Henderson Field Airport

Airport Layout Plan Update

Project No. 20150003.00.RA

April 2016

WK DICKSON

community infrastructure consultants

TABLE OF CONTENTS

SECTION ***Page***

INTRODUCTION
Background/Environment A-1
Study Area Characteristics A-4
Existing Land Use A-5
Community Facilities A-5
Transportation Network A-6
Natural Environment A-7

INVENTORY
Socioeconomic Trends and Projections B-1
Aviation Inventory B-2
Aircraft Storage B-6
Terminal Building and Terminal Access B-8
Fuel Storage B-8
Obstructions/Approaches B-9
County Height Limitations Ordinance B-9
Aircraft Activity B-9

AVIATION DEMAND FORECASTS
Methodology C-1
National Aviation Overview C-2
Based Aircraft C-3
Operations C-7
Local/Itinerant Split C-11
Peak Traffic Factors C-11
Instrument Approaches C-12
General Aviation Pilots and Passengers C-13
Summary of Operational Activity C-14
Capital Investment Forecast Scenario C-14

METEOROLOGY AND CAPACITY ANALYSIS
Meteorology D-1
Wind Analysis D-1
Capacity D-3

FACILITY REQUIREMENTS
Airfield E-3
Geometric Standards E-5
Navigational Aids and Lighting E-7
Terminal Area E-8

Auto Parking **E-9**
Aircraft Apron/Hangars **E-10**
Fuel Storage **E-10**
Land Acquisition **E-13**
Fencing **E-13**
FAR Part 77 Surfaces and FAA AC 150/5300-13A TERPS Surfaces **E-13**
Summary **E-14**

RUNWAY EXTENSION JUSTIFICATION
Airport User Survey and Fuel Sale/Operations Tracking Data **F-1**
Runway Length Calculations **F-1**
Justified Recommendation **F-2**

AIRPORT PLANS
Airport Layout Plan **G-1**
Alternative Analysis **G-2**
Approach/Departure Plans and Profiles **G-2**
Terminal Area Plans **G-4**
Land Use Plan **G-5**
Property Map **G-7**

FINANCIAL PLAN **H-1**

LIST OF EXHIBITS

EXHIBIT ***Page***

Exhibit A-1
Vicinity Map A-4

Exhibit A-2
Location Map A-7

Exhibit A-3
Topography Map A-9

Exhibit D-1
IFR Wind Rose – 13 Knots D-2

Exhibit D-2
All-Weather Wind Rose – 13 Knots D-2

Exhibit F-1
Survey Form F-3

Exhibit F-2
Runway Length Requirement Chart F-4

Exhibit F-3
Runway Length Requirement Chart F-5

Exhibit F-4
Supporting Documents F-6

LIST OF TABLES

TABLE ***Page***

Table B-1
Historical/Projected Population Levels B-1

Table B-2
Public Use Airports in a 30-Nautical Mile Radius of Henderson Field Airport B-2

Table B-3
Existing Building Summary for Henderson Field Airport B-7

Table B-4
Runway Approaches B-9

Table B-5
Historical Based Aircraft B-10

Table C-1
Forecasted Based Aircraft C-6

Table C-2
Projected Fleet Mix C-7

Table C-3
Annual Operations Planning Average C-10

Table C-4
Projected Annual Operations by Type C-11

Table C-5
Projected Local/Itinerant Traffic C-11

Table C-6
Design Day/Design Hour C-12

Table C-7
Instrument Operations C-13

Table C-8
Forecasted General Aviation Occupancy Factors and Occupants C-14

Table C-9
Aviation Activity Summary (Preferred Forecast) C-14

Table C-10
Capital Investment Scenario Forecast Summary C-15

Table D-1
Wind Tabulations D-2

Table E-1
Terminal Building Requirements E-9

Table E-2
Facility Requirements E-11

Table E-3
Surface Dimensions E-13

Table F-1
Airplanes that Make Up 75 Percent of the Fleet F-9

Table F-2
Remaining 25 Percent of Airplanes that Make Up 100 Percent of Fleet F-10

Table G-1
Land Use Guidance Zones G-6

Table H-1
Cost Estimates H-2

In airport planning, it is important to define the historic, present, and future character of the airport's environs. Past and present conditions are readily determined, while selecting future scenarios are more difficult.

In order to provide guidance for the future development of the Henderson Field Airport (ACZ), the Town of Wallace and the Airport Commission directed the preparation of an Airport Layout Plan update. This Study complies with FAA Advisory Circular 150/5070-6B *Airport Master Plans* and is designed to examine the existing conditions of the Airport, forecast airport growth and determine the facilities required to satisfy that growth during the next 20 years, analyze alternative ways of satisfying the projected needs, select an implementation plan, and develop an approach to provide the necessary funding. This Airport Layout Plan is an important tool in defining the future role of the Airport.

Over the course of the planning process, the various alternatives to achieve the goals with regard to airfield geometry and service lengths as well as terminal area development were reviewed with the airport sponsor. A more detailed discussion of alternatives can be found in Chapter G: Airport Plans of this report. The resulting recommended plans that were determined to be the most efficient and effective are depicted and discussed in this plan.

This introduction defines the study area geographically, describes the major uses of land, details important community facilities, describes the area's transportation system, and describes the natural environment in the vicinity of the Airport.

Background/Environment

The Henderson Field Airport is located on the northern edge of Pender County in the Inner Coastal Plain Region of North Carolina. The Airport is situated just outside the boundaries of Wallace, the largest population center in Duplin County. Duplin County spans approximately 822 square miles and Pender County spans approximately 933 square miles. The Airport is positioned on approximately 145 acres of land, and strategically located on the border of Duplin and Pender Counties along Rockfish Creek. The Henderson Field Airport continues to grow and improve through some of the projects that have taken place in recent years to enhance the airport’s ability to serve the surrounding community include:

2006 – Update Airport Layout Drawings, Aerial Photography, Approach Survey and Height Ordinance Assistance, Pavement Repairs and Planning (rules & regs)
– Pavement Rehabilitation for Poor and Failing Sections and Taxiway Lighting Rehabilitation

2009 – Runway, Taxiway, and Apron Rehabilitation and Related Work; Runway Lighting Rehab; Terminal Area Study; Approach Clearing, Land Acquisition and PAPI
– Pavement Rehabilitation for Poor and Failing Sections
2010 – Land Acquisition and Approach Clearing
2011 – SWPPP/SPCC. Runway Approach Survey, Road Relocation for Runway 9 Extension
2012 – PAPI, Fencing and Approach Clearing
2013 – Runway Extension Environmental Assessment
2014 – Apron Expansion-Phase 1
2016 – Obstruction Removal and Threshold Lighting

An Environmental Assessment for a runway extension was funded in 2012 and completed in 2013. The planned project has since changed based on updated goals from the Sponsor and the completion of the *2015 North Carolina Airports System Plan* which outlined robust growth for the Henderson Field and it service market. This prompted the necessity of this Airport Layout Plan update to properly depict and discuss the changes accordingly in this study. The Environmental Assessment document will need to be re-visited contingent upon this Airport Layout Plan update in order to reassess the NEPA environmental categories with regard to the updated development plan.

The Town of Wallace is situated north of the Wilmington Metropolitan Area of North Carolina. This Area has been growing significantly in recent years. Population estimates from 2014 find Duplin and Pender Counties with roughly 116,000 persons combined. Textiles, garment sewing, poultry processing, frozen foods and swine production are all important to the economy of the Wallace area, but manufacturing remains the biggest source of jobs in Duplin County. The largest winery in the southeastern United States can be found in Duplin County. Duplin County is the home of Cabin Lake, which is a major recreational lake. The Northeast Cape Fear River also runs through the two counties. Truly, Wallace is a unique market area for the Henderson Field Airport. As such, the Airport realizes some unique challenges and unique needs that will be addressed further within this document.

During 2012, the North Carolina Division of Aviation undertook a statewide study titled *2012 Economic Contribution of Airports in North Carolina* to determine the economic worth of all publicly owned airports in the State and determined that the economic impact of aviation within North Carolina was roughly $25.9 billion, which also generated over 108,000 jobs. The Study also reported that the Henderson Field Airport was estimated to have an economic impact on its surrounding area of $6.4 million in 2012.

The Henderson Field Airport is located one mile south of Wallace, NC. It provides self-serve fuel and other service facilities to aircraft operators. This Plan, in the form of a Report and Plan Set, will provide the Town of Wallace direction for the development of the Airport over the next 20-year planning period.

The key issues to be recognized in this Plan include:

- Recognition of the needs, goals, and objectives of the Henderson Field Airport and the community it serves, and development of a plan that is compatible and acceptable to both parties.
- Recommended development that meets the functional requirements of the area taking into account the future need to expand or modify the Airport.

Planning studies are the vehicles established to prepare development concepts for individual airports. While the Federal Aviation Administration (FAA) mandates the general approach and format, the success of the project depends largely on the goals and objectives, both explicit and implicit.

It is the goal of this Study to provide the airport users and the citizenry of the Henderson Field Airport service area with a first-class aviation facility that will continue to be a valuable asset to the community by continuing to provide a critical "gateway" to the area's economic growth and access to the National Air Transportation System (NATS).

The realization of this "implicit" goal requires achievement of a number of explicit goals and objectives. These goals and objectives include:

Access

- Provide the community with equitable access to air transportation opportunities at the Airport.
- Plan the necessary facilities to encourage aviation accessibility.

Convenience

- Provide amenities and a pleasing environment to the Airport's users.
- Plan and locate facilities in a rational arrangement that is easily understood.
- Provide for the flexibility that is necessary to meet the community's needs.

Safety

- Maintain public safety as the primary consideration.
- Plan the facility to minimize, to the extent practical, potential conflicts.
- Provide a system to respond to mishaps.

Compatibility

- ✈ Foster compatibility between the Airport and adjacent land uses.
- ✈ Keep adverse environmental affects to a minimum.

