-700
	WINGSPAN (FT)	70'	76'
	UNDERCARRIAGE WIDTH (FT)	11'	14'
	APPROACH SPEED (KTS)	125	135
AIRPORT MAGNETIC VARIATION	VARIATION	7° 56' E	TBD
	DATE	5/21/2021	TBD
	SOURCE	NOAA	TBD
NPIAS SERVICE LEVEL		LOCAL GA	LOCAL GA
STATE EQUIVALENT SERVICE		COMMUNITY GA	COMMUNITY GA

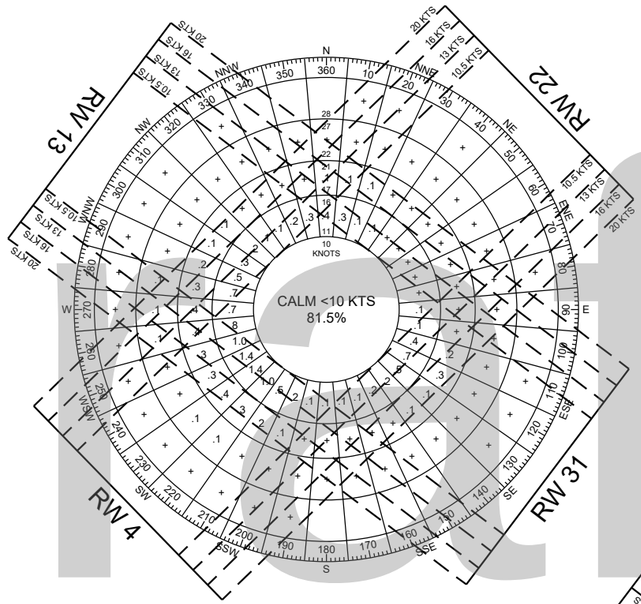
* ELEVATIONS FROM WOOLPERT, INC. SURVEY DATA DATED AUGUST 2017.

DECLARED DISTANCES

	RUNWAY OPERATIONAL DIRECTION	TORA	TODA	ASDA	LDA	STOPWAY PROVIDED	CLEARWAY PROVIDED	FAA APPROVAL DATE
EXISTING / FUTURE	13	8,600'	8,600'	8,600'	8,600'	NO	NO	N/A
	31	8,600'	8,600'	8,600'	8,600'	NO	NO	N/A
EXISTING / FUTURE	4	5,504'	5,504'	5,504'	5,504'	NO	NO	N/A
	22	5,504'	5,504'	5,504'	5,504'	NO	NO	N/A

MODIFICATION TO STANDARDS APPROVAL

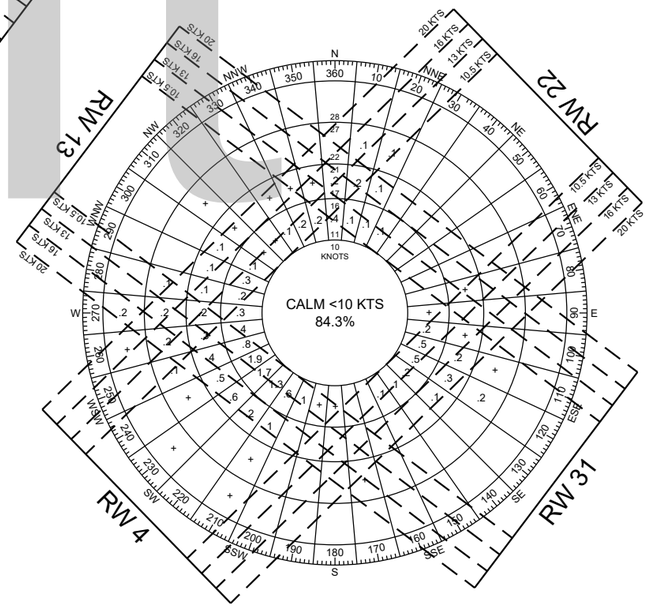
NO.	STANDARD TO BE MODIFIED	EXISTING	APPROVAL DATE	CASE #
NONE				



RUNWAY	10.5 KNOTS 13 MPH	13 KNOTS 16 MPH	16 KNOTS 20 MPH
13/31	89.91%	93.73%	97.53%
4/22	92.02%	95.10%	97.93%
COMB.	98.29%	99.43%	99.87%

ALL WEATHER WIND ROSE

WIND DATA SOURCE: TAOS REGIONAL AIRPORT AWOS
COLLECTION BETWEEN 2011 TO 2020.
NUMBER OF OBSERVATIONS: 194,176



RUNWAY	10.5 KNOTS 13 MPH	13 KNOTS 16 MPH	16 KNOTS 20 MPH
13/31	89.43%	92.93%	97.13%
4/22	94.35%	96.31%	98.10%
COMB.	98.08%	99.07%	99.61%

IFR WIND ROSE

WIND DATA SOURCE: TAOS REGIONAL AIRPORT AWOS
COLLECTION BETWEEN 2011 TO 2020.
NUMBER OF OBSERVATIONS: 194,176

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TAOS REGIONAL AIRPORT
TAOS, NEW MEXICO

NMDOT NO. SKX-20-03
AIRPORT LAYOUT PLAN

No.	ACI No.	Date	Revision / Description	File	Drwn.	Chkd.	Apprvd.
0	206623	12/2021	AMP/ALP ORIGINAL ISSUE	6623502	LKB	BNB	JZP

AIRPORT DATA SHEET

Sheet: 3 of: 22

LEGEND

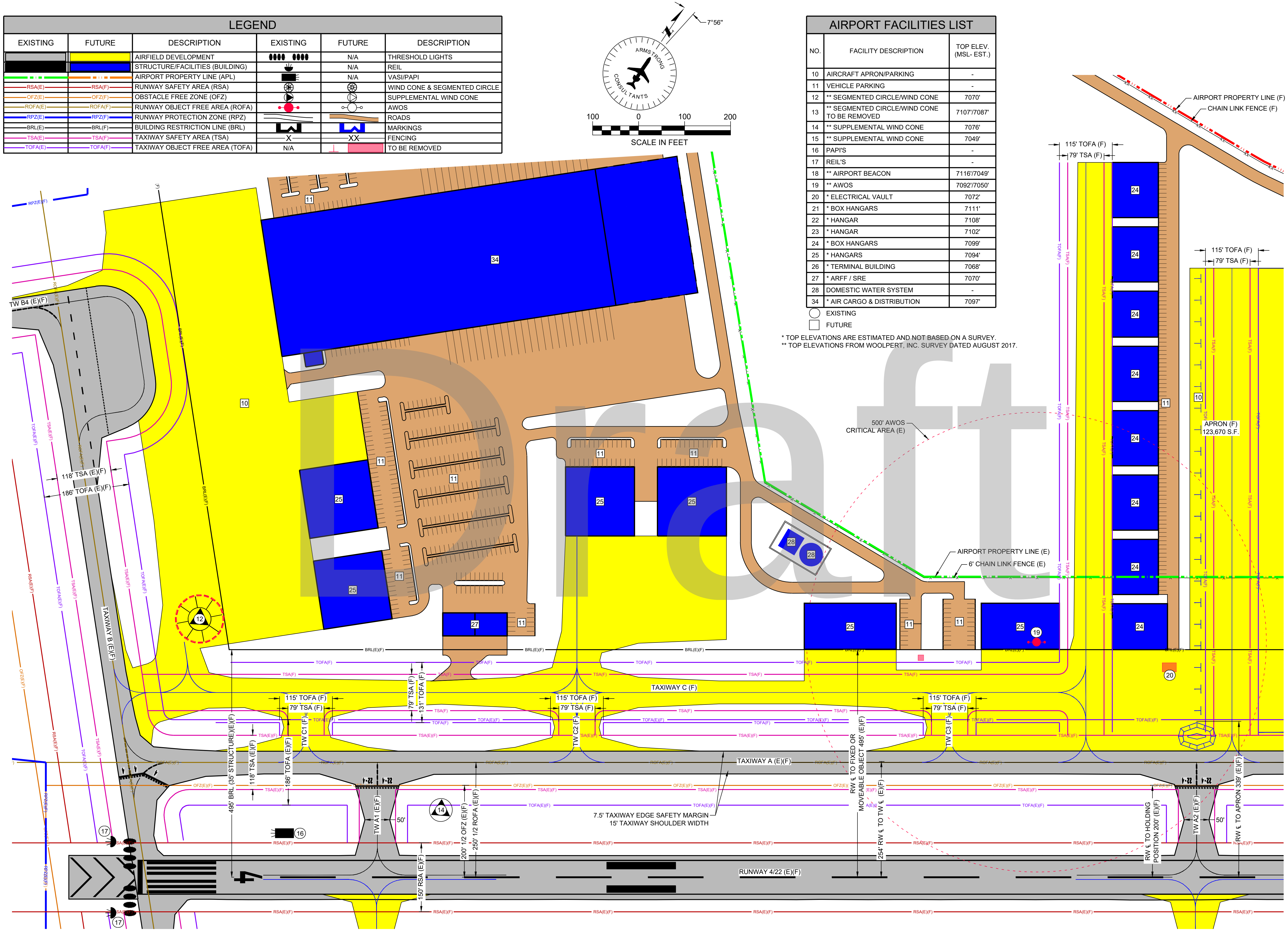
EXISTING	FUTURE	DESCRIPTION	EXISTING	FUTURE	DESCRIPTION
		AIRFIELD DEVELOPMENT		N/A	THRESHOLD LIGHTS
		STRUCTURE/FACILITIES (BUILDING)		N/A	REIL
		AIRPORT PROPERTY LINE (APL)		N/A	VASI/PAPI
RSA(E)	RSA(F)	RUNWAY SAFETY AREA (RSA)			WIND CONE & SEGMENTED CIRCLE
OFZ(E)	OFZ(F)	OBSTACLE FREE ZONE (OFZ)			SUPPLEMENTAL WIND CONE
ROFA(E)	ROFA(F)	RUNWAY OBJECT FREE AREA (ROFA)			AWOS
RPZ(E)	RPZ(F)	RUNWAY PROTECTION ZONE (RPZ)			ROADS
BRL(E)	BRL(F)	BUILDING RESTRICTION LINE (BRL)			MARKINGS
TSA(E)	TSA(F)	TAXIWAY SAFETY AREA (TSA)	X	XX	FENCING
TOFA(E)	TOFA(F)	TAXIWAY OBJECT FREE AREA (TOFA)	N/A		TO BE REMOVED

AIRPORT FACILITIES LIST

NO.	FACILITY DESCRIPTION	TOP ELEV. (MSL- EST.)
10	AIRCRAFT APRON/PARKING	-
11	VEHICLE PARKING	-
12	** SEGMENTED CIRCLE/WIND CONE	7070'
13	** SEGMENTED CIRCLE/WIND CONE TO BE REMOVED	7107'/7087'
14	** SUPPLEMENTAL WIND CONE	7076'
15	** SUPPLEMENTAL WIND CONE	7049'
16	PAPI'S	-
17	REIL'S	-
18	** AIRPORT BEACON	7116'/7049'
19	** AWOS	7092'/7050'
20	* ELECTRICAL VAULT	7072'
21	* BOX HANGARS	7111'
22	* HANGAR	7108'
23	* HANGAR	7102'
24	* BOX HANGARS	7099'
25	* HANGARS	7094'
26	* TERMINAL BUILDING	7068'
27	* ARFF / SRE	7070'
28	DOMESTIC WATER SYSTEM	-
34	* AIR CARGO & DISTRIBUTION	7097'

○ EXISTING
□ FUTURE

* TOP ELEVATIONS ARE ESTIMATED AND NOT BASED ON A SURVEY.
** TOP ELEVATIONS FROM WOOLPERT, INC. SURVEY DATED AUGUST 2017.



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TAOS REGIONAL AIRPORT
TAOS, NEW MEXICO

NMDOT NO. SKX-20-03
AIRPORT LAYOUT PLAN

No.	ACI No.	Date	Revision / Description	File	Drwn.	Chkd.	Apprvd.
0	206623	12/2021	AMP/ALP ORIGINAL ISSUE	6623503	LKB	BNB	JZP

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TERMINAL AREA DRAWING

Sheet: 4 of: 22

LEGEND

EXISTING	FUTURE	DESCRIPTION
		AIRFIELD DEVELOPMENT
		STRUCTURE/FACILITIES (BUILDING)
		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)
TSA(E)	TSA(F)	TAXIWAY SAFETY AREA (TSA)
TOFA(E)	TOFA(F)	TAXIWAY OBJECT FREE AREA (TOFA)
N/A		TO BE REMOVED
	N/A	VASI/PAPI
		AIRPORT BEACON
		HELICOPTER PARKING
		ROADS
		MARKINGS
X	XX	FENCING

AIRPORT FACILITIES LIST

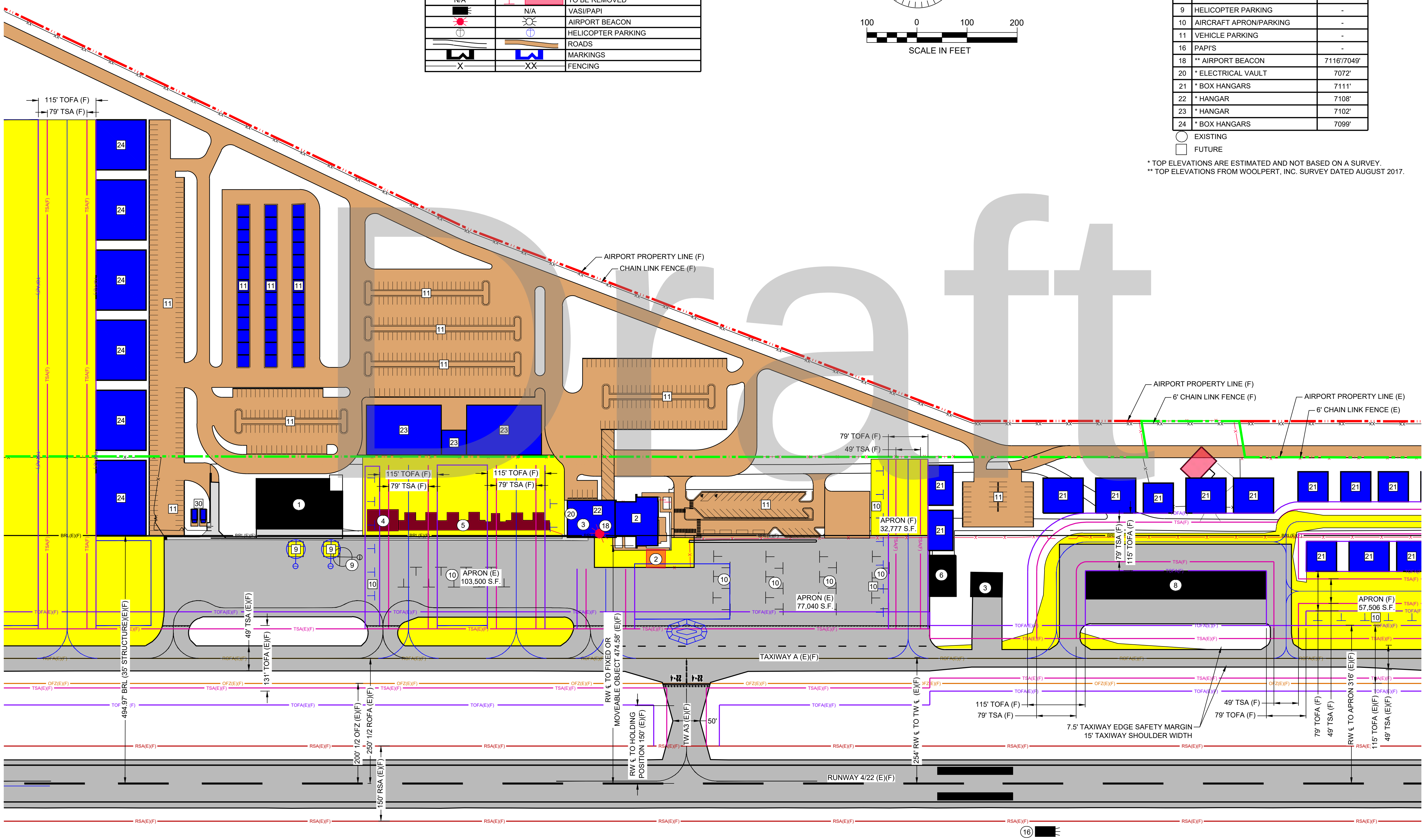
NO.	FACILITY DESCRIPTION	TOP ELEV. (MSL- EST.)
1	** FBO / HANGAR	7111'
2	* TERMINAL BUILDING	7105'
3	* SRE BUILDING	7105'
4	* BOX HANGAR	7089'
5	* T-HANGAR	7084'
6	* BOX HANGAR	7094'
7	NOT USED	-
8	** T-HANGAR	7104'
9	HELICOPTER PARKING	-
10	AIRCRAFT APRON/PARKING	-
11	VEHICLE PARKING	-
16	PAPI'S	-
18	** AIRPORT BEACON	7116'/7049'
20	* ELECTRICAL VAULT	7072'
21	* BOX HANGARS	7111'
22	* HANGAR	7108'
23	* HANGAR	7102'
24	* BOX HANGARS	7099'

○ EXISTING
□ FUTURE

* TOP ELEVATIONS ARE ESTIMATED AND NOT BASED ON A SURVEY.
** TOP ELEVATIONS FROM WOOLPERT, INC. SURVEY DATED AUGUST 2017.