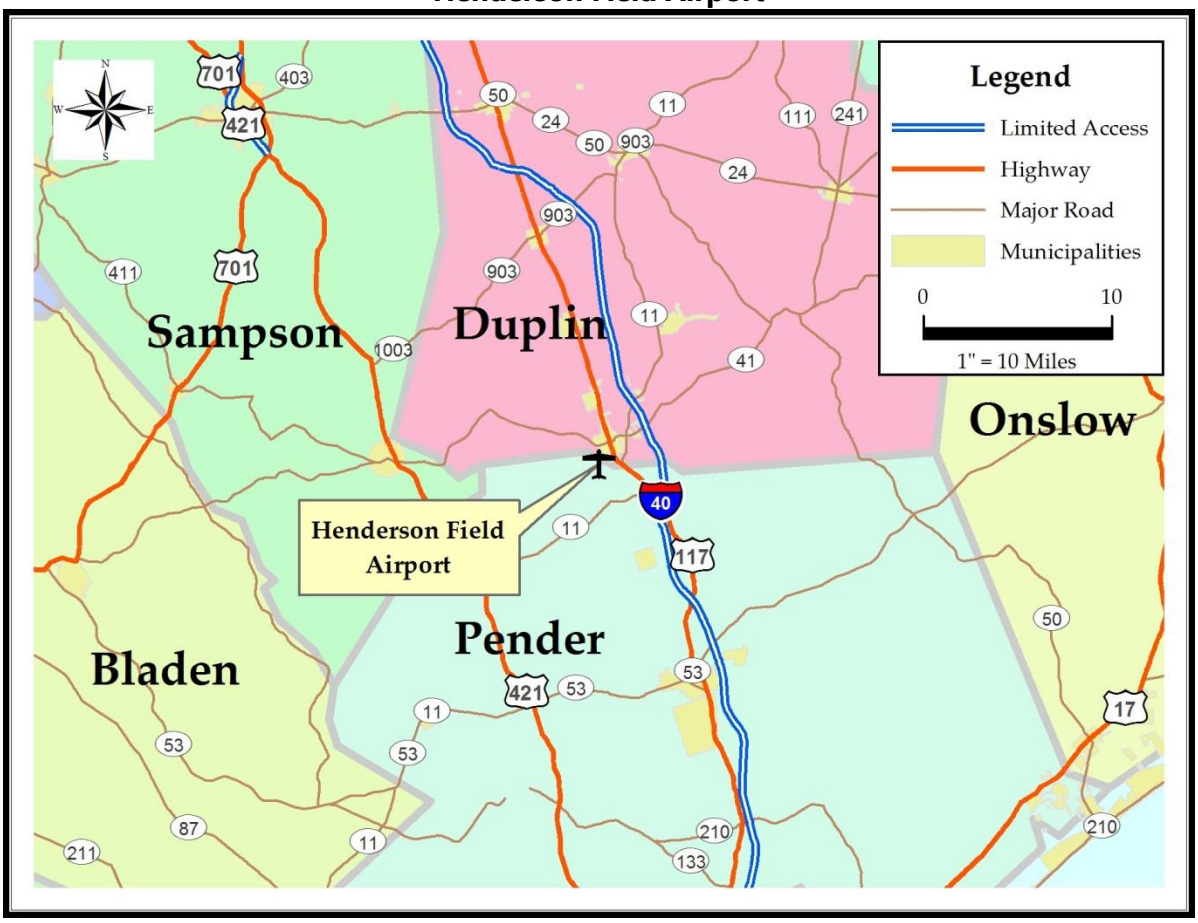
Efficiency

- ✈ Plan flexible, logical expansion as the need may arise.
- ✈ Practice efficient and economic use of public funds.
- ✈ Obtain maximum transportation benefits for the level of feasible investment.

Study Area Characteristics

The primary Study Area defined for the purposes of this Airport Layout Plan includes the 822 square miles of Duplin County and the 933 square miles of Pender County with an extended service area of the southeastern portion of North Carolina. The Town of Wallace is

Exhibit A-1
Vicinity Map
Henderson Field Airport



Source: WK Dickson & Co., Inc., 2015

located just north of the City of Wilmington and west of the City of Jacksonville. The established airport elevation is 38 feet. The Airport is approximately 33 miles west of the nearest major city of Jacksonville, NC. The Study Area is bounded by Wayne County to the north, Lenoir County to the northeast, Jones and Onslow counties to the east, New Hanover and Brunswick counties to the south, Columbus County to the southwest, and Bladen and Sampson counties to the west. The geographic vicinity of ACZ is depicted in **Exhibit A-1**.

Interstate 40 and US-117 run through the Study Area, providing connection to the nationwide road network. The total service area lies in southeastern North Carolina. The Airport is located just south of the city limits of Wallace along US-117, and is approximately 3 statute miles west of Interstate 40, a significant east-west corridor along the southeastern United States.

The nearest commercial airline service to Wallace is provided through the Albert J. Ellis Airport (OAJ), which is approximately 24 miles east in Richlands, NC. There are also several regional general aviation airports located within about 30 miles of the Henderson Field Airport, all of which have a different role in serving their respective markets and the region as a whole.

Existing Land Use

Analysis of land use patterns in the immediate vicinity of an airport is of particular importance. Careful consideration of land use controls and conflicts is required when evaluating airport development alternatives. The land uses surrounding the Henderson Field Airport consist primarily of rural residential and undeveloped to the east, south, and west. Meanwhile, commercial/industrial development and residential is located to the north.

Community Facilities

Identification of community facilities such as schools, churches, parks and hospitals is important because of their potential sensitivity to the noise generated by aircraft. There are a number of schools, churches and other potentially noise sensitive facilities located within the Study Area. However, no facilities as such are located in the vicinity of the Airport. Facilities that may be located within the noise footprint of the airport (which will be identified in subsequent sections of this Plan) will be identified and mitigation methods described if there are substantial adverse impacts present.

The Town of Wallace contains a public school system from elementary through high school. There is a community college in Duplin County and numerous colleges and universities in Pender County.

Municipalities located within the Study Area include:

Duplin County

- Beulaville
- Calypso
- Faison
- Greenevers
- Kenansville (County Seat)
- Magnolia
- Rose Hill
- Teachey
- Warsaw
- Wallace

Pender County

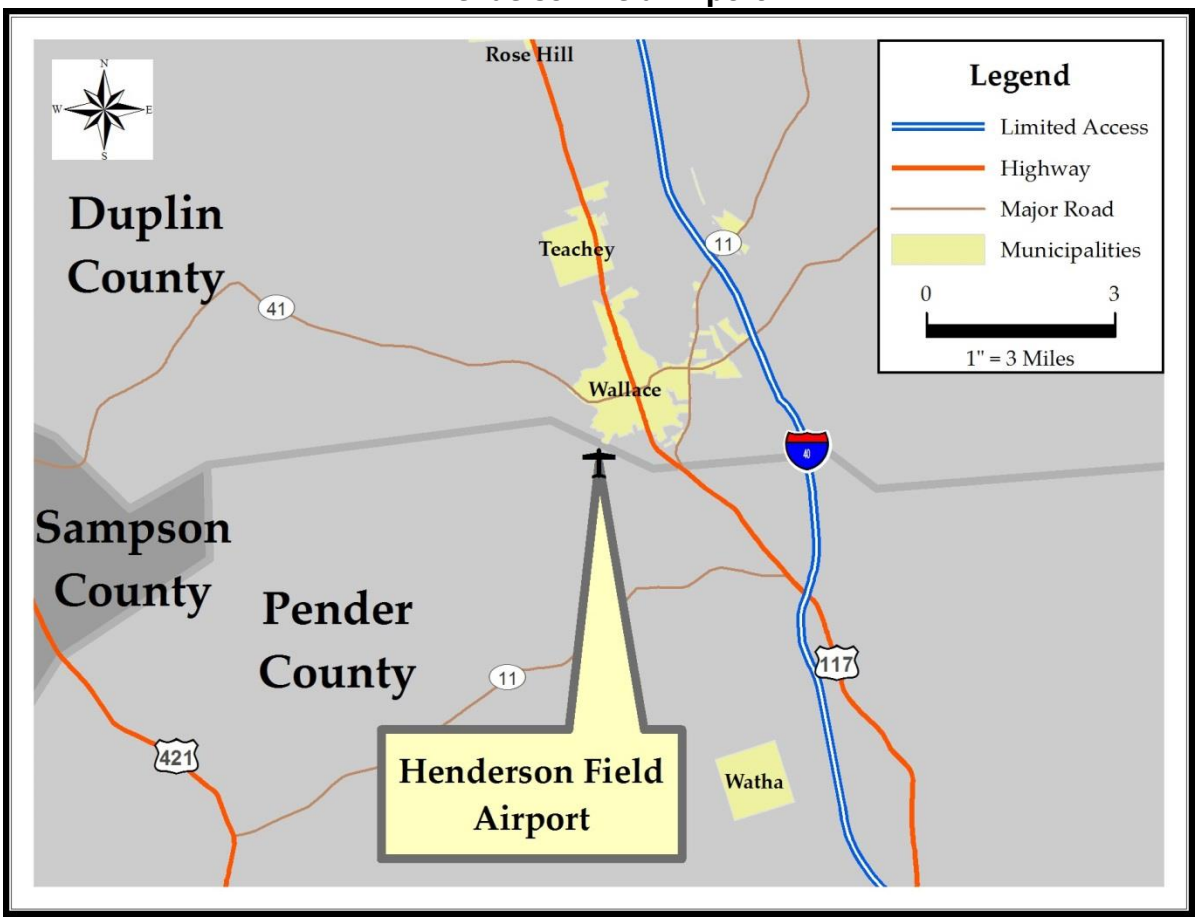
- Atkinson
- Burgaw (County Seat)
- St. Helena
- Surf City
- Topsail Beach
- Watha

More than 200 religious facilities are located throughout the Study Area, representing a full range of denominations. Various community parks, recreation facilities, and attractions are located around the ACZ Study Area, making it a great community in which to live. A few nearby attractions include the Wallace Depot, Stockyard Flea Market, and Thomas C. Townsend Firemen's Museum.

Transportation Network

US-117 runs through the Town of Wallace, taking travelers 110 miles from Finch Mill, NC at its northern terminus to Castle Hayne, NC at its southern terminus. **Exhibits A-1** and **A-2** show the geographic location of the Henderson Field Airport and adjacent transportation links.

Exhibit A-2
Location Map
Henderson Field Airport



Source: WK Dickson & Co., Inc., 2015

Natural Environment

The natural environment of an airport's service area is an important factor in planning the development and future role of that airport. Several environmental factors have the potential for direct and indirect physical effects on the Henderson Field Airport. These include:

- Climate
- Topography

Climate

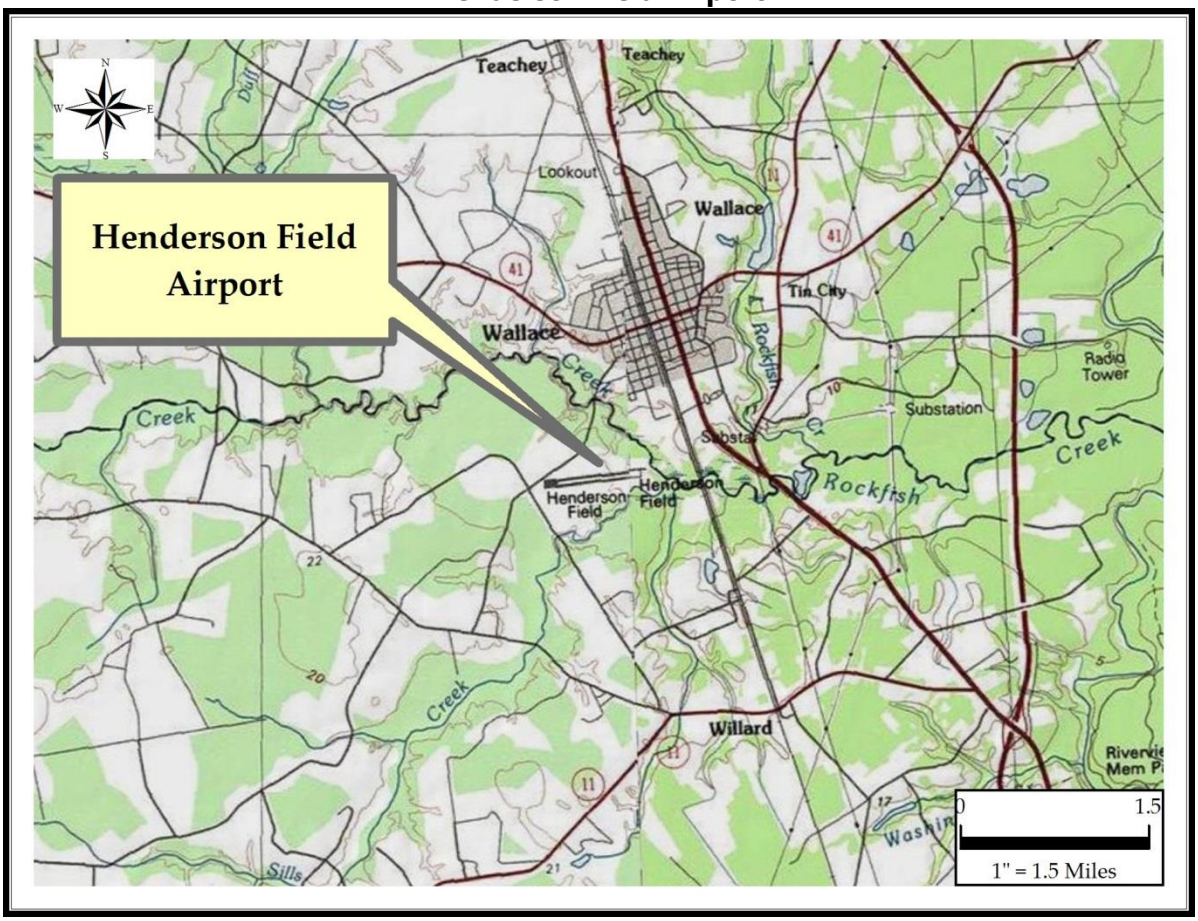
The climate in the ACZ Study area and the southeastern portion of North Carolina is typical for its southerly coastal latitude. The temperate climate is characterized by hot days and comfortable nights in summer, bright and colorful days in fall, and moderate winters. There is minimal frozen precipitation that falls during the winter with accumulations rarely enough to result in business closures and travel delays. Otherwise, rainfall is well distributed throughout the rest of the year. Records from the nearby station at the Wilmington International Airport indicate that the prevailing winds are generally from the southwest.

Wallace enjoys an extended period of comfortable weather – warm days and comfortable nights, from early April until late October. January temperatures average about 43°F with average lows around 31°F and snowfall accumulation totaling about 2 inches annually. Summer days are typically very warm with some hot spells. The average daily July temperature is 80ºF with highs averaging 90ºF. Overall, the mean annual temperature is 64ºF with an annual average precipitation reaching just over 54 inches throughout the year. Approximately 60% of the days are typically sunny.

Topography

The Henderson Field Airport's surrounding topography is located in the inner coastal plains area, consisting of low and flat land with elevations hovering around 50 feet. Higher elevations are present on the western portion of the Study Area closer to the Piedmont. The Airport's runway is built on a slope with the high point elevation at Runway End 9 of 37.8 feet and the low point on Runway End 27 of 29.5 feet. Topography around the runway falls away slightly, providing drainage in all directions. The entire airfield runoff drains ultimately to Rockfish Creek, which is located along the eastern edge of the Airport Property. The terrain surrounding ACZ is illustrated on **Exhibit A-3**.

Exhibit A-3
Topography Map
Henderson Field Airport



Source: USGS 7 ½ Minute Topographic Map, WK Dickson & Co., Inc., 2015

An inventory of airport facilities is imperative in planning airport needs in the short and long term. A physical inventory of the facilities provides information needed for operational capacity determination, facility replacement timing, service levels, transient and based aircraft service needs, and runway and airspace needs into the future. The data collection effort for this Airport Layout Plan (ALP) utilized a variety of sources including interviews with Airport Management, on-site investigations, and coordination with governmental agencies and other organizations.

Socioeconomic Trends and Projections

Past experience has shown that there is a significant relationship between an area's population and its aviation activity. Analysis of the combined populations of Duplin and Pender counties is therefore an important factor in developing the ALP. **Table B-1** presents the population growth data that is used in development of the aviation demand forecasts which are presented in Chapter C of this Report. These population projections are based on a historic data string with consideration given to demographic factors such as birth/death ratios, emigration factors, etc., and represent a reasonable forecast for the future.

Table B-1
Historical/Projected Population Levels
Duplin and Pender Counties

YEAR	POPULATION
1980[1]	63,214
1985[1]	64,931
1990[1]	68,850
1995[1]	79,987
2000[1]	90,145
2005[1]	98,930
2010[1]	110,722
2015[2]	117,684
2020[2]	125,442
2025[2]	132,743
2030[2]	140,044
2035[2]	147,344

Source: [1] US Census Bureau, 2015.
[2] North Carolina County/State Population Projections, 2015.

Aviation Inventory

Airports in the Region - There are five public use airports within an approximate 30-nautical mile radius of the Henderson Field Airport (ACZ) that offer services for the needs of general aviation users. An inventory summary of ACZ and surrounding airports is presented in **Table B-2**.

Table B-2
Public Use Airports
In a 30-Nautical Mile Radius of
Henderson Field Airport

AIRPORT ELEMENT	HENDERSON FIELD AIRPORT (ACZ)	DUPLIN COUNTY AIRPORT (DPL)	ALBERT J ELLIS AIRPORT (OAJ)	CLINTON-SAMPSON COUNTY AIRPORT (CTZ)
Ownership	Public	Public	Public	Public
Elevation (ft.)	38	137	93	144
Runway Designation & Length	9-27 4,153'x75'	5-23 6,002'x75'	5-23 7,100'x150'	6-24 5,002'x74'
Runway Surface	Asphalt	Asphalt	Asphalt/Grooved	Asphalt
Approach Aids	PAPI	REIL, PAPI	MALSR, REIL, PAPI	REIL, PAPI
Lighting Type	MIRL	MIRL	HIRL	MIRL
Location Relative to ACZ	-	17 nm N	20 nm E	24 nm NW
Remarks	Displaced Threshold RWYs 9 and 27	-	Passenger Service Airport	-

AIRPORT ELEMENT	WILMINGTON INTERNATIONAL AIRPORT(ILM)	CURTIS L BROWN JR FIELD AIRPORT (EYF)
Ownership	Public	Public
Elevation (ft.)	32	132
Runway Designation & Length	6-24 8,016'x150' 17-35 7,754'X150'	15-33 5,006'x75'
Runway Surface	Asphalt/Grooved	Asphalt
Approach Aids	MALSR, REIL, PAPI	REIL, PAPI
Lighting Type	HIRL	MIRL
Location Relative to ACZ	27 nm S	29 nm W
Remarks	Passenger Service Airport, Displaced Threshold RWYs 17 and 35	-

Airside Facilities - Airside facilities include runway, taxiway, airfield lighting, airfield marking and navigational aids.

Runway: The Henderson Field Airport has a single runway. The Runway is designated 9/27 and is 4,153 feet long, 75 feet wide, and is constructed of asphalt. The Runway Design Code (RDC) is currently designated as B-II-5000. The Runway 9 threshold is displaced 149 feet because of an obstructing pole and the Runway 27 threshold is displaced 151 feet because of obstructing trees (per FAA Form 5010, dated 10/15/2015). This makes the usable runway length 3,853 feet. The calculated weight bearing capacity of this runway was recently determined to be 12,500 pounds on single wheel gear. In the last NC Division of Aviation safety inspection of July 2015, the condition of the runway was evaluated as "excellent." Standard Medium Intensity Runway Lighting (MIRL) and non-precision

pavement markings are present and both are in good condition.

Declared Distances: Declared distances represent the maximum distances available and suitable for meeting takeoff, rejected takeoff, and landing distances performance requirements for turbine powered aircraft. The declared distances are Takeoff Run Available (TORA) and Takeoff Distance Available (TODA), which apply to takeoff; Accelerate Stop Distance Available (ASDA), which applies to a rejected takeoff; and Landing Distance Available (LDA), which applies to landing. Declared distances is a design methodology that results in declaring and reporting the TORA, TODA ASDA and LDA for each operational direction. The declared distances for the Henderson Field Airport are as follows:

- Runway 9
  - TORA – 4,153'
  - TODA – 4,153'
  - ASDA – 4,002'
  - LDA – 3,854'
- Runway 27
  - TORA – 4,153'
  - TODA – 4,153'
  - ASDA – 4,153'
  - LDA – 4,002'

Taxiway: ACZ's Runway 9/27 is served by a stub taxiway connecting to the terminal area. The taxiway is equipped with medium intensity taxiway lights (MITLs) and Taxiway Design Group (TDG) designated as 2. The NCASP to be released sometime within the next year will determine the pavement strength and conditions of the taxiway system.

Airfield Lighting: Airport lighting serves several functions, the most significant of which is providing the facilities necessary for a pilot to locate, land, taxi, and depart safely at night and in poor visibility conditions. The lighting facilities available at ACZ to assist pilots include:

- **Rotating Beacon** – A rotating beacon is the universal indicator for pilots to locate an airport at night or in periods of low visibility. The beacon for a civilian land airport consists of opposing white and green lenses set 180 degrees apart from each other. The beacon rotates 360 degrees emitting alternating white and green light that is visible about 10 miles from the airport. The Henderson Field Airport has a 36-inch rotating beacon located just to the north of the terminal parking lot.
- **Runway Lights** – At ACZ, the runway lighting system, designated as "Medium Intensity Runway Lights" (MIRLs), consists of runway edge and threshold lights. Runway edge lights, located just off the edge of both sides of the runway, are omni-directional through 360 degrees and serve to provide the pilot visual reference for speed, alignment, lateral displacement, and distance while taking

off or landing. The lights emit white (clear) light the entire length of the runway. At ACZ, the lights are currently set to constantly emit at low intensity from dusk to sunrise, then can be activated by the pilot on the Common Traffic Advisory Frequency (CTAF) at anytime.

- **Threshold Lights** – At the Henderson Field Airport, these lights consist of a series of eight fixtures (on each runway end) in two groups of four, placed on either side of the extended runway centerline in a straight line parallel to the runway end. The lights have two color lenses (red/green). They are placed such that the pilot of an approaching aircraft would see green, indicating the beginning of the usable landing area. The pilot of a departing aircraft would see red indicating the end of the usable runway. The light intensity is pilot controlled on the CTAF frequency.
- **Taxiway Lights** – The taxiway lighting system, designated as "Medium Intensity Taxiway Lights" (MITLs), consist of lights located just off the edge of both sides of the stub taxiway. The lights are omni-directional through 360 degrees, emit blue light and serve to provide the pilot visual reference and alignment while ground maneuvering. The lights are operated and pilot controlled in the same manner as the runway and threshold lights on the CTAF frequency.

Airfield Pavement Marking: Marking of the runway pavement provides two essential pieces of visual information to the pilot; the magnetic heading of the Runway, 90 degrees and 270 degrees (9/27), and whether or not there is an instrument approach (a series of bars between the runway numbers and the threshold). The runway markings at the Henderson Field Airport are non-precision markings for Runways 9 and 27, consisting of threshold markings, aiming point markings, and centerline stripes.

NAVAIDS: The Satellite Based Navigational Aids or Ground Based Navigational Aids that are located on or near the Henderson Field Airport may be functionally classified as Enroute Navigational Aids; those located on the airport may be classified as Terminal Area Navigational Aids and Landing Aids. Listed below are the existing NAVAIDS at or near ACZ:

Enroute Navigational Aids

- **VOR** - Very High Frequency Omnidirectional Range navigational equipment is utilized by a pilot to determine an aircraft's position and stay on course by receiving radio signals from the unit. There is not a VOR procedure published for ACZ.

Terminal and Landing Navigational Aids

- **RNAV (GPS)** - Global Positioning System with horizontal guidance approaches are published for aircraft with receiving equipment. These enable the pilot and aircraft to utilize signals from satellites to navigate an approach to each runway end. ACZ has vertically guided RNAV (GPS) LPV approaches for Runways 9 and 27 published.
- **PAPI** - A Precision Approach Path Indicator is an airport lighting system that consists of two (PAPI-2) or four (PAPI-4) light units installed on the left side of the runway (viewed from the approach end) in a line perpendicular to the runway centerline. It provides vertical visual descent guidance to aircraft during approach and landing, by radiating a directional pattern of high intensity red and white focused light beams which indicate to the pilot that he is "on path" if he sees red/white, "above path" if he sees white/white, and "below path" if he sees red/red. A PAPI-2 system currently exists at ACZ serving both the Runway 9 and 27 ends.