7°56"

100 0 100 200
SCALE IN FEET



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TAOS, NEW MEXICO

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TERMINAL AREA DRAWING

Sheet: 5 of: 22

AIRPORT FACILITIES LIST

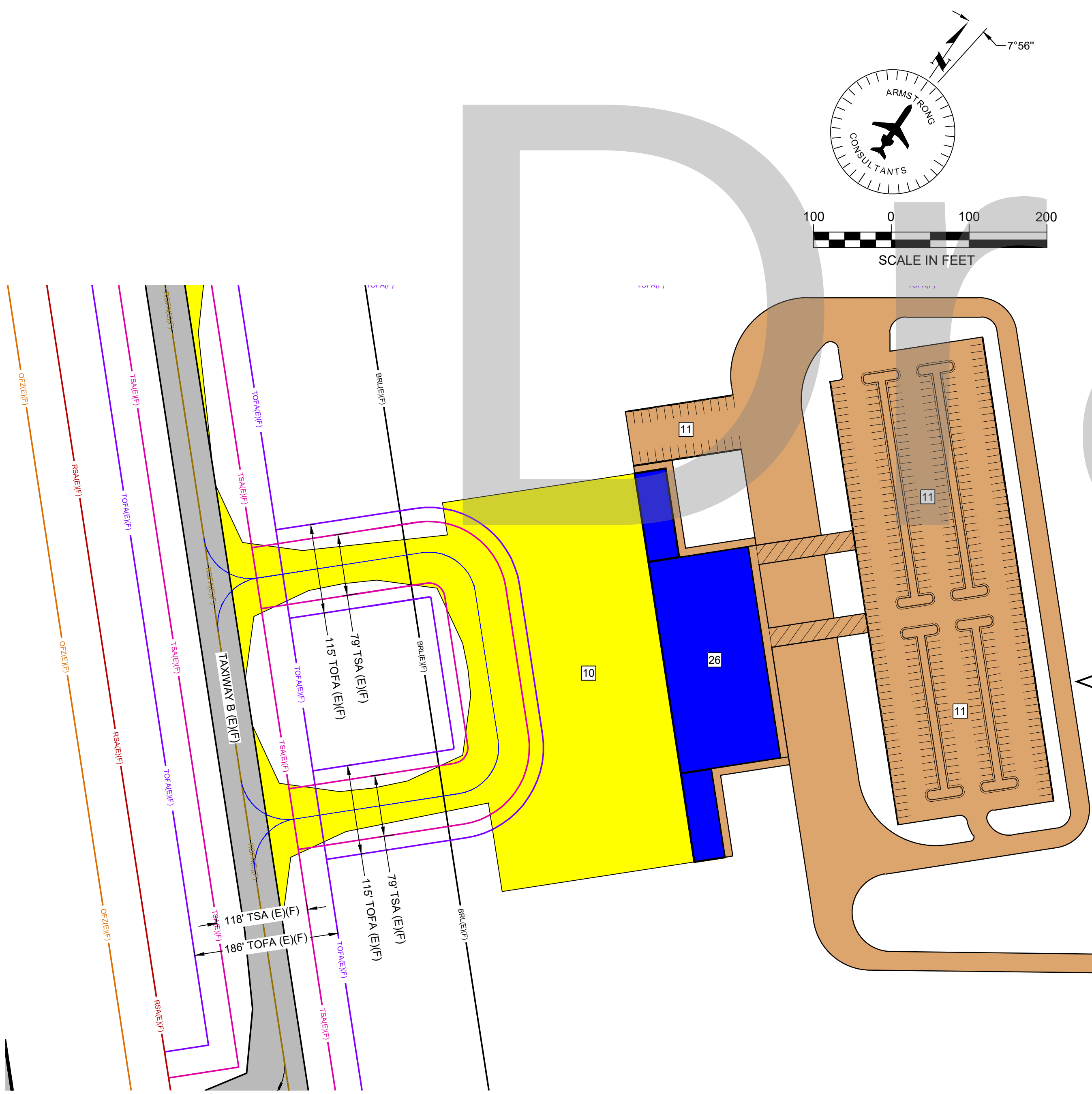
NO.	FACILITY DESCRIPTION	TOP ELEV. (MSL-EST.)
8	** T-HANGAR	7104'
10	AIRCRAFT APRON/PARKING	-
11	VEHICLE PARKING	-
21	* BOX HANGARS	7111'
26	* TERMINAL BUILDING (U)	7068'
32	* FIRE STATION	7111'
33	FIRE & ARFF TRAINING	-

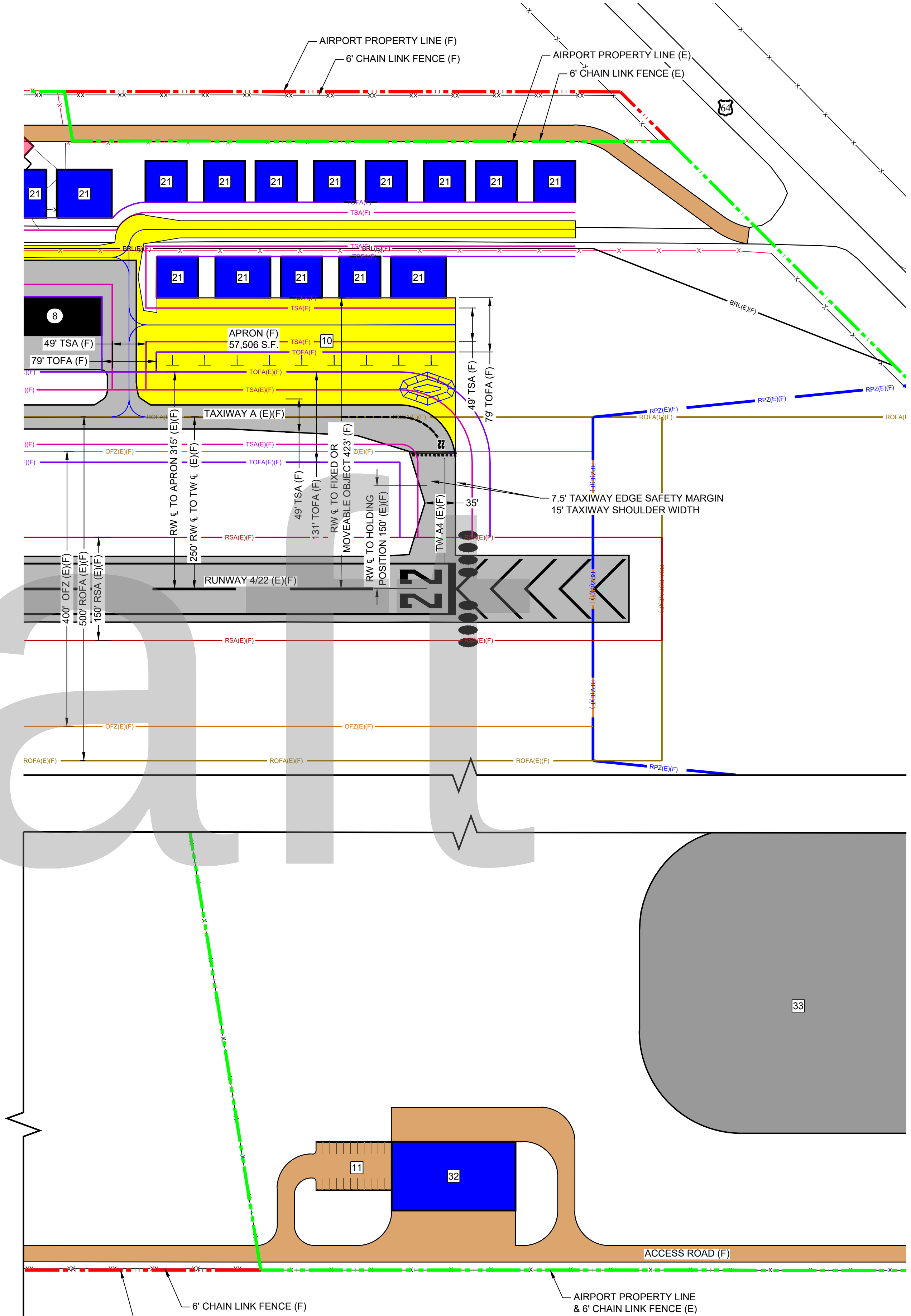
○ EXISTING
□ FUTURE

* TOP ELEVATIONS ARE ESTIMATED AND NOT BASED ON A SURVEY.
** TOP ELEVATIONS FROM WOOLPERT, INC. SURVEY DATED AUGUST 2017.

LEGEND

EXISTING	FUTURE	DESCRIPTION
		AIRFIELD DEVELOPMENT
		STRUCTURE/FACILITIES (BUILDING)
		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)
TSA(E)	TSA(F)	TAXIWAY SAFETY AREA (TSA)
TOFA(E)	TOFA(F)	TAXIWAY OBJECT FREE AREA (TOFA)
N/A		TO BE REMOVED
	N/A	THRESHOLD LIGHTS
	N/A	VASI/PAPI
		ROADS
		MARKINGS
X	XX	FENCING





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TERMINAL AREA DRAWING

Sheet: 6 of: 22

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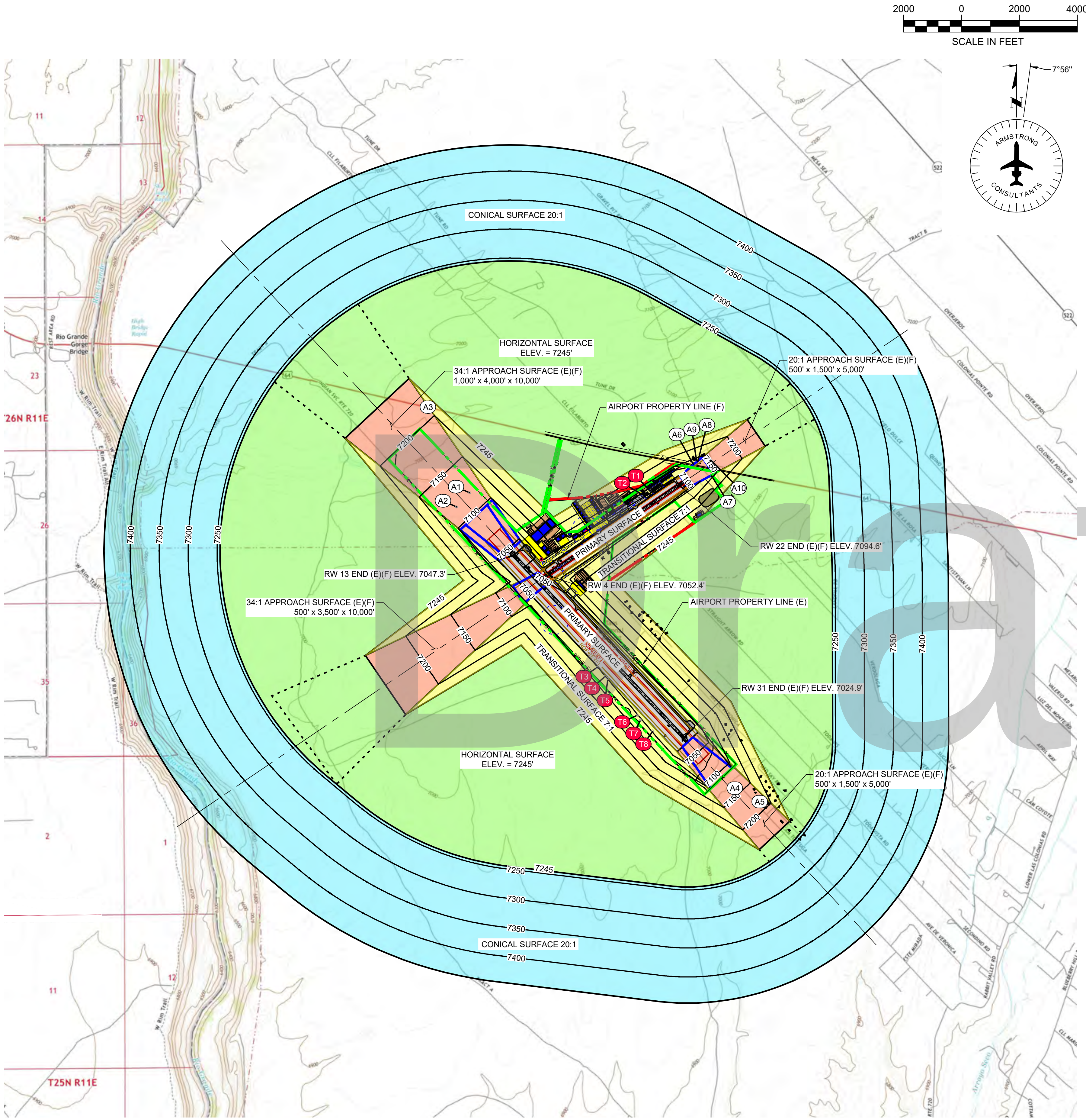


RUNWAYS 13/31 & 4/22 PLAN (E)(F)

SCALE: PER BARSCALE

OBSTRUCTION CHART

PART 77 SURFACE	ITEM No.	DESCRIPTION	GROUND ELEVATION (MSL)(FEET)	ESTIMATED TOP ELEVATION (MSL)(FEET)	PENETRATION (FEET)	REMARKS
PRIMARY	NO PENETRATIONS					
APPROACH	A1	** BUSH	7021	7024	NONE	-
	A2	** BUSH	7013	7016	NONE	-
	A3	* ROAD (E)	7005	7021	NONE	-
	A4	* ROAD (E)	7011	7027	NONE	-
	A5	** BUILDING	7014	7026	NONE	-
	A6	** ROAD (E)	7100	7116	NONE	-
	A7	* ROAD (F)	7103	7113	NONE	-
	A8	*** BUILDING	7102	7114	NONE	-
	A9	** TREE	7101	7130	NONE	-
	A10	** TREE	7102	7114	NONE	-
7:1 TRANSITIONAL	T1	** POLE	7084	7112	+1	SEE NOTE 1
	T2	** POLE	7081	7104	+5	SEE NOTE 1
	T3	** BUSH	7052	7054	+1	SEE NOTE 1
	T4	** BUSH	7050	7052	+2	SEE NOTE 1
	T5	** BUSH	7049	7052	+3	SEE NOTE 1
	T6	** BUSH	7053	7055	+2	SEE NOTE 1
	T7	** BUSH	7052	7055	+1	SEE NOTE 1
	T8	** BUSH	7044	7046	+1	SEE NOTE 1
HORIZONTAL	NO PENETRATIONS					
20:1 CONICAL	NO PENETRATIONS					

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.
4. * TOP ELEVATIONS ESTIMATED FROM 30m DEM.
5. ** TOP ELEVATION OBTAINED FROM SURVEY BY: WOOLPERT, INC., DATED AUGUST 2017.
6. *** OBJECT IDENTIFIED USING THE FAA OE/AAA DATABASE.
7. AIRPORT ELEVATION: 7094.6

LEGEND

- HORIZONTAL SURFACE
- TRANSITIONAL SURFACE
- CONICAL SURFACE
- APPROACH SURFACE
- PRIMARY SURFACE

NOTES

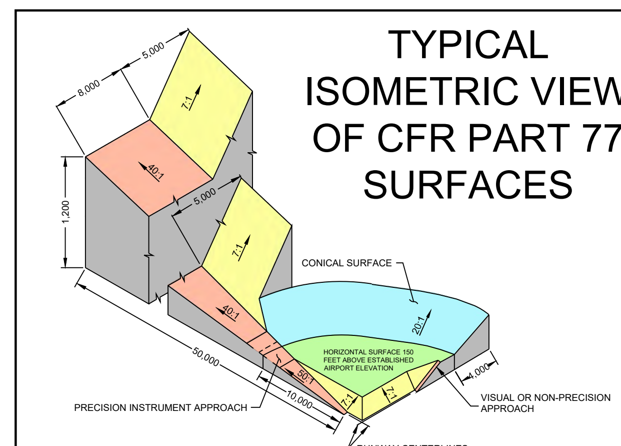
A. REFER TO "INNER PORTION OF THE APPROACH SURFACE" DRAWINGS FOR DETAILS ON ANY CLOSE-IN APPROACH OBSTRUCTIONS.

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.