Weather Reporting: An Automated Weather Observation System (AWOS) is a computer based data acquisition system designed to retrieve airport information, such as weather data and NOTAMs, and distribute it to both airborne and ground users. The entire process is automatic and continuously available, 24 hours per day. Henderson Field Airport utilizes an AWOS located 17 nautical miles north at the Duplin County Airport, but should add its own AWOS-III system on the airfield as soon as practical.

Aircraft Storage

Areas used for aircraft storage fall into two general categories: enclosed space and exposed space. The enclosed space consists of space required for aircraft that are in hangars and the exposed space consists of either space where aircraft are tied down on the apron or where aircraft are in shadeports (carport style coverings with no sides). The tie-down space available at the Henderson Field Airport consists of approximately 11,500 square yards of apron space. This apron envelope translates to the capability of accommodating 14 tie-down positions.

Hangars presently occupy approximately 44,511 square feet of space. This consists of (4) box hangars, (1) maintenance hangar (used for part time storage), (2) span hangars, and (1) 12-unit shadeport building, all ranging from fair to poor condition. All of the existing hangars are scheduled for removal during the planning period and none of them are in good enough condition to warrant relocation to the future terminal area. The timing of the removal of existing hangars and the timing and funding for future hangars and airfield

development that conflicts with existing hangar locations (e.g. parallel taxiway) must be coordinated carefully by the airport to minimize the impact to airport operations during this transition. **Table B-3** provides an inventory of hangars located on Airport property.

Table B-3
Existing Building Summary for
Henderson Field Airport

BUILDING TYPE	OWNERSHIP/OCCUPANT	USE	SIZE	ON AIRPORT PROPERTY? (Y/N)
Terminal	Town of Wallace	Terminal	2,600 SF	Y
Box Hangar	Town of Wallace	Aircraft Storage	2,705 SF	Y
Box Hangar	Town of Wallace	Aircraft Storage	1,335 SF	Y
Box Hangar	Town of Wallace	Aircraft Storage	1,250 SF	Y
Maintenance Hangar	Town of Wallace	Maintenance/Aircraft Storage	3,745 SF	Y
12 Unit Shadeport Building	Town of Wallace	Aircraft Storage	20,265 SF	Y
Span Hangar	Bryant, Joseph D	Aircraft Storage	6,213 SF	N*
Box Hangar	DM Farms of Rose Hill LLC	Aircraft Storage	4,813 SF	N*
Span Hangar	Rich, Wayne M	Storage	4,185 SF	N*

**These hangars are owned by private operators and access the airport through existing Through-the-Fence access agreements.*

Terminal Building and Terminal Access

There is a Terminal Building providing a base of terminal functions at the Henderson Field Airport. Opened in 2001, the designated general aviation terminal is housed within a 2,600 sq. ft. building, which provides:

- Airport management
- Aviation fuel
- Aircraft parking (ramp or tiedown)
- Passenger terminal and lounge
- Restrooms
- Aircraft maintenance
- Rental cars
- Courtesy transportation
- Public telephone
- Kitchen facilities
- Conference Room
- Flight planning room
- Computerized weather
- Internet access

The terminal area services described here are provided by the publically operated Fixed Base Operator (FBO) out of the Airport's Terminal Building.

The terminal area of ACZ is located on Skydive Lane, an access road connecting the Airport to Wallace Airport Road, which connects to NC-41 that feeds into US-117 in both directions. This connection gives access to the Town of Wallace and the aforementioned national highway network. Presently, there are no marked auto parking spaces adjacent to the Terminal Building in the parking area. However, the parking area can accommodate approximately 20 automobiles.

Fuel Storage

Fuel available at the Airport Fuel Farm includes the following types and storage amounts:

- 100LL - One 10,000 gallon above ground tank at the fuel farm
- Jet A - One 10,000 gallon above ground tank at the fuel farm

There are no mobile fuel trucks on the airfield at this time and the pumps are self-serve or FBO operated. It is assumed that as the need arises, fuel storage facilities will be adjusted to meet the demand. However, there is sufficient storage for the current operational

characteristics of the airport.

Obstructions/Approaches

The most recent FAA form 5010 was obtained from the FAA on October 15, 2015. Based on a safety inspection from the NC Division of Aviation from May 24, 2015, the current controlling runway obstructions to the FAR Part 77 Surfaces were found listed therein. Refer to **Table B-4** Runway Approaches for a listing of the approaches.

Table B-4
Runway Approaches
Henderson Field Airport

Runway	Existing Approach Slope	Required Approach Slope	Obstructions
9	17:1	34:1	Pole
27	17:1	34:1	Trees

Source: FAA form 5010, dated 10.15.2015, based on 7.3.2015 State Inspection and supplied by FAA.

The Airport Master Record Form 5010 shows controlling obstructions on both runway ends. They are a pole located 784 feet from Runway End 9 and trees located 2,178 feet from Runway End 27. There is a project planned to address the mitigation of the aforementioned obstructions. The plan for airport development outlined in later chapters addresses obstruction issues to existing and planned approaches via fee simple acquisition and avigation easement acquisition and ultimate obstruction removal projects.

County Height Limitations Ordinance

Wallace currently has a height limitations ordinance in place as part of Chapter 4, Section 8 *Airport Zoning Code*, within the Unified Development Ordinance to protect the airspace surrounding the Airport. The Unified Development Ordinance enables law enforcement by the Town to issue penalties accordingly if any section of this Ordinance is violated. Land use restrictions are provided within Subsection C *Height Limitations* to suggest compatible land uses under the airspace surrounding the Airport.

Aircraft Activity

Aircraft operations and flight activity at the Henderson Field Airport consists of general aviation and military operations. For purposes of this report, general aviation is considered to encompass charter and nonscheduled air taxi service in addition to operations by

corporate and general aviation aircraft.

- **Based Aircraft** - The Henderson Field Airport has seen the level of based aircraft increase in the past 15 years with some fluctuations since 2000. At present, there are 27 based aircraft consisting of single engine pistons and one helicopter. **Table B-5** presents the historical levels of based aircraft by category.

Table B-5
Historical Based Aircraft
Henderson Field Airport

YEAR	SINGLE ENGINE	MULTI ENGINE	JET	ROTOR	OTHER	TOTAL
2000	20	0	0	0	0	20
2001	20	0	0	0	0	20
2002	20	0	0	0	0	20
2003	20	0	0	0	0	20
2004	20	0	0	0	0	20
2005	20	0	0	0	0	20
2006	20	0	0	0	0	20
2007	20	0	0	0	0	20
2008	19	0	0	0	0	19
2009	18	0	0	0	0	18
2010	21	0	0	0	0	21
2011	23	0	0	0	0	23
2012	21	0	0	0	0	21
2013	23	0	0	0	0	23
2014	25	0	0	0	0	25
2015	26	0	0	1	0	27

Source: WK Dickson Inventory Survey, July 2015
FAA APO-Terminal Area Forecast, January 2015

- **Operations** - An operation constitutes either a takeoff or a landing. A takeoff and a landing are two separate operations. While IFR operations data from 2001 to 2014 were collected, the data may not be complete and were used as a frame of reference. Most IFR operations were not accounted for to the Airport (ACZ) in that often, IFR flight plans are cancelled in the air when the pilot has the airport in sight. In this case, an IFR operation is no longer recorded and counted for that airport. Furthermore, if a pilot begins their IFR flight plan after departing the airport en route, it does not count as an operation departing that airport. FAA Form 5010 and The FAA's APO-Terminal Area Forecast were reviewed for historical operations

numbers. In the case of the Henderson Field Airport, these numbers were flat estimates since 2009 with no variation or consideration for socioeconomic influences on based aircraft and activity. The 2015 TAF estimate of 15,900 annual operations and local versus itinerant split were used as a base year calculation for operations forecasts. These projections were reviewed with Bill Cook, the Airport Administrator, for verification. He agreed that the projections were reasonable given no other data was available.

Forecasts of aviation demand are an essential element in airport planning. Reflecting the desires and needs of the service area's population and economy, demand forecasts provide a basis for determining the type, size, and timing of aviation facility development. Consequently, these forecasts influence virtually all phases of the planning process.

Demand forecasts provide the basis for:

- Estimating the capacity of the airfield system
- Determining the role of the airport and the facilities required
- Estimating potential environmental impacts
- Evaluating the financial feasibility of the development program

Methodology

There are two basic processes used in providing aviation demand forecasts, analytical and judgmental.

- The analytical process examines past trends of aviation demand. It then uses these past trends to formulate projections using various techniques and assumptions.

- The judgmental process requires experienced professional analysis. The various growth projections for each demand element are examined along with the demographics of the area. This information is used to formulate a subjective determination of the impact that the variables may have on the demand.

Forecasts of aviation demand are made using various methods including regression analysis, time-series extrapolations, market share analysis, and published FAA forecasts. The forecasts are presented in short – Stage I (0-5 years), intermediate – Stage II (6-10 years), and long – Stage III (11-20 years) term periods. For this report, 2015 was used as the base year.

The sources of data used for this Chapter include:

- Airport Historical Data
- 2015 North Carolina Airports System Plan (NCASP) Forecasts
- FAA Terminal Area Forecasts (TAF)
- FAA Aerospace Forecasts
- Airport Study Area Population

The goal is to provide forecasts for this facility considering the formulated trends, reflections of the current activity at the facility, and any environmental and industry changes.

The Henderson Field Airport (ACZ) is a general aviation airport. General aviation operations account for 91 percent of the operations at the facility. The remaining operations consist of military and air taxi operations. Due to general aviation operations being the majority, the forecasts presented here were based on an assumption that all operations are general aviation.

Several aspects of general aviation have an impact on the projected demand levels, including:

- Based Aircraft (total number and type of aircraft)
- General Aviation operations
- Airport services available
- Available approaches and minima

National Aviation Overview

Published annually by the Federal Aviation Administration (FAA), the FAA Aerospace Forecasts for Fiscal Years 2015-2035 (FAA, 2015) are an important guide for projecting aviation operations and based aircraft. The Aerospace forecasts present national trends in aviation demand over the forecast period based on economic conditions, historical trends, and international economic and aviation projections.

The Aerospace Forecasts indicate that in spite of slower growth the past few years, aviation in general is on the recovery trend with the GA hours flown and the GA fleet expected to increase over the forecast period (2015-2035). However, most of the increase will occur in the business use segment with slight to moderate growth in the personal/sport use segment. The active general aviation fleet is projected to increase annually at a rate of 0.4% over the forecast period. The increase is expected to be driven by the turbine-powered (i.e., jet, turboprop, and helicopter) fleet with an annual growth rate of 2.4% over the same period. Further analysis indicates that jet (non-turboprop) aircraft are expected to increase annually at 2.8%. Increases in the jet fleet are primarily due to the continued recovery in utilization rates from recession induced record lows of general aviation corporate/business air travel demand.

An average annual rate decrease of 0.5 percent is forecasted through 2035 with regard to the fixed piston-powered fleet. The slow decline rate is due, in part, to the slow decline of multi-engine aircraft and slow decline of single engine aircraft with large growth in the new

"light sport" aircraft market of 4.3 percent growth annually.

Overall, the number of active pilots is expected to increase at approximately 0.1% per year over the TAF's 20-year study period. The number of student pilots is expected to decline at a moderate rate of 0.3% between 2015 and 2035 with a steady increase in sport pilots.

The number of general aviation flight hours is expected to increase an average of 1.4% per year over the forecast period. This increase will be fueled by an expected larger than average growth after the year 2023. Also supporting this increase is expected strong growth in the rotorcraft and turbine jet fleets and declining fuel prices that are expected to slow down the decline in piston flight hours.

The National Aerospace Forecasts are considered when developing demand forecasts for the Henderson Field Airport (ACZ). As a GA facility, the airport could experience growth and contraction similar to those projected on the national scale. Professional judgment must be applied to any resulting forecast at ACZ.

Based Aircraft

The level of based aircraft at the Henderson Field Airport has grown in the past 20 years with some fluctuations since 2007, with 20 based aircraft at that time to the present roster of 27 (Sponsor records as inventoried in July 2015). It is reasonable to expect the number of based aircraft to increase over the planning period when considering the population growth of the Southeast region of the country, the potential of the study area as well as the potential facility service improvements that attract based aircraft. The population of the study area has increased by roughly 31% since 2000. The ensuing discussions consider these and other factors in the formulation of a based aircraft and operations forecast.

Several methods were used to develop projections of based aircraft at ACZ, including:

- Market Share -- analysis with respect to:
  - National General Aviation Fleet
  - Share of North Carolina GA fleet
  - Share of FAA Southern Region fleet
- Simple Linear Regression with Respect to Time
- Multiple Linear Regression with Respect to Time and Population
- FAA Terminal Area Forecasts
- 2015 North Carolina Airports System Plan (NCASP) Forecasts

All of these methods are important for forecasting future based aircraft at ACZ. These methods will ultimately yield a planning average for the airport. A brief discussion of each

methodology is provided.

Market Share Analysis

National Market Share

The forecasts through the 2035 planning horizon year were extrapolated from the 2015-2035 Terminal Area Forecasts developed by the FAA. These forecasts were compared to the existing market share of the Henderson Field Airport. The airport's market share averaged 0.01% of the total US-based general aviation fleet over the past 20 years, however since 2008, the based aircraft count has grown well above this long-term average. Consequently, an adjusted percentage of the US market share was utilized to accommodate this recent trend at Henderson Field Airport through the forecast period. A total of **47 based aircraft** is expected by 2035 at ACZ. The annual growth rate in based aircraft is 2.80%. This appears reasonable given the history of the facility and future development potential.

North Carolina Market Share

Often, Terminal Area Forecasts (TAF) do not reflect accurately enough the operational conditions at an airport. This is often the case at GA airports where limited or no records of aircraft arrivals and departures are kept. In such instances, the TAF is updated annually based on airport reported information or airport inspection data (Form 5010). An alternate method of forecasting based aircraft and operations is to determine a share of the statewide market based on historical growth rates for a state.

Review of the FAA Terminal Area Forecast for the North Carolina Market Share indicates an increase in based aircraft at a calculated average of 1.35% from 2000 to 2015. ACZ captured an average of 0.61% of the based aircraft in the state between 2000 and 2015. However, since 2008, the based aircraft count has grown well above this long-term average. Consequently, an adjusted percentage of the North Carolina market share utilizing this recent trend was projected through the 20-year planning horizon. This resulted in **52 based aircraft** in 2035. The annual growth rate in based aircraft is 3.29%. This appears to be a reasonable estimation given the recent pattern of growth at Henderson Field Airport.

Southern Region Market Share

Review and analysis of the FAA Terminal Area Forecast for the FAA's Southern Region indicates an increase in based aircraft at a calculated average of 0.86% annually from 2015 through the year 2035. The annual average rate of increase results in a projected 37,579 based aircraft in the region by 2035. Henderson Field Airport's average historical market share of the region's based aircraft has been approximately 0.06% (2000-2015). It should be noted that since 2008 the based aircraft count has grown well above this long-term average. Consequently, an adjusted percentage of the regional market share was utilized to accommodate this recent trend at Henderson Field Airport through the forecast period. A forecast of **49 based aircraft** at ACZ in 2035, representing a 3.03% annual growth rate,

provides a reasonable projection that will be used in the planning average.

Simple Linear Regression

Historical levels of based aircraft versus time series is one of the simplest and most widely accepted methods of forecasting aviation demand. This process assumes a linear relationship between variables. Regression analysis then analyzes this linear relationship and produces projections based on it. Applying this relationship to the historical data from 2007-2015 taken from the FAA's Terminal Area Forecast results in a projected level of **46 based aircraft** by 2035, reflecting a 2.70% annual growth rate (coefficients used: m=0.999 / b=-1989). Due to no variation in the data, based aircraft levels prior to 2007 were not used in the simple linear regression analysis.

Multiple Linear Regression

Multiple Linear Regression is used when forecasting with multiple factors. In the case of the Henderson Field Airport, multiple linear regression was used to analyze any relationship between based aircraft, time, and the Wallace study area population. It is thought that population correlates to a number of pilots and ultimately a number of potential based aircraft. Historical and future populations of the study area through 2035 were obtained from the NC Office of State Budget and Management and the Texas A&M Real Estate Research Center (TAMU). The based aircraft forecast formulated using multiple linear regression resulted in a potential **47 based aircraft** in 2035. The annual growth rate is 2.86% (coefficients used: m1=2.594 / m2=-0.001 / b=-5078.868). Due to no variation in the data, based aircraft levels prior to 2007 were not used in the multiple linear regression analysis.

North Carolina Division of Aviation 2015 Airports System Plan Forecasts

Projections for the Henderson Field Airport delineated in the North Carolina Division of Aviation forecasts from the 2015 NCASP were examined. The NCASP forecast projects based aircraft for ACZ in 5-year or 10-year increments through 2031. Calculating the NCASP forecasts growth rate and applying this rate to the current number of 27 based aircraft yields an estimated **31 based aircraft** in 2035 at ACZ. Given the history of the facility and the general aviation aircraft market potential in the study area, it appears reasonable to expect this level of activity growth could be reached at the Henderson Field Airport.

Terminal Area Forecasts

The Federal Aviation Administration's Terminal Area Forecast 2015 scenario was used to compare various methodologies used to forecast based aircraft at the Henderson Field Airport. The FAA forecasted the level of based aircraft for ACZ to be 21 in 2035. The TAF does not project any apparent increases or decreases for 2015 and beyond at ACZ.

While the TAF reported 21 based aircraft, the July 2015 inventory and airport management reported 27 based aircraft, which was used as the base year number. The TAF numbers do not take into consideration socioeconomic influences such as population growth, facility service improvements, and business climate on based aircraft levels. In professional planning judgement and experience, the TAF data provided for non-towered general aviation airports does not take into consideration forecasted trends of based aircraft revealed in the national, regional, and state TAF data. Industry standards are to utilize the average of multiple planning forecasting methods within the ALP forecasts and utilize the TAF future year data only as a reference.

Planning Average

The planning average is simply an average of the most reliable forecasting methods used. Methods used to determine the planning average have been presented here and include:

- Market Share (National, North Carolina, and Southern Region)
- Simple Linear Regression
- Multiple Linear Regression
- 2015 North Carolina Airports System Plan (NCASP) Forecast Data

Use of the planning average allows the forecast to account for differences in each forecasting method. **Table C-1** illustrates the based aircraft forecasts for each 5-year interval of the 20-year planning horizon providing a planning methodology average of **45 based aircraft** by 2035.

Table C-1
Forecasted Based Aircraft

Year	Simple Linear Regession	Multiple Linear Regression	National Market Share	State Market Share	Regional Market Share	NCDOA Forecast (2013)[1]	TAF[2]	Planning Average[3]	%Deviation from TAF
2015	27	27	27	27	27	27	24	27	12.5%
2020	31	31	31	32	31	28	24	31	28.0%
2025	36	37	36	37	36	29	24	35	46.5%
2030	41	42	41	44	42	30	24	40	66.7%
2035	46	47	47	52	49	31	24	45	88.9%
AAGR	2.70%	2.86%	2.80%	3.29%	3.03%	0.70%	-	2.63%	

[1] Forecast Trend Applied to Base Year
[2] For Comparison Purposes Only
[3] Year 2015 from field visit interview

Based Aircraft by Type

The Federal Aviation Administration's Aerospace Forecast for Fiscal Years 2015-2035 and the historical fleet mix at ACZ were utilized to project the planning period mix of aircraft fleet based at the airport. The projected national general aviation fleet mix through 2035 was factored with the historical mix. Aircraft types projected as a percentage of the total fleet applied:

- Single Engine - 80%
- Multi-Engine Propeller (piston and turbine) - 10%
- Jet - 5%
- Rotorcraft - 3%
- Other (gliders, ultralight/ lighter-than-air, etc.) - 2%

In the case of the Henderson Field Airport, a projection of historical trends, considering the trend of the national fleet mix, normally provides the best indication of future aircraft types at ACZ, however, it is expected that the jet mix will grow at a higher rate over the planning period and catch the national fleet mix ratio expected at a GA facility like Henderson Field Airport. It is likely that single-engine based aircraft would continue to maintain the predominant share of the airport's market and that multi-engine and jet aircraft at ACZ would be more in line with the national fleet mix trends. **Table C-2** reflects this scenario in the potential fleet mix.

Table C-2
Projected Fleet Mix

Year	Single Engine	Multi Engine	Jet	Rotor	Other	Total
2015	26	0	0	1	0	27
2020	25	3	2	1	1	31
2025	28	4	2	1	1	35
2030	32	4	2	1	1	40
2035	36	5	2	1	1	45

Operations

Similar to the methodology used in developing the based aircraft forecast, the projections for aircraft operations were prepared. The methods considered include regression techniques, market share, and extrapolations from published forecasts. Operations were projected utilizing existing fleet mix, FAA fleet projections, and professional judgment.

Terminal Area Forecasts

This method uses projections produced from the FAA's Terminal Area Forecast, 2015 (TAF). For ACZ, the TAF estimates 15,900 annual operations in 2015 and this number is held

constant throughout the TAF forecast period. Consequently, the TAF forecasts **15,900 annual** operations at the Henderson Field Airport in 2035. Since this trend is stagnant, with a forecast horizon (2035) level of operations the same as 2015. Utilizing professional judgement and trends of activity at North Carolina and southeastern airports, the TAF data reporting no growth in operations for a 20-year planning period is unlikely. A limitation of this forecast is that it does not consider the current activity and development potential of the facility. The TAF operations levels will therefore be considered for base year (2015) operations estimates but not for future year forecasts.

The TAF numbers do not take into consideration socioeconomic influences such as population growth, facility service improvements, and business climate on operational levels. In professional planning judgement and experience, the TAF data provided for non-towered general aviation airports does not take into consideration forecasted trends of operations revealed in the national, regional, and state TAF data. Industry standards are to utilize the average of multiple planning forecasting methods within the ALP forecasts and utilize the TAF future year data only as a reference.

North Carolina Division of Aviation 2015 Airports System Plan Forecasts

In the year 2015, the NCDOA performed a statewide system plan study that provided forecast operations for the state's airports projected through the year 2031. The forecasts were completed under economic and demographic considerations at the time of the study. The projections for the Henderson Field Airport were reviewed as part of this forecasting effort. Total operations for ACZ through the year 2031 were forecast at a level of 16,600. Calculating the growth rate used by the 2015 NCASP study and applying this trend to the 2015 base operations of 15,900 through the ALP forecast horizon results in an annual operations forecast of approximately **17,955 in 2035**. This level of operations is unreasonably low for a 2035 projection due to the fact that the average annual growth rate (AAGR) is 0.61% while the average of all other methods is approximately 3.58%. Consequently, this forecast method will not be included in the operations planning average.