TYPICAL ISOMETRIC VIEW OF CFR PART 77 SURFACES



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TAOS REGIONAL AIRPORT
TAOS, NEW MEXICO

NMDOT NO. SKX-20-03
AIRPORT LAYOUT PLAN

No.	ACI No.	Date	Revision / Description	File	Drwn.	Chkd.	Apprvd.
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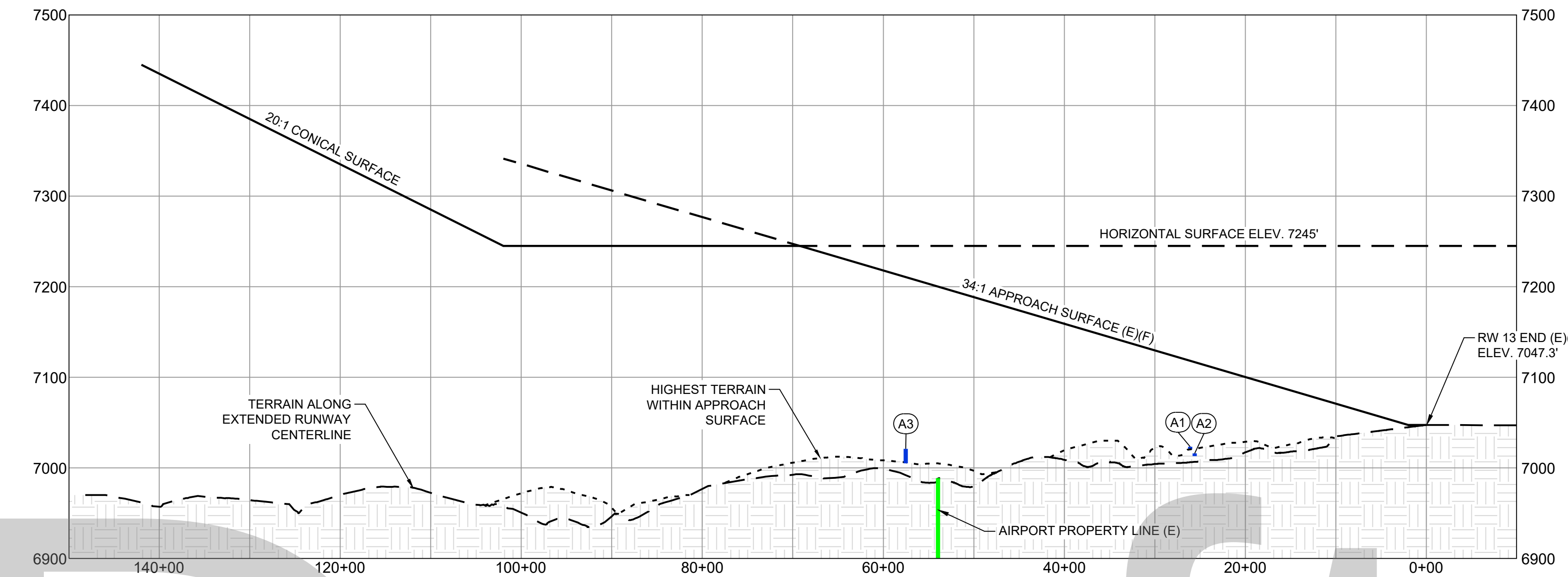
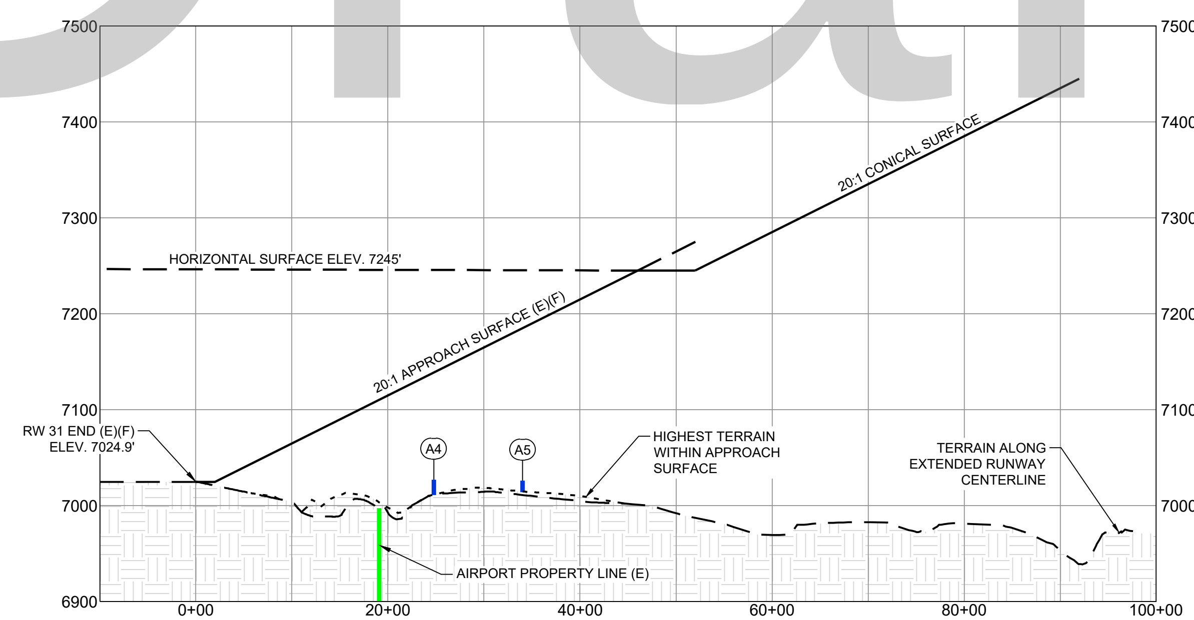
14 CFR PART "77" AIRSPACE DRAWING



RUNWAY 13 END PROFILE (E)(F)

SCALE: PER GRID



RUNWAY 31 END PROFILE (E)(F)

SCALE: PER GRID

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TAOS, NEW MEXICO

NMDOT NO. SKX-20-03
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0	206623	11/2021	AMP/ALP ORIGINAL ISSUE	6623504	LKB	BNB	JZP

14 CFR PART "77" PROFILE

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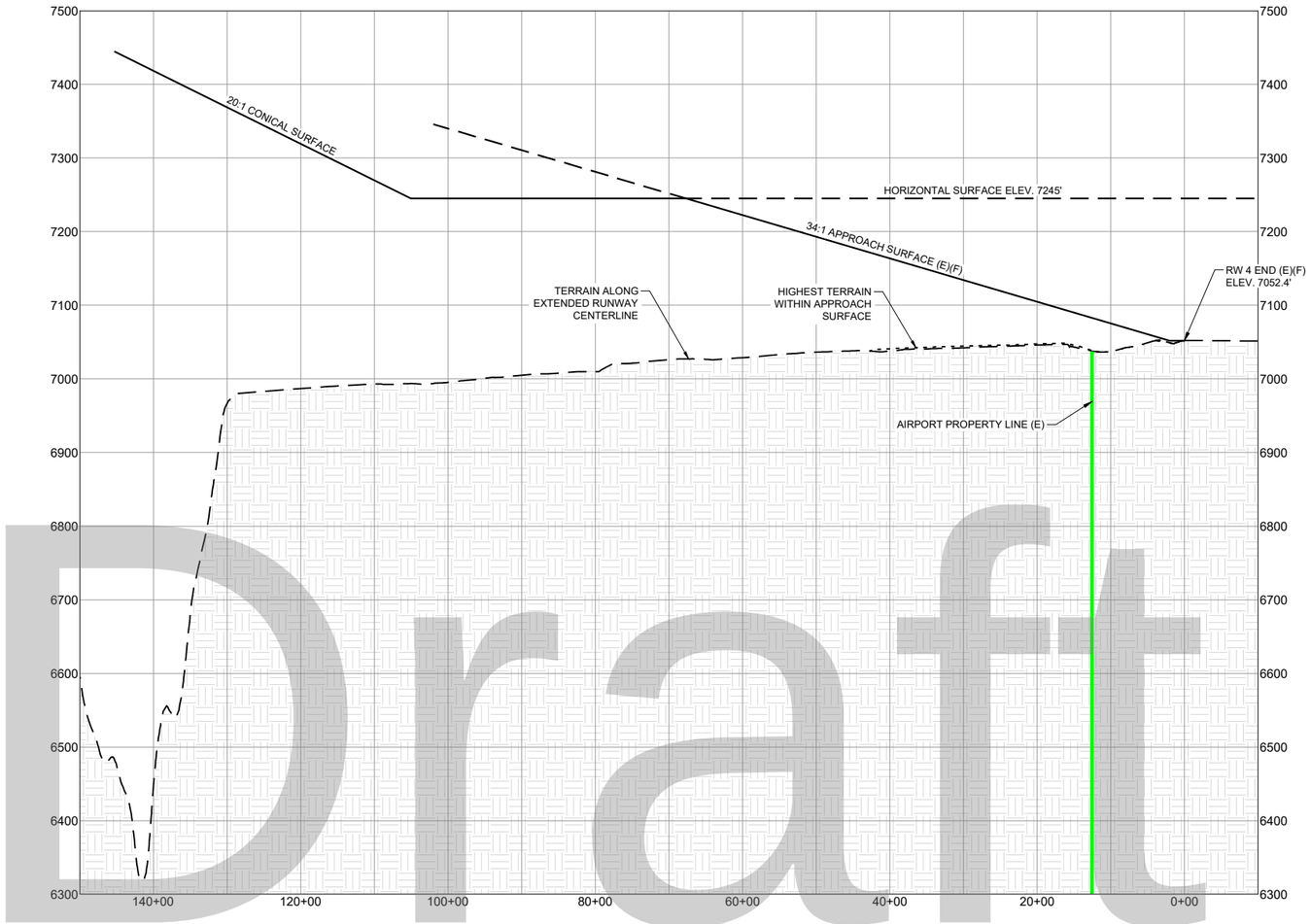
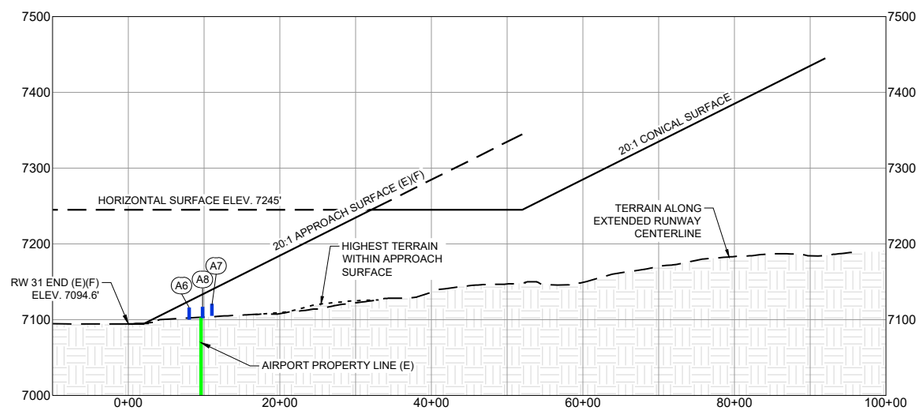


RUNWAY 4 END PROFILE (E)(F)

SCALE: PER GRID



RUNWAY 22 END PROFILE (E)(F)

SCALE: PER GRID

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14 CFR
PART "77"
PROFILE

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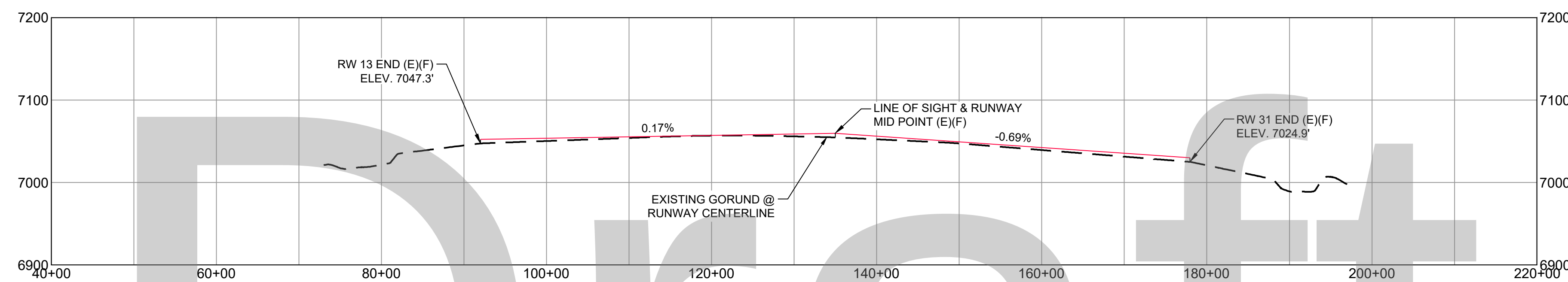
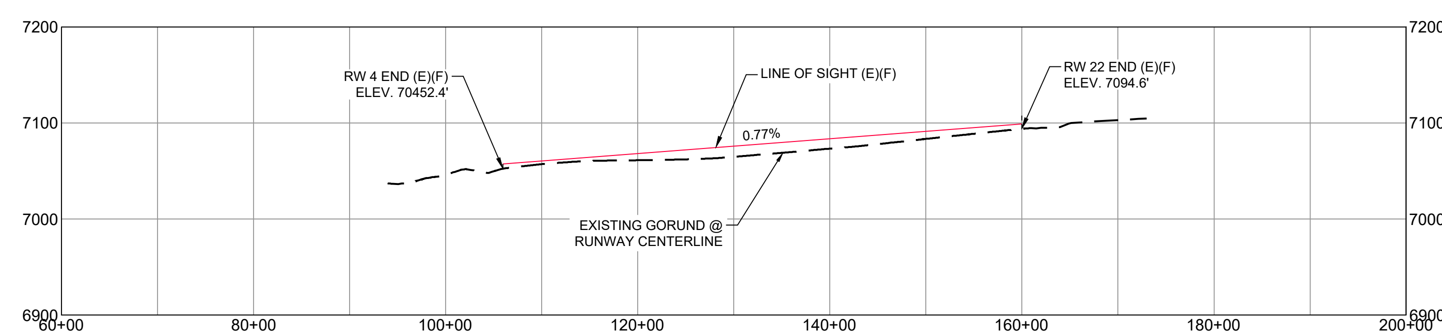


RUNWAY 13/31 LINE OF SIGHT PROFILE (E)(F)

SCALE: PER GRID



RUNWAY 4/22 LINE OF SIGHT PROFILE (E)(F)

SCALE: PER GRID

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RUNWAY LINE OF SIGHT DRAWING

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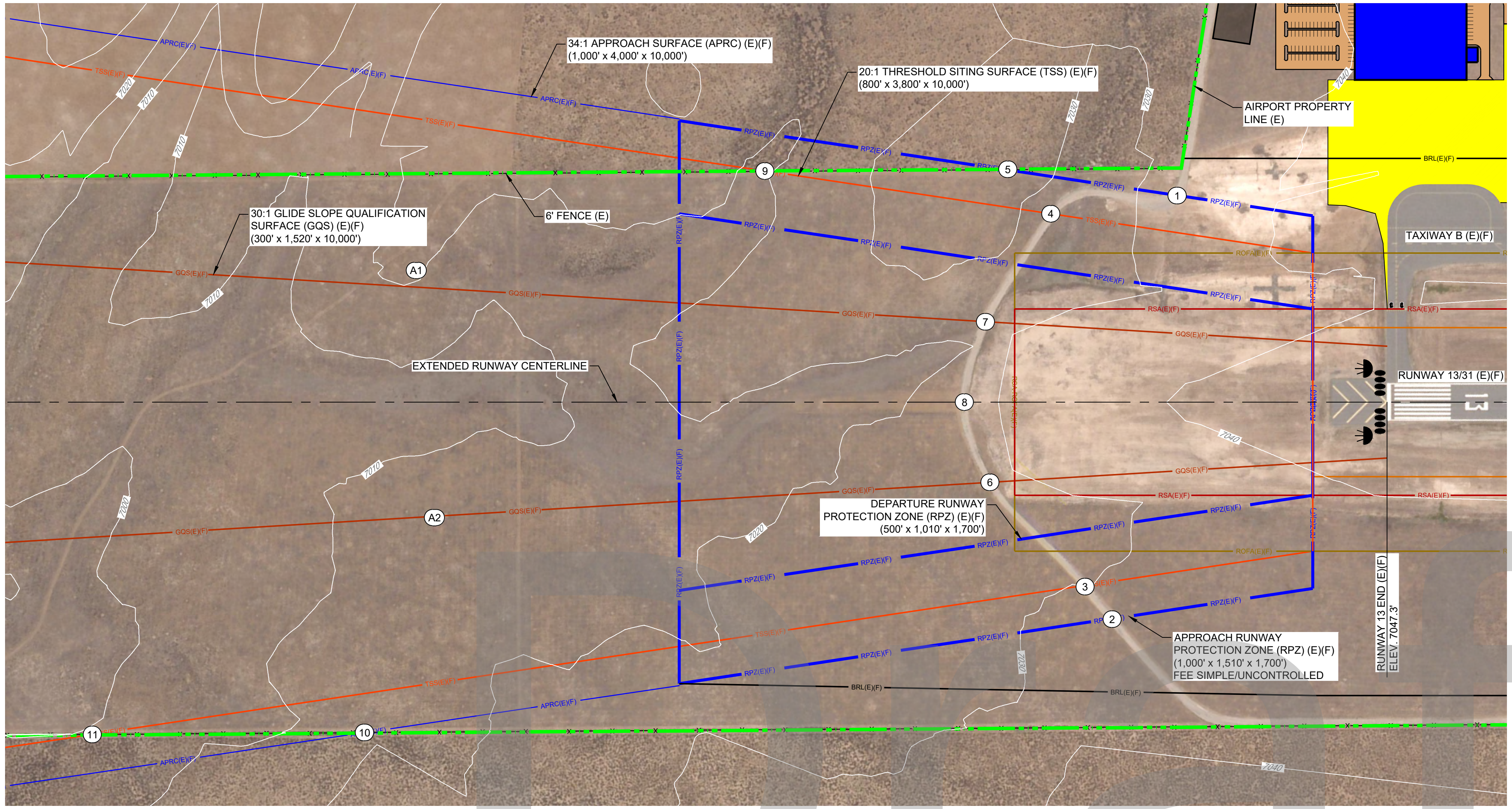
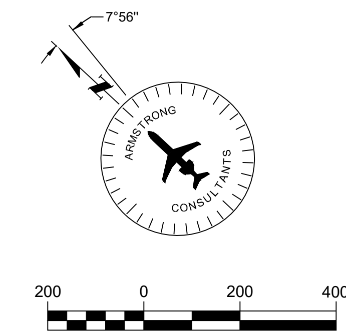
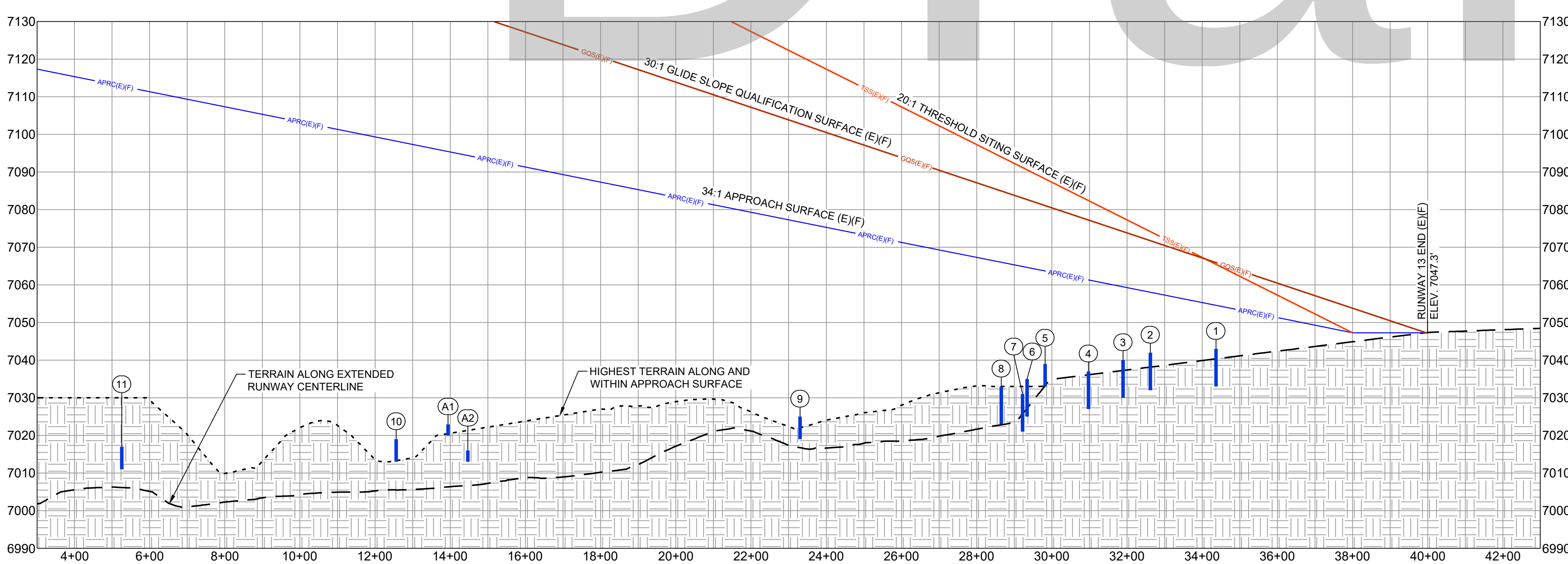