Market Share Analysis

The Market Share method examines the Henderson Field Airport's historical operations as a share of the historical national total General Aviation (GA) operations, North Carolina (state) total GA operations, and FAA Southern Region's GA operations, as defined in the FAA's Terminal Area Forecast. It then provides planning projections based on these ratios.

National Market Share

Based on the TAF years of 2015-2035, total GA operations for the Nation are projected to increase by an average of approximately 695,000 annually. A linear regression was used to forecast the national annual operations through 2035. Henderson Field Airport's historical operational market share of the nation's annual operations averaged 0.013% from 2000 to

2015. However, recorded operations jumped by nearly 50% between 2005 and 2015, revealing a more accurate market share of operations. Consequently, the long-term average was adjusted using this information and professional judgement and applied to the national operations forecasts for the planning period.

To forecast future operations at ACZ in terms of market share, annual forecasted operations for the Henderson Field Airport for years 2015 to 2035 were extrapolated at the average annual national market share with consideration of recent trends in operations at the facility. The method yielded a forecast level of **30,128 annual operations at ACZ in 2035**.

North Carolina Market Share

Annual operations in the state of North Carolina are projected to increase by an average of approximately 12,900 operations annually. Linear regression was used to forecast the regions annual operations through 2035. Henderson Field Airport's historical operational market share of the state's annual operations averaged 0.51% from 2000 to 2015.

To forecast future operations at ACZ in terms of market share, annual forecasted operations for the airport for years 2015 to 2035 were extrapolated at the average annual state market share of 0.51% and adjusted for the aforementioned operations growth the airport has seen since 2005. The method yielded a forecast level of **33,455 annual operations at ACZ in 2035**.

Southern Region Market Share

Based on the TAF years of 2015-2035, annual operations in the Southern Region are forecasted to increase an average of approximately 149,000 operations each year. Linear regression was used to forecast the region's annual operations through 2035. Henderson Field Airport's historical operational market share of the FAA Southern Region's annual operations averaged 0.09% from 2000 to 2015.

To forecast future operations at ACZ in terms of market share, annual forecasted operations for the airport for years 2015 to 2035 were extrapolated at the average annual regional market share of 0.06% with growth adjustments to this long-term average for the trend since 2005 in operations at ACZ. The method yielded a forecast level of **31,391 annual operations at ACZ in 2035**.

Operations Per Based Aircraft Method

Forecasting operations as a factor of the number of aircraft based at the airport is one of the most effective methods of projecting levels of general aviation operations. Dividing a historic given year's operations by based aircraft reveals the Operations Per Based Aircraft (OPBA) for that year. Averaging the OPBA from 2007 to 2015 reveals an average of 738 OPBA. Multiplying this value by the forecasted based aircraft of 45 in 2035 reveals a

forecasted **33,443 operations in 2035.**

Planning Average

The planning average is the judgmental element of forecasting that, for the purpose of this Report, is an average of four of the six methods presented for determining forecasted operations. The four methods utilized to calculate the planning average are: the Southern Regional Market Share, State Market Share, National Market Share, and the Operations per Based Aircraft methods. **Table C-3** shows the Planning Average that results from applying professional judgment to the various forecast methods.

Table C-3
Annual Operations Planning Average

Year	National Market Share	State Market Share	Regional Market Share	NCASP Forecast (2013)[1]	FAA TAF[2]	Operations Per Based Aircraft Method	Planning Average[$]
2015	15,900	15,900	15,900	15,900	15,900	15,900	15,900
2020	18,655	19,150	18,847	16,391	15,900	22,659	19,828
2025	21,887	23,064	22,341	16,896	15,900	25,928	23,305
2030	25,679	27,778	26,482	17,418	15,900	29,507	27,361
2035	30,128	33,455	31,391	17,955	15,900	33,443	32,104
AAGR	3.25%	3.79%	3.46%	0.61%	0.00%	3.79%	3.58%

[1] Forecast Trend Applied to Base Year Ops
[2] For Comparison Purposes Only
[3] Operations Estimate Based on 2015 Interview /Inventory. NCASP Forecast Method omitted from average.

The Planning Average method results in a projected **32,104 total annual operations** by the year 2035 and provides the preferred forecast method.

Operations by Type

For planning forecasts to be more meaningful in planning future developments, it is useful to provide a description of future operations by aircraft type. Projecting operations by aircraft type allows more precise estimates of hangar needs, transient apron space, and other facility needs. Further analysis of operations by type can also aid in determining airfield capacity and constraints which, in turn, dictate a need for development and enhancements to mitigate capacity issues.

A based-aircraft ratio was used to determine operation percentage by aircraft type. These percentages are based on the historic mix of aircraft operations with consideration for the planned development of ACZ. The percentages used are shown at the top of each column in **Table C-4**. Although the total number of jet operations at the Henderson Field Airport represents a relatively small amount of the total activity, it is an important number by itself due to the facilities demanded by jet aircraft. At a facility like ACZ, the largest jet regularly operating there typically becomes the critical design aircraft. **Table C-4** describes projected operations at ACZ through the 20-year planning period by aircraft type.

Table C-4
Projected Annual Operations by Type

Year	Single Engine (87%-89%)	Multi Engine (5%-7%)	Jet (2%-3%)	Rotor (3%-4%)	Other (0%)	Total
2015	14,135	835	342	589	0	15,900
2020	17,404	1,110	645	669	0	19,828
2025	20,181	1,600	748	776	0	23,305
2030	23,693	1,879	878	911	0	27,361
2035	27,801	2,204	1,030	1,069	0	32,104

As Table C-4 suggests, single engine aircraft will remain dominant in operational activity at the airport with multi-engine and turbine jet aircraft increasing steadily over the planning period.

Local/Itinerant Split

The observed operational split from 2015 finds that 28% of flights are local operations and 72% of flights are itinerant operations (operations that either begin or end at an airport *other* than the Henderson Field Airport). This operational split was taken from the FAA Terminal Area Forecast. Using professional judgment, the split was adjusted to 30% local/70% itinerant and applied to the future operations. **Table C-5** illustrates the projected future traffic split.

Table C-5
Projected Local/Itinerant Traffic

Year	Local	Itinerant	Total
2015	4,770	11,130	15,900
2020	5,948	13,879	19,828
2025	6,991	16,313	23,305
2030	8,208	19,153	27,361
2035	9,631	22,473	32,104

Note: Local/Itinerant split was determined by historical observations by the Sponsor and the TAF historical split.

Peak Traffic Factors

Determination of the peaking factors is vital in assessing capacity and delay that result from the airport's runway capacity versus the number of projected operations on a "design day" and during a "design hour." A design day is described as the activity level occurring during the average day of the busiest month. The design hour is the activity occurring during the average busiest concurrent hours of the day during the busiest month.

Historical data on weather, in terms of ceiling and visibility, indicates that the airport will experience weather conditions below basic VFR minimums (when visibility is less than 3 miles and the cloud ceiling is less than 1,000 ft.) approximately 9% of the year. The Henderson Field Airport has navigational aids that enable it to remain open under instrument conditions to minima that include a cloud ceiling of 314 feet and visibility of 1 mile. This is allowed with the use of a published vertically-guided non-precision GPS Approach to Runway 9. With this navigational aid, the facility is closed an estimated 7 days per year due to weather conditions. However, with planned augmentation of the vertically guided GPS Approaches, the airport will be open a larger percentage of time over the planning period. Calculation adjustments were made to compensate for these planned improvements. Typically, the Design Hour accounts for approximately 20 percent of the Design Day. The ratio was developed from a large sample of GA airports over a 15-year period. The design day for the Henderson Field Airport is based on 358 improving to 362 days per year. Application of the ratios for Design Day and Design Hour to the projected operations results in the findings presented in **Table C-6**.

Table C-6
Design Day/Design Hour

Year	Operations	Peak Day	Peak Hour
2015	15,900	49	10
2020	19,828	61	12
2025	23,305	71	14
2030	27,361	83	17
2035	32,104	98	20

Notes: Average busy day totals are based on 358 days per year (Stg. 1), 360 days per year (Stg. 2), 362 days per year (Stg. 3), adjustment for weather, plus 10%. Average busy hour accounts for about 20% of busy day totals.

The peak day and peak hour will be used in future chapters of this Report to help project the facility requirement demand over the 20-year planning period. This includes the demand on the runway and taxiway system as well as the terminal area facilities such as the terminal building and apron.

Instrument Approaches

Annual instrument operations conditions were determined based upon meteorological data reported and recorded for Wilmington Intl. Airport (ILM), Wilmington, NC during a 10-year period. As previously mentioned, use of currently published instrument approaches to Runway 22 reduces the closing of the airport due to weather to approximately 1.9% of the year. Additionally, planned navigational aid improvements and approach lighting augmented approaches should reduce the closure of the airport due to weather and

increase instrument approaches utilized.

Given the expected annual operations at the end of the 20-year planning period, the forecasted instrument approaches to ACZ may reach 1,332. **Table C-7** depicts the forecasted instrument approaches during the planning period. The FAA Report, "Ceiling-Visibility Climatological Study" of 1975 was used to determine the historical percentage of time that instrument operations occur at ACZ. The expected improvements and timing of their development provided the results shown in Table C-7.

Table C-7
Instrument Operations

Year	Total Operations	%Instrument	Estimated Instrument Approaches
2015	15,900	7.3%	580
2020	19,828	7.3%	724
2025	23,305	7.8%	909
2030	27,361	8.3%	1,135
2035	32,104	8.3%	1,332

General Aviation Pilots and Passengers

According to surveys prepared by the United States Department of Transportation, supplemented with data obtained by the Consultant, it was determined that the average number of occupants, the occupancy factor (including pilots) per departure for general aviation aircraft in 2015 is assumed to be 2.77 for the Henderson Field Airport with a trend to increase to 3.41 by the end of the 20-year planning period. Occupancy factors are important because Terminal Building space and service needs can be derived from the number of persons expected to use the facility.

Effective use of this methodology requires that local operations be adjusted for touch-and-go (training activity) operations to keep from overstating the numbers of persons. It is assumed that approximately 50% of local operations are touch-and-go. Therefore, the departures have been adjusted to compensate for this. **Table C-8** depicts this calculation.

Table C-8
Forecasted General Aviation Occupancy Factors and Occupants

Year	Forecast Occupancy Factor	Forecast Local Operations	Forecast Itinerant Operations	Occupants
2015	2.77	4,770	11,130	18,718
2020	2.94	5,948	13,879	24,775
2025	3.09	6,991	16,313	30,605
2030	3.25	8,208	19,153	37,793
2035	3.41	9,631	22,473	46,527

Note: Occupants = Load Factor x (0.5 x Local Ops + Itinerant Ops)/2

Summary of Operational Activity

The planning average is the preferred scenario for both based aircraft and operations and is used throughout the remainder of this study. **Table C-9** provides a summary of annual aircraft activity expected at the Henderson Field Airport during the next twenty-year period.