RUNWAY 13 END PLAN (E)(F)

SCALE: PER BAR SCALE



RUNWAY 13 END PROFILE (E)(F)

SCALE: PER GRID

OBJECTS WITHIN RUNWAY 13 GQS, APRC AND TSS SURFACES (E)(F)

No.	OBJECT	EST. OBJECT HT.	TOP ELEV. (MSL) (FEET)	30:1 GQS PEN.	20:1 TSS PEN.	34:1 APRC SURFACE PEN.	REMARKS
1	* ROAD (E)	10'	7043	NWS	NWS	NONE	N/A
2	* ROAD (E)	10'	7042	NWS	NWS	NONE	N/A
3	* ROAD (E)	10'	7040	NWS	NONE	NONE	N/A
4	* ROAD (E)	10'	7037	NWS	NONE	NONE	N/A
5	* FENCE (E)	6'	7039	NWS	NONE	NONE	N/A
6	* ROAD (E)	10'	7035	NONE	NONE	NONE	N/A
7	* ROAD (E)	10'	7031	NONE	NONE	NONE	N/A
8	* ROAD (E)	10'	7022	NONE	NONE	NONE	N/A
9	* FENCE (E)	6'	7025	NWS	NONE	NONE	N/A
10	* FENCE (E)	6'	7019	NWS	NWS	NONE	N/A
11	* FENCE (E)	6'	7007	NWS	NONE	NONE	N/A
A1	** BUSH	3'	7024	NONE	NONE	NONE	N/A
A2	** BUSH	3'	7016	NWS	NONE	NONE	N/A

NOTE: OBJECT ELEVATIONS IN FEET MSL (VERTICAL DATUM NAVD88).
* = OBJECT ELEVATIONS ARE ESTIMATED AND NOT BASED ON A SURVEY.
** = OBJECT TOP ELEVATIONS AND LOCATIONS ARE BASED ON A SURVEY BY: WOOLPERT, INC., DATED: AUGUST 2017.
NWS = 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; GQS = GLIDESLOPE QUALIFICATION 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
		AIRFIELD DEVELOPMENT
		STRUCTURE/FACILITIES (BUILDING)
		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)
	N/A	THRESHOLD LIGHTS
	N/A	REIL
7000	N/A	CONTOURS
		ROADS
		MARKINGS
X	XX	FENCING

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TAOS, NEW MEXICO

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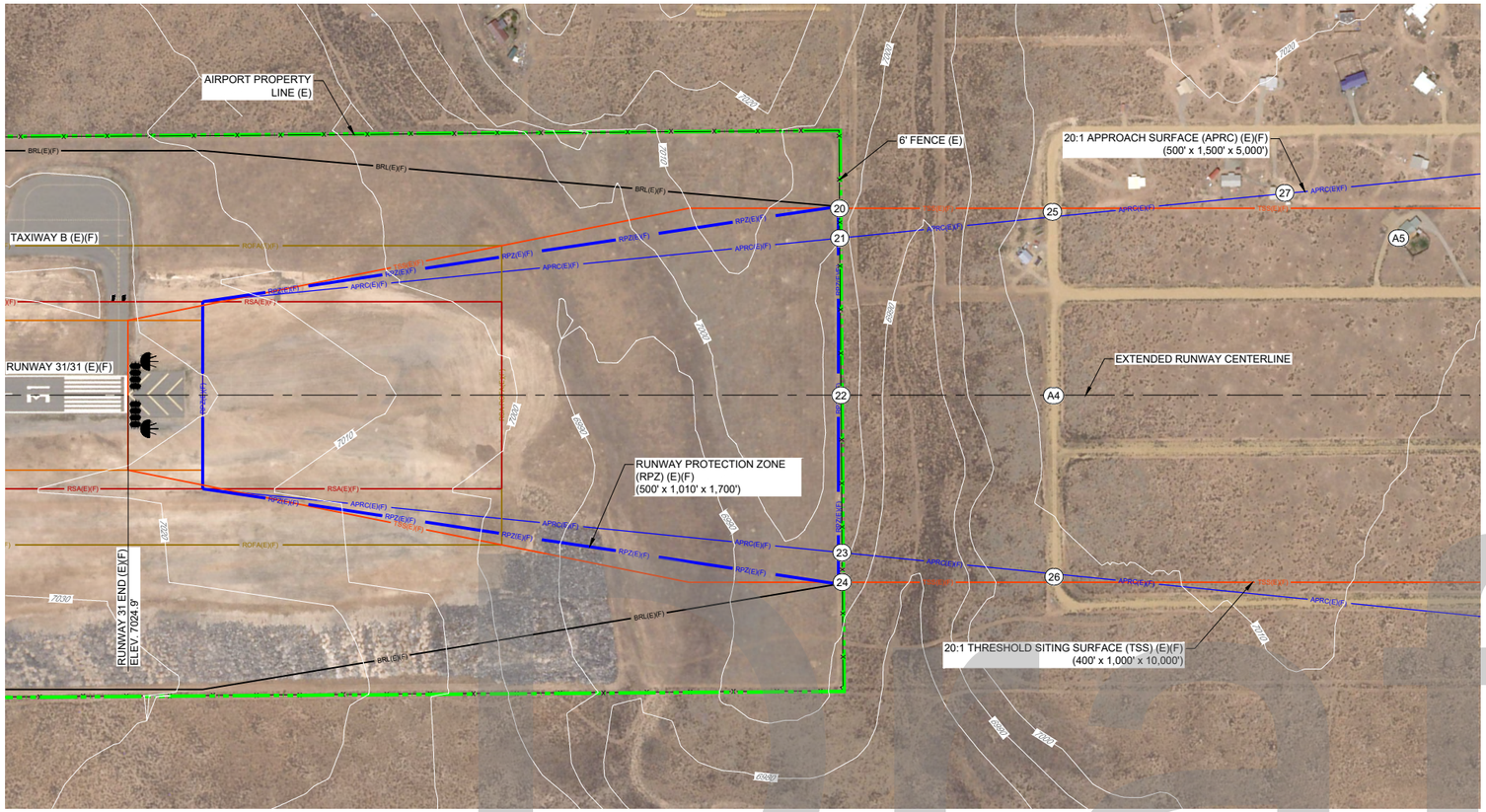
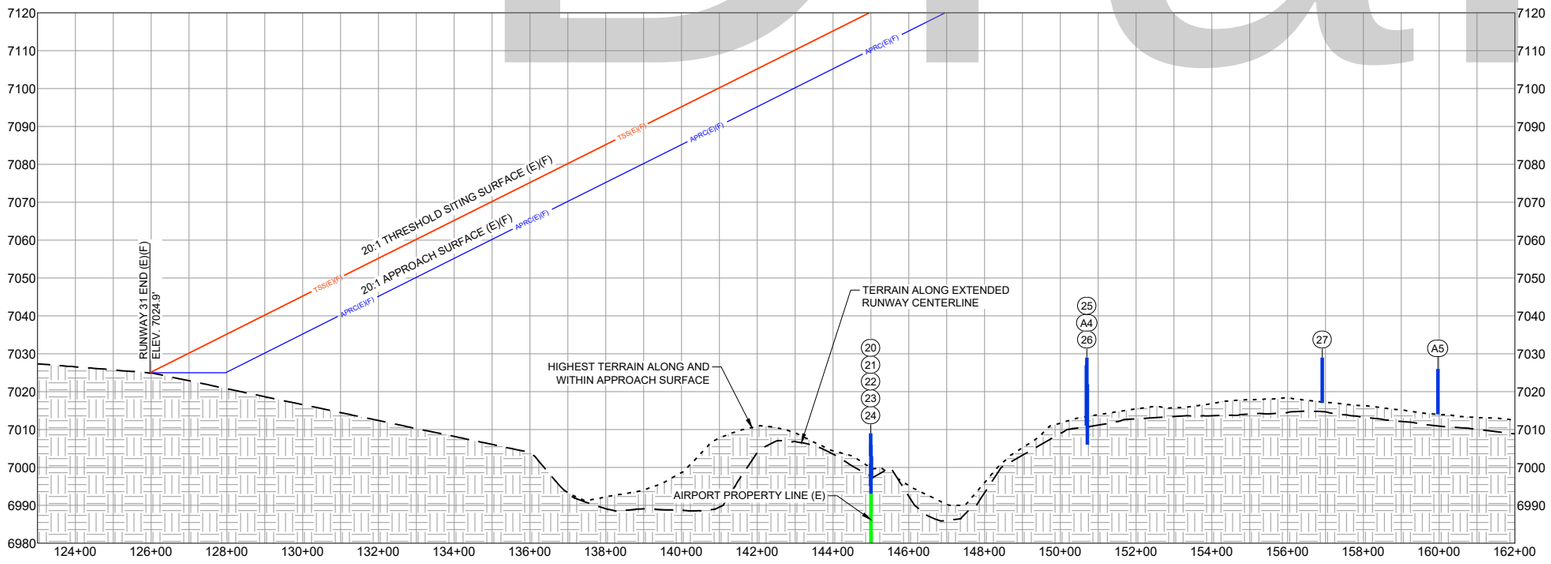
RUNWAY 13 INNER APPROACH (E)(F)



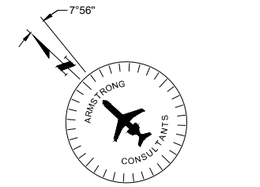
RUNWAY 31 END PLAN (E)(F)

SCALE: PER BAR SCALE



RUNWAY 31 END PROFILE (E)(F)

SCALE: PER GRID



OBJECTS WITHIN RUNWAY 31 APRC AND TSS SURFACES (E)(F)

No.	OBJECT	EST. OBJECT HT.	TOP ELEV. (MSL) (FEET)	20:1 TSS PEN.	34:1 APRC SURFACE PEN.	REMARKS
20	* FENCE (E)	6'	7009	NONE	NWS	N/A
21	* FENCE (E)	6'	7006	NONE	NONE	N/A
22	* FENCE (E)	6'	7003	NONE	NONE	N/A
23	* FENCE (E)	6'	7001	NONE	NONE	N/A
24	* FENCE (E)	6'	6999	NONE	NWS	N/A
25	* ROAD (E)	16'	7029	NONE	NWS	N/A
27	* ROAD (E)	16'	7022	NONE	NWS	N/A
A4	* ROAD (E)	16'	7027	NONE	NONE	N/A
A5	** BUILDING	12'	7026	NONE	NONE	N/A

NOTE: OBJECT ELEVATIONS IN FEET MSL (VERTICAL DATUM NAVD88).
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NWS = 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; APRC = APPROACH SURFACE; TSS = THRESHOLD SITING SURFACE

NOTE:

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LEGEND

EXISTING	FUTURE	DESCRIPTION
		AIRFIELD DEVELOPMENT
		STRUCTURE/FACILITIES (BUILDING)
		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)
	N/A	THRESHOLD LIGHTS
	N/A	REIL
7538	N/A	CONTOURS
		ROADS
		MARKINGS
X	XX	FENCING

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TAOS, NEW MEXICO

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RUNWAY 31
INNER
APPROACH
(E)(F)

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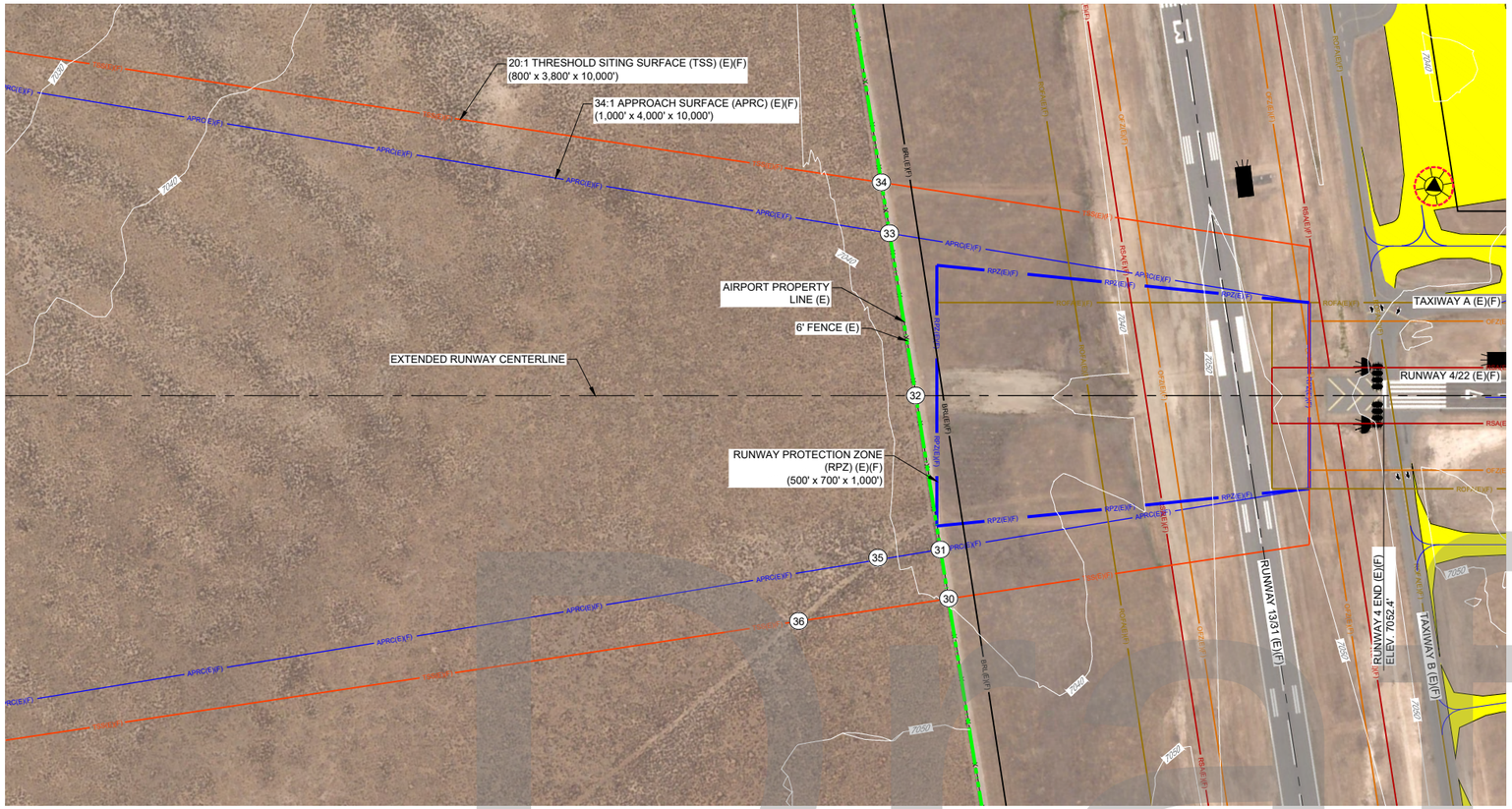
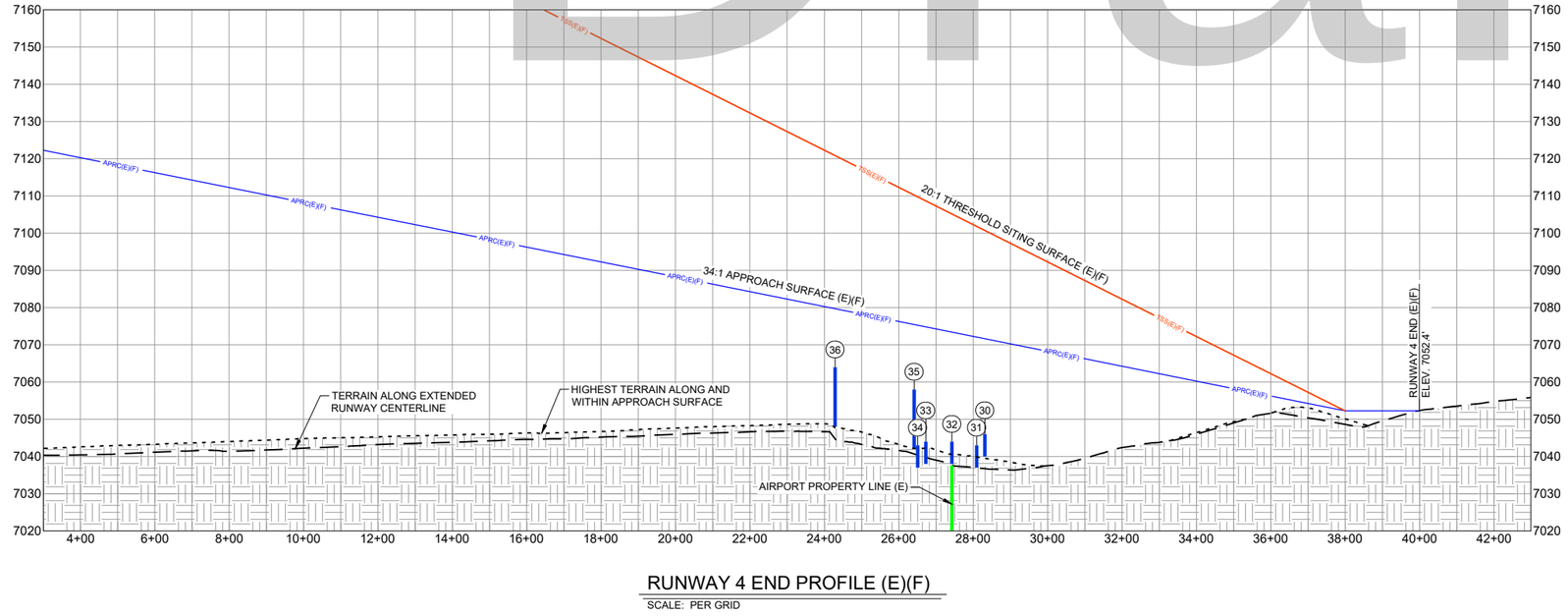


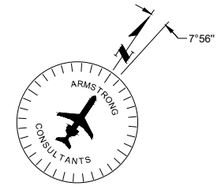
RUNWAY 4 END PLAN (E)(F)

SCALE: PER BAR SCALE



RUNWAY 4 END PROFILE (E)(F)

SCALE: PER GRID



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SCALE IN FEET

OBJECTS WITHIN RUNWAY 4 APRC AND TSS SURFACES (E)(F)

No.	OBJECT	EST. OBJECT HT.	TOP ELEV. (MSL) (FEET)	20:1 TSS PEN.	34:1 APRC SURFACE PEN.	REMARKS
(30)	* FENCE	6'	7046	NONE	NWS	N/A
(31)	* FENCE	6'	7043	NONE	NONE	N/A
(32)	* FENCE	6'	7044	NONE	NONE	N/A
(33)	* FENCE	6'	7044	NONE	NONE	N/A
(34)	* FENCE	6'	7043	NONE	NWS	N/A
(35)	** ROAD	16'	7058	NONE	NONE	N/A
(36)	* ROAD	16'	7064	NONE	NWS	N/A

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LEGEND

EXISTING	FUTURE	DESCRIPTION
		AIRFIELD DEVELOPMENT
		STRUCTURE/FACILITIES (BUILDING)
		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)
	N/A	THRESHOLD LIGHTS
	N/A	REIL
7538	N/A	CONTOURS
		ROADS
		MARKINGS
X	XX	FENCING

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RUNWAY 4 INNER APPROACH (E)(F)

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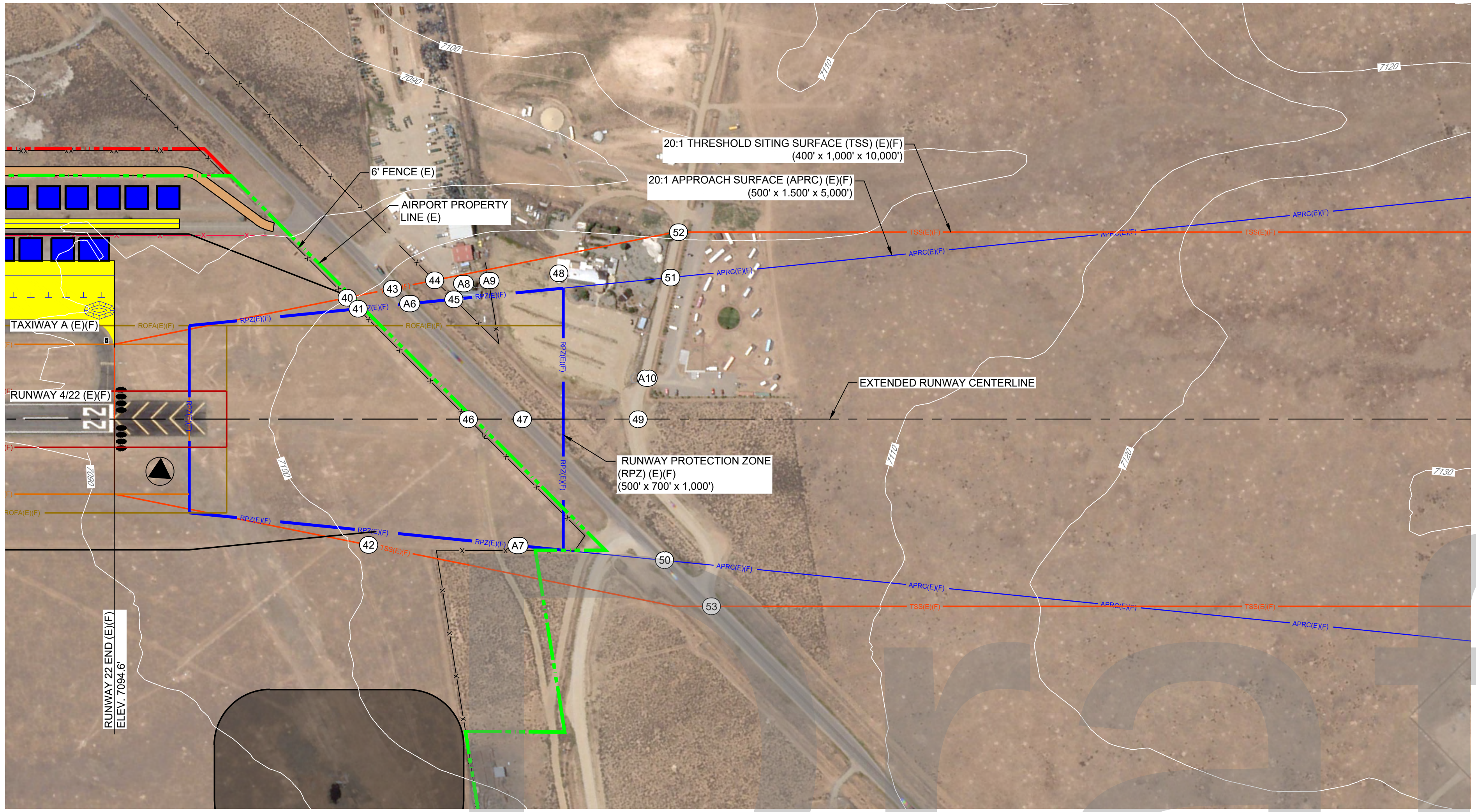
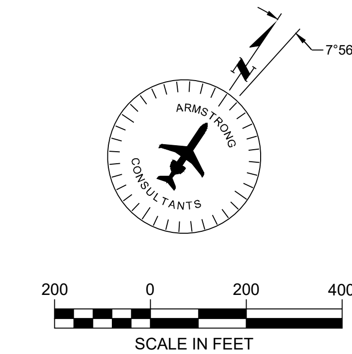
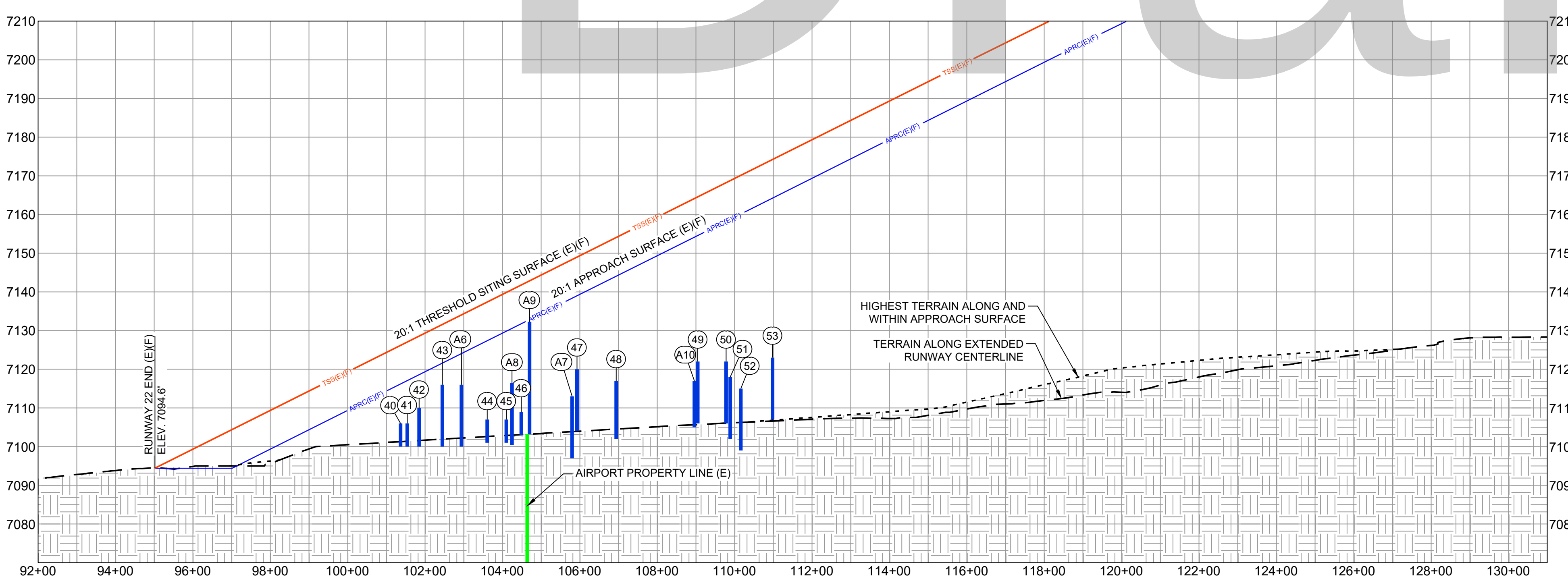


RUNWAY 22 END PLAN (E)(F)

SCALE: PER BAR SCALE





RUNWAY 22 END PROFILE (E)(F)

SCALE: PER GRID

OBJECTS WITHIN RUNWAY 22 APRC AND TSS SURFACES (E)(F)

No.	OBJECT	EST. OBJECT HT.	TOP ELEV. (MSL) (FEET)	20:1 TSS PEN.	20:1 APRC SURFACE PEN.	REMARKS
40	* FENCE (E)	6'	7106	NONE	NWS	N/A
41	* FENCE (E)	6'	7106	NONE	NONE	N/A
42	* ROAD (F)	16'	7110	NONE	NWS	N/A
43	** ROAD (E)	16'	7110	NONE	NWS	N/A
44	* FENCE (E)	6'	7107	NONE	NWS	N/A
45	* FENCE (E)	6'	7107	NONE	NONE	N/A
46	* FENCE (E)	6'	7109	NONE	NONE	N/A
47	** ROAD (E)	16'	7120	NONE	NONE	N/A
48	* BUILDING	15'	7117	NONE	NWS	N/A
49	* ROAD (E)	16'	7122	NONE	NONE	N/A
50	** ROAD (E)	16'	7122	NONE	NONE	N/A
51	* ROAD (E)	16'	7118	NONE	NONE	N/A
52	* ROAD (E)	16'	7115	NONE	NWS	N/A
53	** ROAD (E)	16'	7123	NONE	NWS	N/A
A6	** ROAD (E)	16'	7116	NONE	NONE	N/A
A7	* ROAD (F)	10'	7113	NONE	NONE	N/A
A8	*** BUILDING	12'	7114	NONE	NWS	N/A
A9	** TREE	29'	7130	NONE	NWS	N/A
A10	** TREE	12'	7114	NONE	NONE	N/A

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*** = OBJECT WAS IDENTIFIED USING THE FAA OE/AAA DATABASE
NWS = OBJECT IS NOT LOCATED WITHIN THIS SURFACE.
● = OBJECT PENETRATION LOCATION
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LEGEND

EXISTING	FUTURE	DESCRIPTION
		AIRFIELD DEVELOPMENT
		STRUCTURE/FACILITIES (BUILDING)
		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)
	N/A	THRESHOLD LIGHTS
	N/A	REIL
7538	N/A	CONTOURS
		ROADS
		MARKINGS
X	XX	FENCING

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RUNWAY 22 INNER APPROACH (E)(F)

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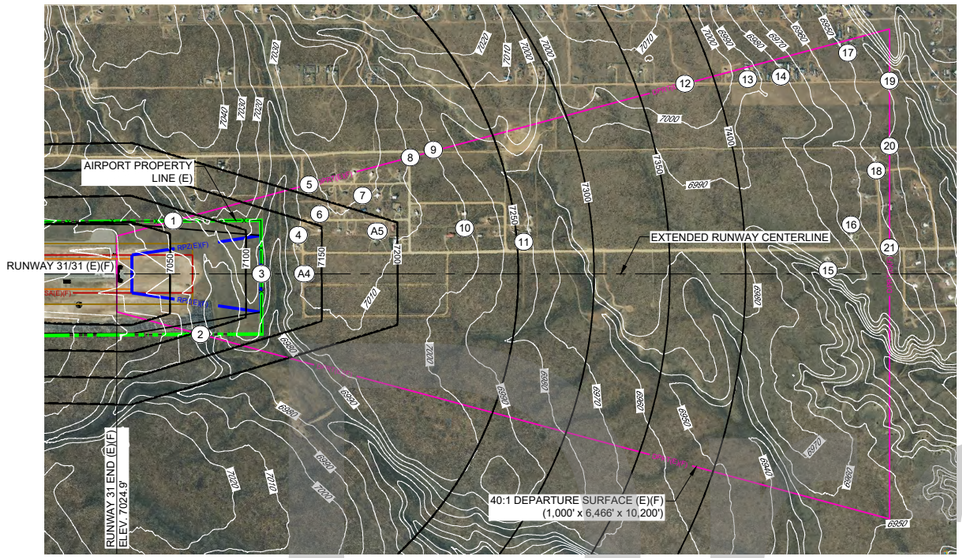
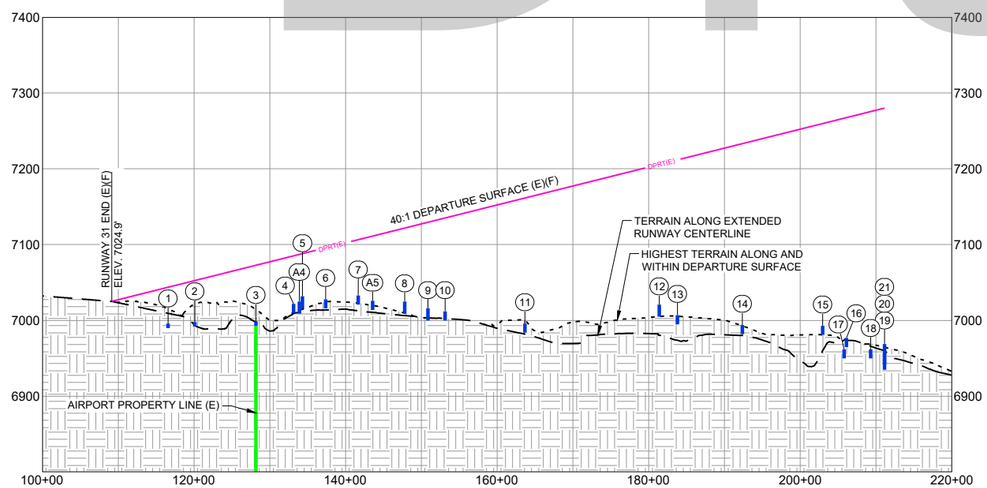


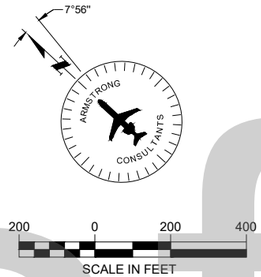
RUNWAY 31 END PLAN (E)(F)

SCALE: PER BAR SCALE



RUNWAY 31 END PROFILE (E)(F)

SCALE: PER GRID



OBJECTS WITHIN RUNWAY 31 DEPARTURE SURFACE (E)(F)

No.	OBJECT	EST. OBJECT HT.	TOP ELEV. (MSL) (FEET)	40:1 DPRT SURFACE PEN.	REMARKS
1	* FENCE (E)	6'	7001	NONE	N/A
2	* FENCE (E)	6'	7003	NONE	N/A
3	* FENCE (E)	6'	7004	NONE	N/A
4	* BUILDING	12'	7022	NONE	N/A
5	* ROAD (E)	16'	7032	NONE	N/A
6	* BUILDING	12'	7028	NONE	N/A
7	* BUILDINGS	12'	7033	NONE	N/A
8	* ROAD (E)	16'	7025	NONE	N/A
9	* ROAD (E)	16'	7016	NONE	N/A
10	* BUILDINGS	12'	7012	NONE	N/A
11	* BUILDINGS	12'	6996	NONE	N/A
12	* ROAD (E)	16'	7021	NONE	N/A
13	* BUILDINGS	12'	7007	NONE	N/A
14	*BUILDINGS	12'	6994	NONE	N/A
15	* BUILDING	12'	6993	NONE	N/A
16	* BUILDING	12'	6977	NONE	N/A
17	* BUILDING	12'	6962	NONE	N/A
18	* BUILDING	12'	6962	NONE	N/A
19	* ROAD (E)	16'	6951	NONE	N/A
20	*ROAD (E)	16'	6957	NONE	N/A
21	* ROAD (E)	16'	6969	NONE	N/A
A4	* ROAD (E)	16'	7027	NONE	N/A
A5	** BUILDING	12'	7026	NONE	N/A