Table C-9
Aviation Activity Summary (Preferred Forecast)

Year	Operations			Based Aircraft[1]	% Deviation from TAF
	Local	Itinerant	Total		
2015	4,770	11,130	15,900	27	12.5%
2020	5,948	13,879	19,828	31	28.0%
2025	6,991	16,313	23,305	35	46.5%
2030	8,208	19,153	27,361	40	66.7%
2035	9,631	22,473	32,104	45	88.9%

[1] Year 2015 from field visit interview

Capital Investment Forecast Scenario

The forecasts above use methodologies assuming a "natural" growth of based aircraft and operations without regard to the impact of any capital development to enhance the airport facilities. Due to the use of relatively conservative factors such as federal and state aviation forecasts (which also do not specifically account for growth induced by new airport facility development) and population, these forecasts do not accurately reflect potential growth in aviation activity that is caused by capital improvement enhancements to the airport. Moreover, such methodologies are used to generate forecasts with no more than a 10 percent deviation from FAA Terminal Area Forecasts, as per the guidelines in the FAA's *Forecasting Aviation Activity by Airport* and Advisory Circular 150/5070-7, *The Airport System Planning Process*.

In order to more specifically address the airport's forecasted growth that could be accommodated through future development of airport facilities, a "capital investment scenario" forecast can be formulated to guide the airport in planning, designing, and building new pavement, buildings, navigational aids, and other improvements.

This "capital investment scenario" accounts for increased activity at an airport once development improvements enhance the attractiveness of the airport to all potential operators. These operators, in turn, may relocate their aircraft(s) to be based there and/or increase their use of the facility. These improvements include, but are not limited to, runway extensions to accommodate larger aircraft, constructing a new terminal building that corporate or recreational pilots are more apt to use, improved approach procedures that allow aircraft to arrive and depart the facility more efficiently or during poor weather conditions, and potentially the largest attractor for based aircraft and operations: more hangar units.

Considering the aforementioned development potential at ACZ, the forecasts for baseline growth were revisited and, through applying adjustment and professional judgment, forecasts of "Capital Investment Scenario" based aircraft and operations are shown below in **Table C-10.**

Table C-10
Capital Investment Scenario Forecast Summary

Year	Operations			Based Aircraft[1]
	Local	Itinerant	Total	
2015	4,770	11,130	15,900	27
2020	5,745	13,405	19,150	32
2025	6,919	16,145	23,064	37
2030	9,349	21,815	31,164	45
2035	12,084	28,196	40,280	55

[1] Year 2015 from field visit interview

Note: Operations growth and Based Aircraft growth determined by using an adjusted State Market Share forecast method.

For the capital improvement scenario, **based aircraft are projected to increase to as much as 55 over the planning period and operations could increase to over 40,000 in 20 years.**

Meteorology

The weather experienced at an airport is often an effective means of determining the facilities that are necessary for an airport to have safe, efficient, and continuous operations. In some geographic areas, complete instrumentation is necessary to provide constant operation of the airport. In other areas, the frequency of weather that could necessitate an instrument landing system, or similar equipment, would be so infrequent that one could not justify the cost necessary for the installation and operation of such a facility.

According to records obtained from the National Weather Records Center in Asheville, North Carolina, the Henderson Field Airport (ACZ) will experience visual flight rules weather (VFR-ceiling >1,000 ft. and visibility ≥ 3 miles), approximately 90.9% of the year or 332 days. Using the navigational approach aid instruments available at ACZ, the facility can remain open an additional 7.2% of the year (26 days), meaning that conditions are below minimums approximately 7 days per year or only 1.9% annually. It should be noted that this down time can be portions of a day or entire days, all totaling approximately 166 hours per year when weather at the facility is below the minimums.

Wind Analysis

Runway wind coverage for aircraft is defined in terms of allowable or rated crosswind for the type of aircraft using the airfield. If the airfield is utilized substantially by small aircraft, the critical crosswind component used is 10.5 knots. Where types of aircraft classified as larger than utility (generally those aircraft weighing in excess of 12,500 pounds) are using the facility, a crosswind component of 13 knots is used. A facility that has large aircraft of heavy transport and large corporate jets are analyzed on a 16-knot crosswind component. Given that ACZ is a facility that is designed for a critical aircraft of category B-II (mid to large size corporate jet or mid to large sized turbo propeller driven), it was analyzed with a crosswind component of 13 knots. **Table D-1** presents a summary of the wind coverage for VFR, IFR, and all-weather conditions at 10.5, 13, and 16 knot crosswind components. **Exhibit D-1** is for IFR operations, and **Exhibit D-2** depicts the all-weather wind rose.

Table D-1
Wind Tabulations

Direction	VFR (Day)			IFR (Day)			All-Weather		
	10.5 Knots/12 MPH	13 Knots/15 MPH	16 Knots/18 MPH	10.5 Knots/12 MPH	13 Knots/15 MPH	16 Knots/18 MPH	10.5 Knots/12 MPH	13 Knots/15 MPH	16 Knots/18 MPH
9	33.45%	35.21%	36.90%	33.44%	36.03%	38.45%	33.44%	35.31%	37.10%
27	38.91%	41.94%	44.32%	28.96%	30.84%	32.45%	37.38%	40.21%	42.45%
Calms	17.70%	17.70%	17.70%	26.69%	26.69%	26.69%	19.21%	19.21%	19.21%
Total Covered	89.89%	94.66%	98.70%	88.89%	93.35%	97.35%	89.84%	94.54%	98.53%
Not Covered	10.11%	5.34%	1.30%	11.11%	6.65%	2.65%	10.16%	5.46%	1.47%

Source: NOAA National Centers for Environmental Information; Data for Wilmington Intl. Airport, Wilmington, NC 2005-2014.

Note: Totals may not equal 100 due to rounding.

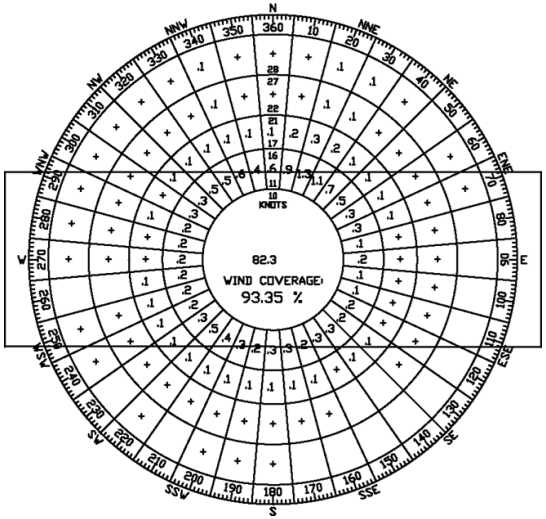


Exhibit D-1
IFR Wind Rose – 13 Knots

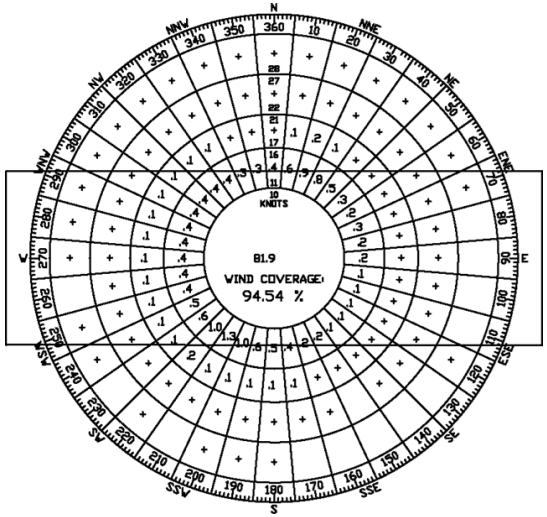


Exhibit D-2
All-Weather Wind Rose – 13 Knots

Capacity

Airport capacity includes acceptance rates expressed as weighted operations per hour on the runway and taxiway components of a general aviation airfield. Operationally, the capacity of the entire airfield is governed by the capacity of the least efficient component. For the Henderson Field Airport, runway and taxiway components will be considered since the Airport is not forecasted to be served by a scheduled commuter or major air carrier. An air carrier airport capacity could be governed by the apron/gate capacity. The projected aircraft mix for capacity at ACZ is as follows:

Class A & B	Class C
(<12,500 pounds)	(12,500-300,000 pounds)
70%	30%

Although the Class "C" aircraft weight range is between 12,500 lbs. and 300,000 lbs., within the planning period, the heaviest aircraft expected at ACZ will not typically weigh more than 30,000 lbs. on dual landing gear.

The capacity calculations for the Henderson Field Airport incorporate the techniques of the most recent methodology prepared by the Federal Aviation Administration Systems Research and Development Services entitled *Airport Capacity and Delay*, AC-150/5060-5, dated 09/23/1983. Capacity, using this methodology, is defined as the maximum physical capacity of an airfield or any of list components (i.e., a saturation capacity).

The basic assumptions or conditions for determining capacity for this type of airport are as follows:

- The Airport is used primarily by Class A and B aircraft (weighing less than 12,500 pounds);
- The Airport is forecast to have increased use by Class "C" aircraft (weighing between 12,500 lbs. and 300,000 lbs.). However, this usage will be about 30% and with aircraft weighing less than 30,000 lbs.;
- The Airport has existing non-precision approaches to Runways 9 and 27;
- The Airport has vertically guided GPS LPV WAAS approaches to Runway 9 and Runway 27;
- Arrivals equal departures.
- There are no airspace limitations affecting runway use.

Runway Component

The hourly capacity of the runway component is defined as the maximum number of aircraft operations that can occur on the runway in one hour.

Taxiway Component

Calculation of the taxiway component is not applicable for the Henderson Field Airport, since this capacity is a consideration only if they are continuously used with active crossing runways; in this case, they will not.

Capacity of Gates

The apron gate component only considers the capacity of the air carrier parking apron. Since general aviation aircraft do not operate on a fixed schedule and scheduled air carrier operations are not expected at this facility, the capacity of the gates is not a consideration.

Hourly Capacity - Airfield

The hourly capacity of the airfield is governed by the capacity of its constraining component. Since the runway is the only appropriate parameter, the hourly capacity of the airfield is governed by the capacity of the runway system.

Annual Service Volume

Annual Service Volume (ASV) is a measure of the number of operations that may occur annually on the airport. The ASV considers various operating conditions (i.e., VFR, IFR, and period below IFR minimums), the hourly capacity of the runway component under those conditions, and peaking ratios. The actual annual capacity is determined by consulting the appropriate tables associated with the proposed conditions at the Henderson Field Airport.

Those conditions are:

- A single runway configuration;
- Departures equal landings;
- A full parallel taxiway;
- Apron located on west side of runway near midfield;
- Touch and Go Operations up to 40 percent of local traffic operations;
- Mix Index - A + B aircraft (weighing <12,500 pounds) = 70%; Class C aircraft (weighing > 12,500 pounds but < 300,000 pounds) = 30%;
- Typical climate conditions: 91% VFR / 8% IFR / 1% below IFR minimums.