NOTE: OBJECT ELEVATIONS IN FEET MSL (VERTICAL DATUM NAVD88).
* = OBJECT ELEVATIONS ARE ESTIMATED AND NOT BASED ON A SURVEY.
** = OBJECT TOP ELEVATIONS AND LOCATIONS ARE BASED ON A SURVEY BY: WOOLPERT, INC., DATED: AUGUST 2017.
*** = OBJECT WAS IDENTIFIED USING THE FAA OE/AAA DATABASE
NWS = 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; GQS = GLIDESLOPE QUALIFICATION 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
		AIRFIELD DEVELOPMENT
		STRUCTURE/FACILITIES (BUILDING)
		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)
DPRT(E)	DPRT(F)	BUILDING RESTRICTION LINE (BRL)
	N/A	THRESHOLD LIGHTS
	N/A	REIL
7638	N/A	CONTOURS
7700	N/A	PART 77 CONTOURS
		ROADS
		MARKINGS
X	XX	FENCING

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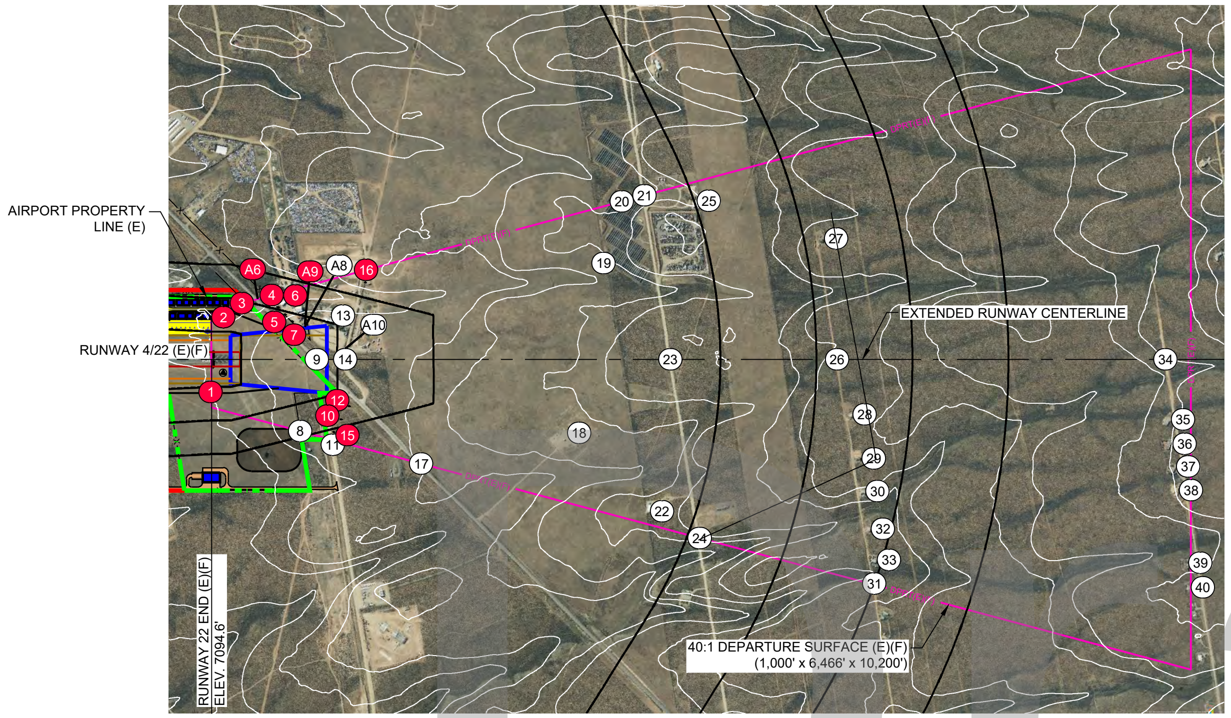
TAOS REGIONAL AIRPORT
TAOS, NEW MEXICO

NMDOT NO. SKX-20-03
AIRPORT LAYOUT PLAN

No.	ACI No.	Date	Revision / Description	File	Drwn.	Chkd.	Apprvd.
0	206023	11/2021	AMP/ALP ORIGINAL ISSUE	6623505	LKB	BNB	JZP

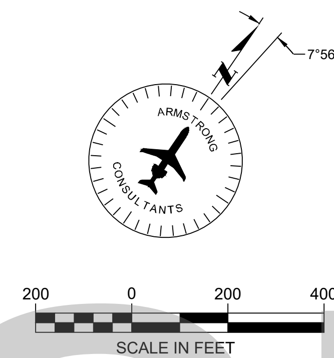
RUNWAY 31 DEPARTURE SURFACE (E)(F)

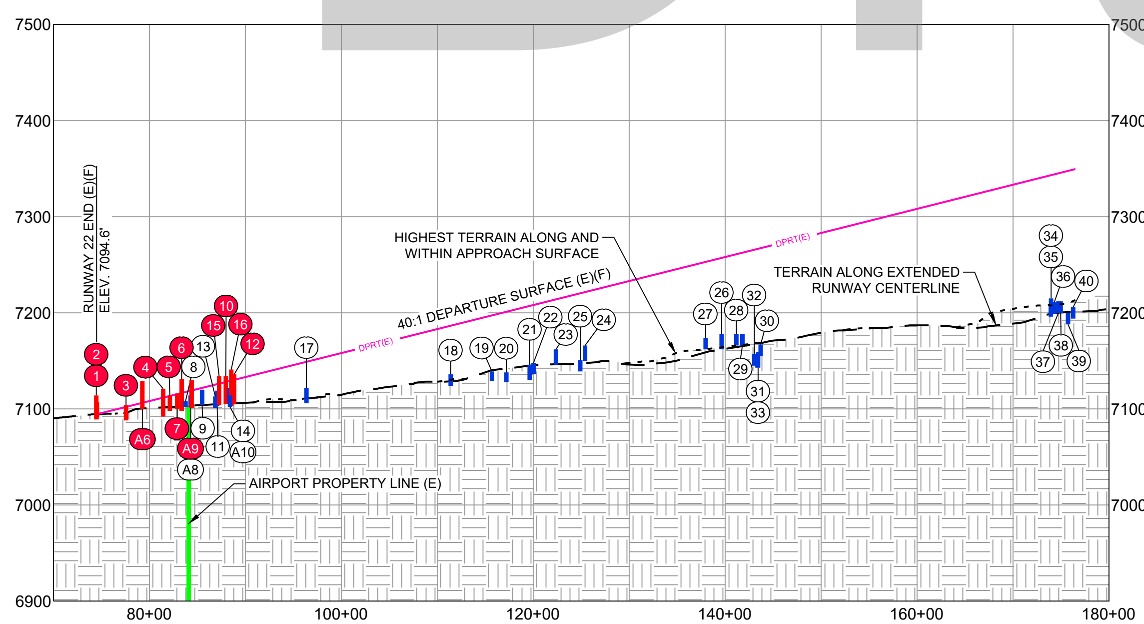
Sheet: 15 of: 22



RUNWAY 22 END PLAN (E)(F)

SCALE: PER BAR SCALE





RUNWAY 22 END PROFILE (E)(F)

SCALE: PER GRID

OBJECTS WITHIN RUNWAY 22 DEPARTURE SURFACE (E)(F)

No.	OBJECT	EST. OBJECT HT.	TOP ELEV. (MSL) (FEET)	40:1 DPRT SURFACE PEN.	REMARKS
1	* ROAD/PARKING (F)	16'	7107	NONE	N/A
2	* HANGARS (F)	25'	7114	NONE	N/A
3	* ROAD (F)	16'	7104	NONE	N/A
4	** POLE	29'	7421	NONE	N/A
5	** POLE	16'	7114	NONE	N/A
6	** BUILDING	33'	7131	NONE	N/A
7	** POLE	16'	7116	NONE	N/A
8	* FENCE	6'	7108	NONE	N/A
9	* ROAD (E)	16'	7120	NONE	N/A
10	** POLE	29'	7134	NONE	N/A
11	* ROAD (E	16'	7119	NONE	N/A
12	** POLE	31'	7136	NONE	N/A
13	* BUILDING	12'	7113	NONE	N/A
14	* ROAD (E)	16'	7122	NONE	N/A
15	** POLE	30'	7134	NONE	N/A
16	** POLE	38'	7141	NONE	N/A
17	* ROAD (E)	16'	7122	NONE	N/A
18	* BUILDING	12'	7136	NONE	N/A
19	* SOLAR PANELS	10'	7139	NONE	N/A
20	* SOLAR PANELS	10'	7138	NONE	N/A
21	* ROAD (E)	16'	7146	NONE	N/A
22	* BUILDING	12'	7148	NONE	N/A
23	* ROAD (E)	16'	7162	NONE	N/A
24	* ROAD (E)	16'	7150	NONE	N/A
25	* BUILDING	12'	7151	NONE	N/A
26	* ROAD (E)	16'	7178	NONE	N/A
27	* BUILDING	12'	7174	NONE	N/A
28	* BUILDING	12'	7178	NONE	N/A
29	* BUILDING	12'	7178	NONE	N/A
30	* BUILDING	12'	7168	NONE	N/A
31	* ROAD (E)	16'	7159	NONE	N/A
32	* BUILDING	12'	7157	NONE	N/A
33	* BUILDING	12'	7155	NONE	N/A
34	* ROAD (E)	16'	7215	NONE	N/A
35	* BUILDING	12'	7208	NONE	N/A
36	* BUILDING	12'	7211	NONE	N/A
37	* BUILDING	12'	7212	NONE	N/A
38	* BUILDING	12'	7212	NONE	N/A
39	* BUILDING	12'	7200	NONE	N/A
40	* BUILDING	12'	7206	NONE	N/A
A6	** ROAD (E)	16'	7116	NONE	N/A
A8	*** BUILDING	12'	7114	NONE	N/A
A9	** TREE	29'	7130	NONE	N/A
A10	** TREE	12'	7114	NONE	N/A

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

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

LEGEND

EXISTING	FUTURE	DESCRIPTION
		AIRFIELD DEVELOPMENT
		STRUCTURE/FACILITIES (BUILDING)
		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)
DPRT(E)	DPRT(F)	BUILDING RESTRICTION LINE (BRL)
	N/A	THRESHOLD LIGHTS
	N/A	REIL
7538	N/A	CONTOURS
7700	N/A	PART 77 CONTOURS
		ROADS
		MARKINGS
X	XX	FENCING

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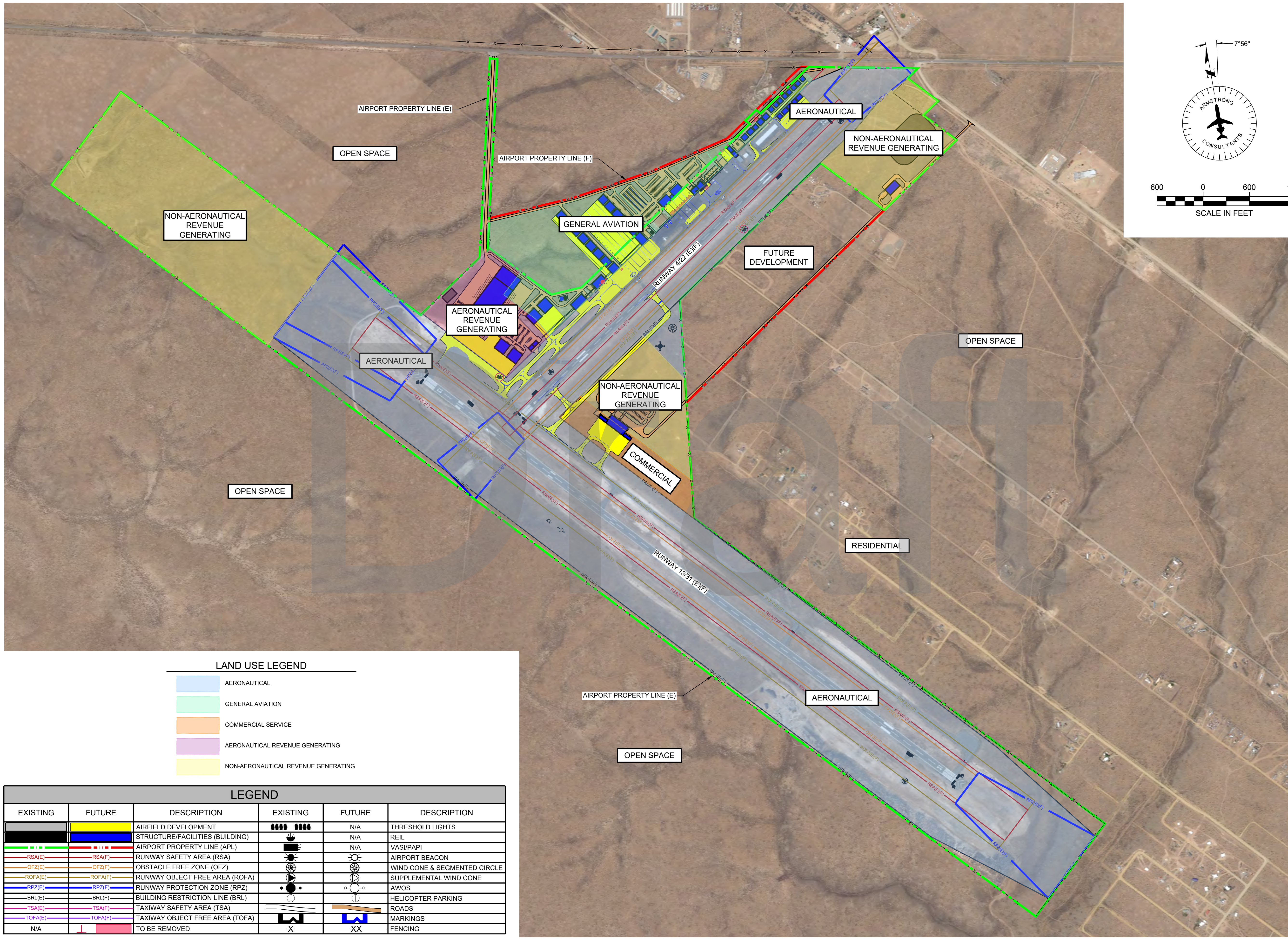
TAOS REGIONAL AIRPORT
TAOS, NEW MEXICO

NMDOT NO. SKX-20-03
AIRPORT LAYOUT PLAN

No.	ACI No.	Date	Revision / Description	File	Drwn.	Chkd.	Apprvd.
0	206623	11/2021	AMP/ALP ORIGINAL ISSUE	6623505D	LKB	BNB	JZP

RUNWAY 22 DEPARTURE SURFACE (E)(F)



LAND USE LEGEND

- AERONAUTICAL
- GENERAL AVIATION
- COMMERCIAL SERVICE
- AERONAUTICAL REVENUE GENERATING
- NON-AERONAUTICAL REVENUE GENERATING

LEGEND

EXISTING	FUTURE	DESCRIPTION	EXISTING	FUTURE	DESCRIPTION
		AIRFIELD DEVELOPMENT		N/A	THRESHOLD LIGHTS
		STRUCTURE/FACILITIES (BUILDING)		N/A	REIL
		AIRPORT PROPERTY LINE (APL)		N/A	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)			HELICOPTER PARKING
TSA(E)	TSA(F)	TAXIWAY SAFETY AREA (TSA)			ROADS
TOFA(E)	TOFA(F)	TAXIWAY OBJECT FREE AREA (TOFA)			MARKINGS
N/A		TO BE REMOVED	X	XX	FENCING

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TAOS REGIONAL AIRPORT
TAOS, NEW MEXICO

NMDOT NO. SKX-20-03
AIRPORT LAYOUT PLAN

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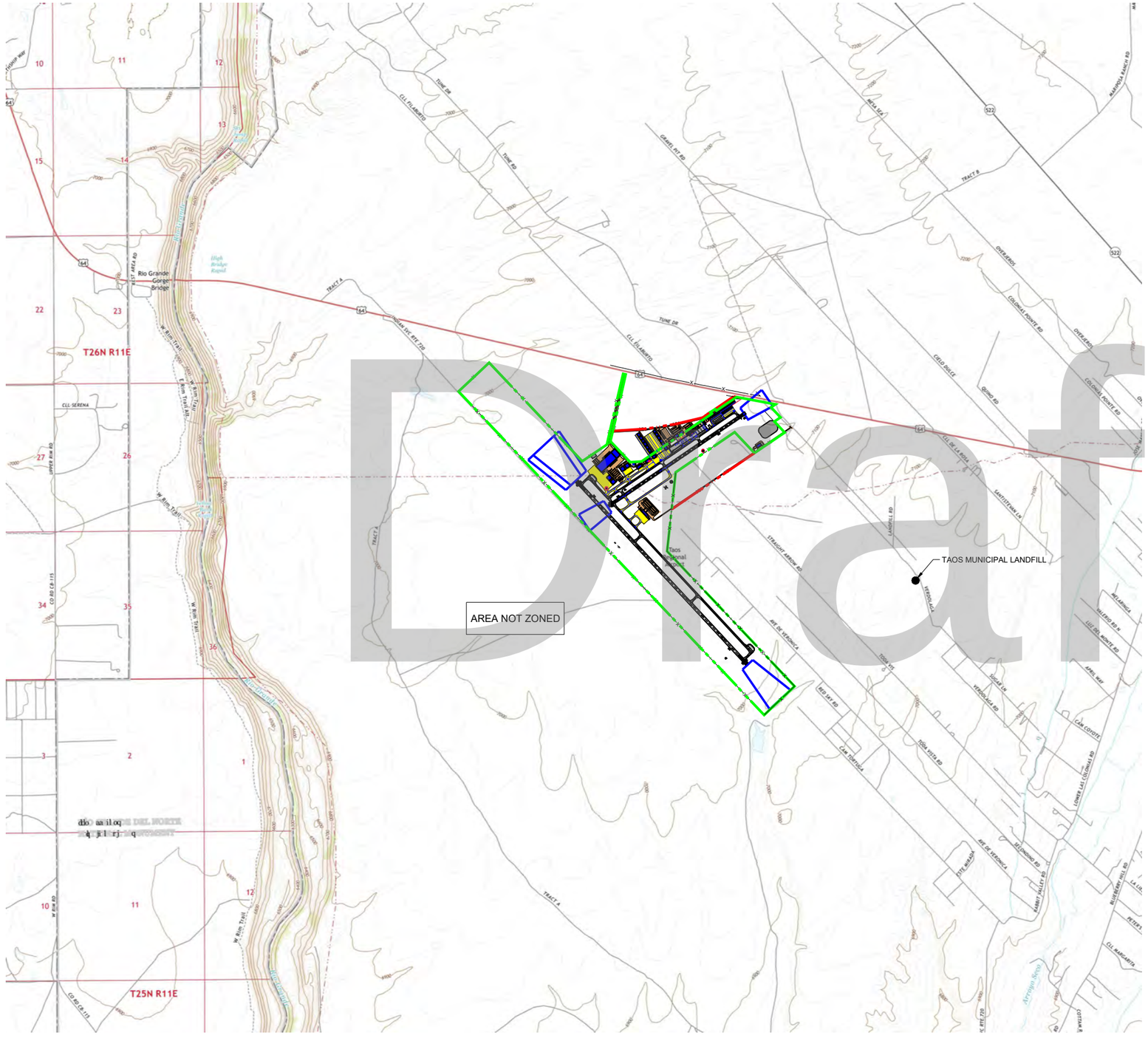
THE PREPARATION OF THIS DOCUMENT MAY HAVE BEEN SUPPORTED, IN PART, THROUGH THE AIRPORT IMPROVEMENT PROGRAM FINANCIAL ASSISTANCE FROM THE FEDERAL AVIATION ADMINISTRATION AS PROVIDED UNDER TITLE 49 U.S.C., SECTION 47104. THE CONTENTS DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FAA. ACCEPTANCE 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.

ON AIRPORT LAND USE

Sheet: 17 of: 22

S:_New Mexico\Taos\Project Files\Active Projects\206623 Taos - Airport Master Plan\CAD\dwg\6623506.dwg 1/31/2022 9:19:32 AM LBACHMAN



ORDINANCES IN EFFECT

NONE

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

Taos Municipal Landfill is within 5 miles of the airport.

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

LEGEND

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

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TAOS REGIONAL AIRPORT
TAOS, NEW MEXICO

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0	206623	11/2021	AMP/ALP ORIGINAL ISSUE	6623507	LKB	BNB	JZP

OFF AIRPORT LAND USE

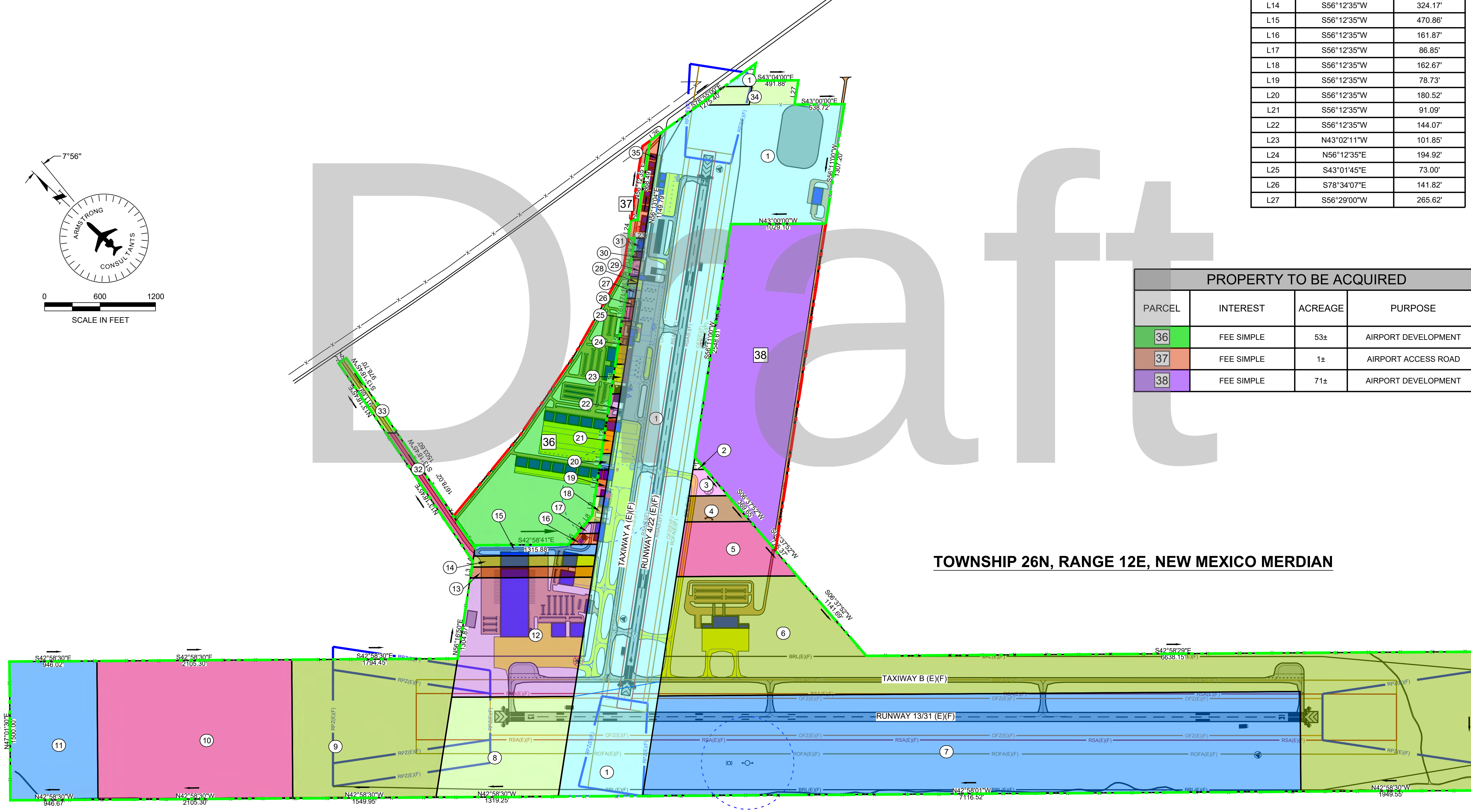
Sheet: 18 of: 22

LEGEND

EXISTING	FUTURE	DESCRIPTION	EXISTING	FUTURE	DESCRIPTION
(grey fill)	(yellow fill)	AIRFIELD DEVELOPMENT	(symbol)	N/A	THRESHOLD LIGHTS
(black fill)	(blue fill)	STRUCTURE/FACILITIES (BUILDING)	(symbol)	N/A	REIL
(line)	(line)	AIRPORT PROPERTY LINE (APL)	(symbol)	N/A	VASI/PAPI
RSA(E)	RSA(F)	RUNWAY SAFETY AREA (RSA)	(symbol)	(symbol)	AIRPORT BEACON
OFZ(E)	OFZ(F)	OBSTACLE FREE ZONE (OFZ)	(symbol)	(symbol)	WIND CONE & SEGMENTED CIRCLE
ROFA(E)	ROFA(F)	RUNWAY OBJECT FREE AREA (ROFA)	(symbol)	(symbol)	SUPPLEMENTAL WIND CONE
RPZ(E)	RPZ(F)	RUNWAY PROTECTION ZONE (RPZ)	(symbol)	(symbol)	AWOS
BRL(E)	BRL(F)	BUILDING RESTRICTION LINE (BRL)	(symbol)	(symbol)	HELICOPTER PARKING
TSA(E)	TSA(F)	TAXIWAY SAFETY AREA (TSA)	(symbol)	(symbol)	ROADS
TOFA(E)	TOFA(F)	TAXIWAY OBJECT FREE AREA (TOFA)	(symbol)	(symbol)	MARKINGS
N/A	(symbol)	TO BE REMOVED	X	XX	FENCING

NOTES:
THE METES AND BOUNDS DESCRIPTIONS ARE BASED ON LEGAL DESCRIPTIONS CONTAINED WITHIN THE PROPERTY DEEDS. THE METES AND BOUNDS DEPICTED ON THE DRAWING ARE NOT BASED ON A BOUNDARY SURVEY.

TAOS REGIONAL AIRPORT LIES WITHIN THE ANTONIO MARTINEZ SPANISH LAND GRANT THERE ARE NO SECTION CORNERS WITHIN A 2 MILE RADIUS OF THE THE AIRPORT



LINE TABLE

LINE	BEARING	LENGTH
L1	S56°11'00"W	187.79'
L2	N06°37'52"E	174.91'
L3	S56°16'08"W	119.67'
L4	S56°16'08"W	120.30'
L5	N76°41'15"W	100.00'
L6	S86°56'43"W	154.01'
L7	S86°56'50"W	154.02'
L8	S86°56'54"W	94.75
L9	S56°12'35"W	212.76'
L10	S56°12'35"W	287.86'
L11	S56°12'35"W	179.89'
L12	S56°11'46"W	392.64'
L13	S56°13'49"W	261.15'
L14	S56°12'35"W	324.17'
L15	S56°12'35"W	470.86'
L16	S56°12'35"W	161.87'
L17	S56°12'35"W	86.85'
L18	S56°12'35"W	162.67'
L19	S56°12'35"W	78.73'
L20	S56°12'35"W	180.52'
L21	S56°12'35"W	91.09'
L22	S56°12'35"W	144.07'
L23	N43°02'11"W	101.85'
L24	N56°12'35"E	194.92'
L25	S43°01'45"E	73.00'
L26	S78°34'07"E	141.82'
L27	S56°29'00"W	265.62'

PROPERTY TO BE ACQUIRED

PARCEL	INTEREST	ACREAGE	PURPOSE
36	FEE SIMPLE	53±	AIRPORT DEVELOPMENT
37	FEE SIMPLE	1±	AIRPORT ACCESS ROAD
38	FEE SIMPLE	71±	AIRPORT DEVELOPMENT

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TAOS, NEW MEXICO

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EXHIBIT "A"
PROPERTY INVENTORY MAP

EXISTING AIRPORT PROPERTY

PARCEL	CURRENT OWNER	GRANTOR	INTEREST	BOOK/PAGE	DATE	ACREAGE	PURPOSE	FEDERAL PARTICIPATION
1	TOWN OF TAOS	DR. HARRY H. McCARTHY, TRUSTEE FOR SISTER SHEILA, nee LORETTA McCARTHY	FEE SIMPLE	2 / 168-169	AUGUST 10, 1965	±22.65	AERONAUTICAL	F.A.A.P. NO. 9-29-056-C601
		DR. HARRY H. McCARTHY, TRUSTEE FOR SHEILA EILEEN McCARTHY	FEE SIMPLE	2 / 168-169	AUGUST 10, 1965	±26.97	AERONAUTICAL	F.A.A.P. NO. 9-29-056-C601
		JUAN MANUEL MARTINEZ AND MARIA HIGINIA MARTINEZ	FEE SIMPLE	2 / 168-169	AUGUST 10, 1965	±16.11	AERONAUTICAL	F.A.A.P. NO. 9-29-056-C601
		FELECIANO E. VIGIL & JUANITA P. VIGIL	FEE SIMPLE	2 / 168-169	AUGUST 10, 1965	±14.05	AERONAUTICAL	F.A.A.P. NO. 9-29-056-C601
		ALFONSO PACHECO & ANTONIA PACHECO	FEE SIMPLE	2 / 168-169	AUGUST 10, 1965	±12.62	AERONAUTICAL	F.A.A.P. NO. 9-29-056-C601
		CECIL HOWELL & KATHRYN HOWELL	FEE SIMPLE	2 / 168-169	AUGUST 10, 1965	±5.40	AERONAUTICAL	F.A.A.P. NO. 9-29-056-C601
		PATRICIO MARTINEZ SR. & EVA MARTINEZ	FEE SIMPLE	2 / 168-169	AUGUST 10, 1965	±14.87	AERONAUTICAL	F.A.A.P. NO. 9-29-056-C601
		FELIBERTO MARTINEZ & MATILDA MARTINEZ	FEE SIMPLE	2 / 168-169	AUGUST 10, 1965	±64.04	AERONAUTICAL	F.A.A.P. NO. 9-29-056-C601
		JOSE MARIA QUINTANA & ALICIA T. QUINTANA	FEE SIMPLE	2 / 168-169	AUGUST 10, 1965	±8.60	AERONAUTICAL	F.A.A.P. NO. 9-29-056-C601
		HIERS OF ANTONIO MARTINEZ, DECEASED	FEE SIMPLE	2 / 168-169	AUGUST 10, 1965	±2.99	AERONAUTICAL	F.A.A.P. NO. 9-29-056-C601
		WILLIAM C. BRIGGS	FEE SIMPLE	2 / 168-169	AUGUST 10, 1965	±.86	AERONAUTICAL	F.A.A.P. NO. 9-29-056-C601
2	TOWN OF TAOS	LOUIS G. MARTINEZ & MARGERT MARTINEZ	FEE SIMPLE	A195 / 817	MARCH 9, 1989	±0.20	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
3	TOWN OF TAOS	ESTATE OF ALFONSO PACHECO, IDA TRULILLO, HEIR	FEE SIMPLE	M186 / 842-844	OCTOBER 25, 1991	±1.81	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
4	TOWN OF TAOS	AMARANTE CHACON & GLORIA CHACON	FEE SIMPLE	M-186 / 845-847	6/17/1996	±3.64	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
5	TOWN OF TAOS	ARTHUR J. CRUZ, NOELLA M. GONZALES & PAULA CRUZ McCORNISH, HEIRS OF AURORA M. CRUZ	FEE SIMPLE	A193 / 315-316	10/11/1989	±13.63	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
6	TOWN OF TAOS	SHEILA E. McCARTHY GRAINGER	FEE SIMPLE	M186 / 854-858	JUNE 17, 1996	±186.27	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
7	TOWN OF TAOS	LORETTA McCARTHY	FEE SIMPLE	M186 / 859-863	MARCH 30, 1990	±174.49	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
8	TOWN OF TAOS	LORETTA McCARTHY	FEE SIMPLE	M186 / 881	FEBRUARY 25, 1992	±32.76	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
9	TOWN OF TAOS	MOISES ORTEGA & MERCEDES VALDEZ	FEE SIMPLE	A193 / 4, 24 & 73	OCTOBER 24, 1990	±57.58	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
10	TOWN OF TAOS	EMILIO J. MARTINEZ & KAREN MARTINEZ	FEE SIMPLE	A195 / 921	APRIL 24, 1990	±72.50	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
11	TOWN OF TAOS	ERNEST MARTINEZ	FEE SIMPLE	A194 / 924-925	FEBRUARY 16, 1990	±32.59	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
12	TOWN OF TAOS	SHEILA McCARTHY GRAINGER	FEE SIMPLE	M145 / 440-443	JULY 10, 1991	±38.96	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
13	TOWN OF TAOS	ARTHUR J. CRUZ, NOELLA M. GONZALES & PAULA CRUZ McCORNISH, HEIRS OF AURORA M. CRUZ	FEE SIMPLE	A193 / 317-318	OCTOBER 13, 1989	±3.57	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
14	TOWN OF TAOS	ELIAS VARGAS & ALICIA M. VARGAS	FEE SIMPLE	A193 / 609-610	NOVEMBER 7, 1989	±3.57	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
15	TOWN OF TAOS	ROBERTO M. MARTINEZ & JUANITA V. MARTINEZ	FEE SIMPLE	A193 / 611-612	NOVEMBER 7, 1989	±3.57	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
16	TOWN OF TAOS	DELIA C. MARTINEZ	FEE SIMPLE	A193 / 613	NOVEMBER 7, 1989	±0.72	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
17	TOWN OF TAOS	GUILLERMO F. MARTINEZ	FEE SIMPLE	A194 / 238	DECEMBER 21, 1989	±0.52	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
18	TOWN OF TAOS	AMARANTE CHACON & GLORIA CHACON	FEE SIMPLE	M145 / 546-548	SEPTEMBER 17, 1991	±0.70	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
19	TOWN OF TAOS	ESTATE OF ALFONSO PACHECO, IDA TRUILLO HEIR	FEE SIMPLE	M186 / 877	NOVEMBER 1, 1991	±0.66	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
20	TOWN OF TAOS	LOUIS G. MARTINEZ & MARGERT MARTINEZ	FEE SIMPLE	A195 / 816	APRIL 18, 1990	±0.42	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
21	TOWN OF TAOS	FELICIANO VIGIL & JUANITA S. VIGIL	FEE SIMPLE	M145 / 436-439	SEPTEMBER 17, 1991	±0.91	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
22	TOWN OF TAOS	ESTATE OF CECIL HOWELL	FEE SIMPLE	M181 / 873-876	JUNE 17, 1996	±0.60	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
23	TOWN OF TAOS	ESTATE OF ALFONSO PACHECO; IDA TRUJILLO, HEIR	FEE SIMPLE	M186 / 869	JUNE 17, 1996	±0.75	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
24	TOWN OF TAOS	WILLIAM C. BRIGGS, et aL- OCLIDES MARTINEZ, EMILIO MARTINEZ, ROBERTO MARTINEZ, ERNEST MARTINEZ, (ESTATE OF ALFONSO PACHECO; AYRORA PACHECO, HEIR), EDUARDO MARTINEZ, FRANK MARTINEZ, TOBIAS MARTINEZ & MOISES ORTEGA	FEE SIMPLE	M159 / 672-674	JUNE 20, 1993	±1.09	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
25	TOWN OF TAOS	ERNEST MARTINEZ & MARCELLA MARTINEZ	FEE SIMPLE	M145 / 444-446	SEPTEMBER 17, 1991	±0.37	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
		TOBIAS MARTINEZ & KATHY MARTINEZ	FEE SIMPLE	M145 / 456-458	SEPTEMBER 17, 1991	±0.37	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
		FRANK MARTINEZ & DOROTHY ,ARTINEZ	FEE SIMPLE	M145 / 459-461	SEPTEMBER 17, 1991	±0.37	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
		EMILIO MARTINEZ & KAREN MARTINEZ	FEE SIMPLE	M145 / 462-464	SEPTEMBER 17, 1991	±0.37	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
		EDWARD MARTINEZ & CECILIA MARTINEZ	FEE SIMPLE	M145 / 465-467	SEPTEMBER 17, 1991	±0.37	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
		OCLIDES MARTINEZ	FEE SIMPLE	M145 / 468-470	SEPTEMBER 17, 1991	±0.37	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
		BONIFACIO MARTINEZ & FELIS MARTINEZ, et al.	FEE SIMPLE	M145 / 519-520	SEPTEMBER 17, 1991	±0.37	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
		EMILIO P. MARTINEZ & SUSIE MARTINEZ	FEE SIMPLE	M145 / 528-530	SEPTEMBER 17, 1991	±0.37	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
		EDUARDO MARTINEZ & SALLY MARTINEZ	FEE SIMPLE	M145 / 531-533	SEPTEMBER 17, 1991	±0.37	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
		FELIBERTO MARTINEZ & EVA MARTINEZ	FEE SIMPLE	M145 / 534-536	SEPTEMBER 17, 1991	±0.37	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988

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No.	ACI No.	Date	Revision / Description	File	Drwn.	Chkd.	Apprvd.
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EXISTING AIRPORT PROPERTY

PARCEL	CURRENT OWNER	GRANTOR	INTEREST	BOOK/PAGE	DATE	ACREAGE	PURPOSE	FEDERAL PARTICIPATION
26	TOWN OF TAOS	ERNEST MARTINEZ & MARCELLA MARTINEZ	FEE SIMPLE	M145 / 739-741	SEPTEMBER 20, 1991	±0.20	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
		TOBIAS MARTINEZ & KATHY MARTINEZ	FEE SIMPLE	M145 / 751-753	SEPTEMBER 20, 1991	±0.20	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
		ROBERT MARTINEZ & ARLENE MARTINEZ	FEE SIMPLE	M145 / 754-756	SEPTEMBER 20, 1991	±0.20	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
		FRANK MARTINEZ & DOROTHY MARTINEZ	FEE SIMPLE	M145 / 757-759	SEPTEMBER 20, 1991	±0.20	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
		EMILIO MARTINEZ & KAREN MARTINEZ	FEE SIMPLE	M145 / 760-762	SEPTEMBER 20, 1991	±0.20	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
		EDUARDO MARTINEZ & CECILIA MARTINEZ	FEE SIMPLE	M145 / 763-765	SEPTEMBER 20, 1991	±0.20	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
		OCLIDES MARTINEZ	FEE SIMPLE	M145 / 775-777	SEPTEMBER 20, 1991	±0.20	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
		MERCEDES VALDEZ	FEE SIMPLE	--	SEPTEMBER 16, 1991	±0.20	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
		MIGUEL ORTEGA	FEE SIMPLE	--	FEBRUARY 25, 1992	±0.20	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
27	TOWN OF TAOS	FELIBERTO MARTINEZ JR.	FEE SIMPLE	M145 / 766-768	SEPTEMBER 20, 1991	±0.37	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
		ERNEST MARTINEZ & MARCELLA MARTINEZ	FEE SIMPLE	M145 / 772-774	SEPTEMBER 20, 1991	±0.37	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
		TOBIAS MARTINEZ & KATHY MARTINEZ	FEE SIMPLE	M145 / 784-786	SEPTEMBER 20, 1991	±0.37	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
		ROBERT MARTINEZ & ARLENE MARTINEZ	FEE SIMPLE	M145 / 787-789	SEPTEMBER 20, 1991	±0.37	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
		EMILIO MARTINEZ & KAREN MARTINEZ	FEE SIMPLE	M145 / 790-792	SEPTEMBER 20, 1991	±0.37	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
		EDUARDO MARTINEZ & CECILIA MARTINEZ	FEE SIMPLE	M145 / 793-795	SEPTEMBER 20, 1991	±0.37	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
		OCLIDES MARTINEZ	FEE SIMPLE	M145 / 796-798	SEPTEMBER 20, 1991	±0.37	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
		FRANK MARTINEZ & DOROTHY MARTINEZ	FEE SIMPLE	M145 / 799-801	SEPTEMBER 20, 1991	±0.37	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
28	TOWN OF TAOS	FELIBERTO MARTINEZ JR.	FEE SIMPLE	M145 / 537-539	SEPTEMBER 17, 1991	±0.18	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
		NANCY R. BRIGGS	FEE SIMPLE	M145 / 540-542	SEPTEMBER 17, 1991	±0.18	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
		WILLIAM C. BRIGGS	FEE SIMPLE	M145 / 743-545	SEPTEMBER 17, 1991	±0.18	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
29	TOWN OF TAOS	ELIU E. ROMERO & ELIZABETH ROMERO	FEE SIMPLE	M186 / 848-853	JUNE 17, 1996	±0.46	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
30	TOWN OF TAOS	ELIU E. ROMERO & ELIZABETH ROMERO	FEE SIMPLE	M186 / 848-853	JUNE 17, 1996	±0.21	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
31	TOWN OF TAOS	ELIU E. ROMERO & ELIZABETH ROMERO	FEE SIMPLE	M186 / 848-853	JUNE 17, 1996	±0.33	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
32	TOWN OF TAOS	MOISES ORTEGA, MIGUEL ORTEGA & MERCEDES VALDEZ	FEE SIMPLE	A193 / 474-475	OCTOBER 26, 1989	±3.65	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
33	TOWN OF TAOS	JOSEPH B. TRUJILLO & KATHY TRUJILLO	FEE SIMPLE	M145 / 552-554	SEPTEMBER 17, 1991	±2.17	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
		FLOYD TRUJILLO & ROSE TRUJILLO	FEE SIMPLE	M145 / 555-557	SEPTEMBER 17, 1991	±2.17	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
		VIRGINIA SANCHEZ	FEE SIMPLE	--	SEPTEMBER 17, 1991	±2.17	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
		DENNIS TRUJILLO & LORRAINE TRUJILLO	FEE SIMPLE	M145 / 558-560	SEPTEMBER 17, 1991	±2.17	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
		MAX E. TRUJILLO & SALLY TRUJILLO	FEE SIMPLE	M145 / 709-711	SEPTEMBER 17, 1991	±2.17	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
		MAX TRUJILLO SR.	FEE SIMPLE	M145 / 712-714	SEPTEMBER 17, 1991	±2.17	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
		ALEX I. TRUJILLO & RITA TRUJILLO	FEE SIMPLE	M145 / 715-717	SEPTEMBER 17, 1991	±2.17	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
		MANUEL P. TRUJILLO & FLORA TRUJILLO	FEE SIMPLE	M145 / 718-720	SEPTEMBER 17, 1991	±2.17	AERONAUTICAL	A.I.P. NO. 3-35-0041-02-1988
34	TOWN OF TAOS	GEORGE P. TUNE & MARGARET M. TUNE	FEE SIMPLE	705 / 905	DECEMBER 30, 2009	±4.88	AERONAUTICAL	A.I.P. NO. 3-35-0041-022-2009
35	TOWN OF TAOS	TELESFOR R. GONZALES & CARMEN M. GONZALES, AND SIMON G. GONZALES & ROSALIE O. GONZALES	FEE SIMPLE	A197 / 868-869	SEPTEMBER 12, 1990	±2.87	AERONAUTICAL	A.I.P. NO. 3-35-0041-022-2009

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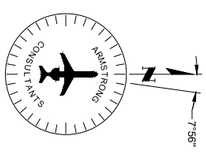
S:_New Mexico\Taos\Project Files\Active Projects\206623 Taos - Airport Master Plan\CAD\dwg\6623509.dwg 11/9/2021 4:37:45 PM LBACHMAN

SATELLITE AERIAL PHOTOGRAPH
OBTAINED FROM PLANET, DATED 4/12/21

SCALE IN FEET
600 0 600 1200



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AERIAL PHOTOPRAPH

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Chapter Seven

Airport Development and Financial Plan

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Chapter 7 – Implementation and Financial Plan

7.1 Introduction

A program of recommended airport development has been formulated to guide the systematic development of Taos Regional Airport and to aid the Federal Aviation Administration, New Mexico State Aeronautics Division 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 Taos Regional Airport, 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: Runway 13/31 and 4/22 pavement maintenance
- A2: Expand/replace Snow Removal Equipment building
- A3: Acquire land North of Runway 4/22
- A4: Relocate terminal area fencing/access gates
- A5: Perform pavement maintenance on all airfield pavement

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

- B1: Expand vehicle parking areas and construct new airport access roads
- B2: Relocate AWOS/ Segmented Circle/Windcone
- B3: Helicopter parking pad development
- B4: Construct hangar facilities to accommodate demand as needed
- B5: Expand existing AvGas and Jet-A fuel tanks to accommodate bulk storage
- B6: Perform pavement maintenance on all airfield pavement
- B7: Airport Master Plan update with Airport Layout Plan

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

- C1: Acquire ARFF equipment
- C2: Construct Taxiway C and associated connectors
- C3: Expand commercial apron
- C4: Acquire land south of Runway 4/22
- C5: Corporate GA Ramp Expansion
- C6: Perform pavement maintenance on all airfield pavement

Table 7-1 Twenty Year Development Plan

Development Items	FAA Portion 90%	Local Portion 5%	State Portion 5%	Total Cost 100%
A1: Expand/replace Snow Removal Equipment building	$291,960	$16,220	$16,220	$324,400
A2: Acquire land North of Runway 4/22	$477,000	$26,500	$26,500	$530,000
A3: Relocate terminal area fencing/access gate	$364,860	$20,270	$20,270	$405,400
A4: Initial Terminal Building Development	$0	$1,200,000	$5,400,000	$6,600,000
A5: Phase 1-Reconstruct existing apron	$2,902,500	$161,250	$161,250	$3,225,000
A6: Perform pavement maintenance on all airfield pavement	$534,196	$29,677	$29,677	$593,550
Short-Term Subtotal	**$10,510,516**	**$583,917**	**$583,917**	**$11,678,350**
B1: Phase 1- Expand vehicle parking areas and construct new airport access road	$2,392,848	$132,936	$132,936	$2,658,720
B2: Relocate AWOS/Segmented Circle/Windcone/Beacon	$405,900	$22,550	$22,550	$451,000
B3: Phase 2- Reconstruct existing apron	$2,548,800	$141,600	$141,600	$2,832,000
B4: Helicopter parking pad development	$84,618	$4,701	$4,701	$94,020
B5: Construct hangar facilities to accommodate demand as needed	$581,626	$32,312	$32,312	$646,250
B6: Expand existing AvGas and Jet-A fuel tanks to accommodate bulk storage	$639,000	$35,500	$35,500	$710,000
B7: Perform pavement maintenance on all airfield pavement	$534,196	$29,677	$29,677	$593,550
B8: Airport Master Plan update with Airport Layout Plan	$540,000	$30,000	$30,000	$600,000
Medium-Term Subtotal	**$7,726,988**	**$429,276**	**$429,276**	**$8,588,540**
C1: Acquire ARFF equipment	$810,000	$45,000	$45,000	$900,000
C2: Construct Taxiway C and associated connectors	$3,690,370	$205,020	$205,020	$4,100,410
C3: Expand commercial apron	$2,011,837	$111,769	$111,769	$2,235,375
C4: Acquire land south of Runway 4/22	$639,000	$35,500	$35,500	$710,000
C5: Expand Corporate GA apron	$5,140,555	$285,586	$285,586	$5,711,727
C6: Phase 2-Expand vehicle parking areas	$2,073,690	$115,205	$115,205	$2,304,100
C7: Construct Taxiway D and associated connectors	$1,116,801	$62,044	$2,045	$1,240,890
C8: Perform Pavement Maintenance on all airfield pavement	$534,196	$29,677	$29,677	$593,550
Long-Term Subtotal	**$16,016,449**	**$889,802**	**$889,802**	**$17,796,052**
20-Year Improvement Plan Total	**$34,253,953**	**$1,902,995**	**$1,902,995**	**$38,059,942**

Source: Armstrong Consultants, Inc., 2021

Note: All cost estimates are in 2021 dollars. Some projects listed are a low priority to the FAA and may not be supported. All future projects need justification prior to implementation. Hangar development includes the pavement sections only, the cost of individual buildings is not calculated in this estimate.

7.3 Capital Development

Primary funding sources come from the FAA and Local contribution. 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/state/local matching ratio of 90 percent/5 percent/5 percent for AIP approved projects in the State of New Mexico.

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. In addition, fuel systems and hangars are also grant eligible; however, these items are considered a low priority for FAA funding.

7.3.2 State Funding

The New Mexico Department of Transportation (NMDOT) Aeronautics Division participates in funding airport development and maintenance projects in the State of New Mexico. NMDOT normally contributes 80 to 90 percent on projects without Federal participation. On projects with Federal participation, NMDOT normally contributes five percent.

7.3.3 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 amortize 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. It should also be noted that the general public would usually be wary of the risk involved with a revenue bond issue for a general aviation airport. Therefore, the sale of such bonds could be more difficult than other types of 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 causes the pavement to deteriorate. 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 a porous friction course or 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. At the termination of the lease, the lessee has the option to renew the lease, sell, or to remove the buildings.

Hangar Leases: Hangars on 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 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.

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. The fee would apply to FBO's and operators who conduct self-fueling.

Fuel Markup Fee: This fee is typically charged by the on-airport fuel provider. The fee is applied to each gallon of fuel sold on the airport and covers the costs associated with providing fuel. The fuel markup fee is imposed by the Town of Taos.

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, 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 setup 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 Taos Regional Airport are listed below:

- Increase the number of ground leases for aircraft storage hangars through expansion of the hangar areas north of Runway 4/22, as identified in Chapter Five;
- Focus on attracting business/corporate aviation tenants;
- Identify and develop non-aeronautical land lease areas on airport property.

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. Expanding the self-serve fuel system to offer Jet-A and Mogas would provide greater fuel fee markups and increase revenue generation for the Airport as well as attract additional local and transient aircraft.

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 including commercial service, corporate and private aviation. Taos is especially situated in an area that could benefit from increased air transport for tourism, due to its location within the Enchanted Circle, which comprises an area of northern New Mexico with numerous recreations, scenic and historical areas. Notable to Taos is the Taos Ski Valley, the historic Taos Pueblo as well as the esteemed Arts and Cultural District of downtown Taos. Client and suppliers of area businesses will also benefit from the future improvements to the airport which will attract more air traffic and increase the number of people visiting, working and living within the community and ultimately stimulate the local economy.

The use of corporate and business aircraft is an increasing trend throughout the United States. The movement of American industry from large metropolitan areas to smaller communities which offer lower taxes and labor costs and a better working environment has influenced this trend. The community's ability to provide convenient access to corporate aircraft will be reflected not only in benefits to existing businesses and industries but will be a strong factor in attracting new industries. Aviation trends show increased corporate and business aviation activity as companies are looking to avoid delays and inconveniences associated with commercial airline travel. These factors place Taos Regional Airport in a prime position to capitalize on the trends in the general 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: Expand/replace Snow Removal Equipment building
A2: Acquire land North of Runway 4/22
A3: Relocate terminal area fencing/access gate
A4: Initial Terminal Building Development
A5: Phase 1-Reconstruct existing apron
A6: Perform pavement maintenance on all airfield pavement

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

B1: Phase 1- Expand vehicle parking areas and construct new airport access road
B2: Relocate AWOS/Segmented Circle/Windcone/Beacon
B3: Phase 2- Reconstruct existing apron
B4: Helicopter parking pad development
B5: Construct hangar facilities to accommodate demand as needed
B6: Expand existing AvGas and Jet-A fuel tanks to accommodate bulk storage
B7: Perform pavement maintenance on all airfield pavement
B8: Airport Master Plan update with Airport Layout Plan (not shown)

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

C1: Acquire ARFF equipment (not shown)
C2: Construct Taxiway C and associated connectors
C3: Expand commercial apron
C4: Acquire land south of Runway 4/22
C5: Expand Corporate GA apron
C6: Phase 2-Expand vehicle parking areas
C7: Construct Taxiway D and associated connectors
C8: Perform Pavement Maintenance on all airfield pavement

TAXIWAY C (F)
TW A1 (E)
TAXIWAY A (E)
TW A2 (E)
TW A3 (E)
TW A4 (E)
RUNWAY 4/22 (E)
22
TAXIWAY D (F)
TAXIWAY B (E)
RUNWAY 13/31 (E)

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