The annual capacity is calculated by determining the hourly capacities for the runway configuration. For ACZ, the percentage of maximum capacity the airport is in use (by VFR and IFR conditions) "P", the hourly capacity "C", and the Weighted Mix Index "W" are:

P_1 - VFR Conditions = 0.91	C_1 - VFR Ops per Hour = 74	W_1 - Weighted Index = 1
P_2 - IFR Conditions = 0.08	C_2 - IFR Ops per Hour = 57	W_2 - Weight Index = 3
P_3 - Below Minimums = 0.01	C_3 - IFR Ops per Hour = 0	W_3 - Weight Index = 16

To get the weighted hourly capacity "C_W":

$$C_W = \frac{(P_1 \times C_1 \times W_1) + (P_2 \times C_2 \times W_2) + (P_3 \times C_3 \times W_3)}{(P_1 \times W_1) + (P_2 \times W_2) + (P_3 \times W_3)}$$

Therefore:

$$C_W = \frac{(0.91 \times 74 \times 1) + (0.08 \times 57 \times 3) + (0.01 \times 0 \times 16)}{(0.91 \times 1) + (0.08 \times 3) + (0.01 \times 16)} = \frac{81.02}{1.31} = 61.85$$

Next, the weighted hourly capacity is applied to factors from typical daily demand and hourly ratios determined from appropriate tables:

Where:

ASV = C_W x D x H; where
ASV = Annual Service Volume
C_W = Weighted Hourly Capacity
D = Typical Daily Ratio
H = Typical Hourly Ratio

Therefore: ASV = 61.85 x 305 x 11 = 207,506

Source: C - VFR & C - IFR were derived from AC 150/5060-5, Figure 2-1
C_W was calculated using AC 150/5060-5, Figure 3-3, Figure 3-43, and Table 3-1
D&H were derived from AC 150/5060-5, Table 3-2

The annual service volume of the Henderson Field Airport is expected to be approximately **207,506 annual operations** with an **hourly capacity of 65 operations VFR** and an **IFR hourly capacity of approximately 56 operations**, assuming proper control and suitable NAVAIDS.

Capacity - vs - Operations

The forecast of operations presented in Chapter C indicates a level of approximately 40,321 annual operations by the year 2035. The capacity (Annual Service Volume) of the airfield configuration is calculated to be 146,479 annual operations. ***It is therefore evident that the Airport, as currently configured, can physically accommodate the numbers of air traffic expected throughout the forecast period with proper instrumentation and facilities.*** Even with the "Capital Investment Scenario" activity forecast, approximately 45,231 operations are estimated, about one-third the calculated maximum capacity.

Capacity of Roadway

The existing roads providing access to the Henderson Field Airport, Skydive Lane, Wallace Airport Road, NC-41, and US-117 are two lane roads traveling through a semi-rural district. These roads should provide capacity in excess of the demand to be generated by the Airport.

The 2035 level of vehicles expected to use the access roads to the Airport is approximately **48 (24 each direction)** during the average "busy hour." This is significantly lower than the capacity of the road, and should provide adequate access to the facility as long as adequate maintenance is provided. The capacity of a rural two-lane road is approximately 2,000 vehicles per hour, or 1,000 per hour in each direction.

The calculation for "busy hour" vehicles is as follows:

$$\frac{[A \times .4 + B] \times 1.5 \times 3.41}{2} = \text{Busy Hour Vehicles}$$

Where:

A	=	Local Busy Hour Operations
.4	=	Adjustment for touch and go (constant)
B	=	Itinerant Busy Hour Operations
2	=	Operations converted to departures (constant)
3.41	=	Average occupants per aircraft, per departure (constant)
1.5	=	Average vehicle per enplaned passenger (constant)

This Chapter is the most critical element of the planning process since it identifies the need for facility improvements such as runway enhancements, taxiways, navigational aids, and buildings in order to adequately accommodate the expected demand during the 20-year planning period. Additionally, some projects identified herein are recommended in order to meet the minimum or recommended group development category standards as identified by the *North Carolina Airports System Plan* for a state classification Red airport. That Plan identified the Henderson Field Airport as currently a Blue Airport. However, it is Henderson Field Airport's goal to provide the facilities to meet the needs of its corporate aircraft users likened to a Red class facility. The Airport is currently a Blue category airport striving to become a facility that can one day be considered for reclassification as a Red category airport and a Design Category C-II airport. Provided for comparison purposes, the following table highlights the NCASP recommended characteristics for airports in the Blue and Red categories beyond the requirements of the FAA Design Guide AC 5300-13A (latest change) for the airport's Airport Reference Code (ARC) and Runway Design Code (RDC) classification.

Development Category	**Blue**	**Red**
Runway Approach	Clear Threshold Siting Surface on Primary Runway	Clear Threshold Siting Surface on Primary Runway
Runway Safety Area (RSA)	Meet Runway Design Code (RDC)	Meet Runway Design Code (RDC)
Runway Protection Zone (RPZ)	Fee Simple	Fee Simple
Pavement Condition	PCI>75	PCI>75
Runway Length	5,000'	6,000'
Runway Width	100'	100'
Pavement Strength	> 30,000lbs SW or DW and <60,000lbs SW or DW or Per PCN Analysis if a P139	> 60,000lbs SW or DW or Per PCN Analysis if a P139
Visual Navigational Aids	Rotating Beacon, Lighted Wind Sock, PAPI-4, REILs (if no ALS)	Rotating Beacon, Lighted Wind Sock, PAPI-4
Runway Edge Lighting	MIRL	MIRL
Weather Reporting Capability	AWOS-III	AWOS-III
Standard Instrument Approach	APV 250' – 3/4m	APV 250' – 3/4m
Taxiway	Full Parallel	Full Parallel
Aircraft Apron	25% Based Aircraft + 20% Busy Day Transient	25% Based Aircraft + 20% Busy Day Transient

Development Category	Blue	Red
General Aviation Terminal Building	4,500 SF Terminal/Admin Bldg. w/ FBO-Flight Planning Area-Public Meeting Area-Restrooms and 1 auto space per based aircraft + 50% for visitors/employees	5,500 SF Terminal/Admin Bldg w/ FBO-Flight Planning Area-Public Meeting Area-Restrooms and 1 auto space per based aircraft + 50% for visitors/employees
Taxiway & Apron Edge Lighting	MITL	MITL
Airfield Signage	Runway Hold Position, Location, and Guidance	Runway Hold Position, Location, Guidance, and Distance Remaining
Ground Communication	UNICOM, RCO or GCO	UNICOM, RCO or GCO
Approach Lighting	ALS	ALS
ARFF Equipment	Case by Case	Case by Case
Hangars	75% Based Aircraft + 25% Transient Overnight	75% Bases Aircraft + 25% Transient Overnight
Airfield Maint. Equip/Storage Bldg.	Approved Tractor/Building	Approved Tractor Building
Perimeter Fencing	Perimeter	Perimeter
Fuel Facilities	Based on Demand	Based on Demand

These elements of airfield development must be viewed carefully since the recommendations contained herein have a direct effect on the budgeting and the ability of the airport management to deal with the financial aspects of this plan's implementation.

The facility requirements presented in the following sections were developed with the basic assumption that existing facilities will remain serviceable. Should any facilities become unserviceable, that facility would be replaced in addition to the plan presented.

These facility requirements of the Henderson Field Airport (ACZ) have been developed for the various functional areas throughout the Airport:

Airfield

- Runways/Taxiways
- Navigational Aids and Lighting

Other

- Fueling Facilities
- Fencing

Terminal Area

- GA Terminal and Hangars
- Aircraft Parking Apron

Airfield

Runway 9/27

The Henderson Field Airport currently has a single runway configuration. Runway 9/27 is 4,153 feet long and 75 feet wide with a determined pavement strength of 12,500 lbs. single wheel and 30,000 lbs. dual wheel. The last safety inspection of the airfield and pavement performed by the NC Division of Aviation was in July 2015. The condition of the runway was identified as "excellent." Although the pavement condition is "excellent," there is a forecasted need to lengthen the runway in order to accommodate larger corporate jet aircraft. This runway lengthening is expected to be needed in Stage I (0-5 years) to 5,000 ft. and then to 5,500 ft., and Stage III (11-20 years) to 6,500 ft., which will be designed to provide a takeoff length of 6,500 ft. available with a landing length of 6,500 ft. available for Runway 27. To provide additional runway safety area on Runway End 27, Runway 9 accelerate-stop and landing distances available will be 5,100' in Stage I, and 6,100' in Stage III. The runway strength will also need to be increased within the planning period to accommodate the forecasted operations with an increase to approximately 65,000 lbs. dual gear and PCN of 20 F/C/X/T. This strengthening is recommended in Stage I.

The existing critical aircraft category for ACZ is in the approach Category B, Design Group II, as defined by FAA Advisory Circular *Airport Design*, AC/150-5300-13A. This classification indicates that the Airport can accommodate aircraft with approach speeds between 91 and 120 knots and wingspans between 49 and 79 ft. The Cessna Citation 560 was designated as the critical aircraft on the previously completed Airport Layout Plan. Validated by IFR operations data collected from 2001 to 2014, the Cessna Citation 560 was selected as the existing critical aircraft for planning and design purposes at ACZ.

The Gulfstream G450 is expected to become the representative critical design aircraft during Stage I (0-5 years) and remain the critical design aircraft through the remainder of the planning period. This is expected to occur after the initial Stage I extension when at least 5,000 ft. is realized and the aircraft that have indicated the need to operate at the airport once the runway can accommodate them. Specifically, one aircraft that is based at a nearby airport outlined (support letter provide in **Chapter F**) that it will utilize the facility once the extension is in place. This, in combination with other transient aircraft of this class, are expected to become the largest aircraft achieving 500 operations annually. Currently, funding is in place to extend the runway to 5,000 ft. Additionally, funding to realize 5,500 feet within Stage I has local and statewide support, but will not be officially awarded until the spring of 2017.

As the Airport receives demand for larger aircraft similar to the Gulfstream G450, the runway will need to be improved to accommodate these aircraft. The existing pavement strength is insufficient and needs to be strengthened. However, due to the operational requirements of the G450 and similar class of aircraft currently using the facility, Runway

9/27 needs to be lengthened. The lengthening of the runway is justified to be needed in Stage I (0-5 years) to 5,500 ft., and Stage III (11-20 years) to 6,500 ft. as outlined in **Chapter F** of this Report. Extensions totaling 2,798 ft. to Runway End 9 with a displacement of 451 ft. to Runway End 27 will accomplish a full 6,500 ft. usable runway for takeoff and 6,500 ft. for landing on Runway 27. According to FAA AC 150-5325-4B *Runway Length Requirements for Airport Design*, Table 3-2 and Figure 3-2 depict that airplanes representing the largest 25% of the large aircraft fleet utilizing a facility at 38 ft. above sea level at a temperature of 90° with 60% useful load requires 5,400 ft. for operation. Additionally, supplemental data was outlined in FAA Regional Guidance Letter (RGL) 01-2 *"Runway Length and Strength Requirements for Business Jet Aircraft."* To further substantiate the expected need of a 6,500 ft. runway, Mr. Ben Debry, Sr. Manager, Technical Marketing (912.965.3874 / ben.debry@gulfstream.com) from Gulfstream was contacted to determine the specific runway length requirements at ACZ for the G450. At maximum takeoff weight and wet runway conditions, the G450 requires 6,250 ft. to takeoff at 38 ft. above sea level at 90°F. Consequently, given the requirements of the critical aircraft at the Henderson Field Airport, it is reasonable to plan runway extensions totaling 2,798 ft. to bring the usable length of Runway 9/27 to 6,500 ft. by the end of Stage III (11-20 years) of the planning period.

Supporting projects, such as land acquisition and road relocations, and their associated environmental impacts should accommodate the ultimate development, including safety areas within the full planning period. This should be done in order to provide efficient development eliminating redundancies with incremental airfield growth.

Runway Safety Area

The primary role of the runway safety area (RSA) is to provide an area bordering the runway which, under normal (dry) conditions, is capable of supporting aircraft without causing structural damage to the aircraft or injury to the passengers. The RSA enhances the safety of any aircraft that may undershoot, overrun, or veer off the runway. It also provides greater accessibility for fire fighters and rescue equipment. The runway safety area for the Henderson Field Airport currently meets standards for a B-II airport with not lower than 1-

mile visibility. FAA AC 150/5300-13A states that a standard RSA for this runway classification must extend 300 ft. beyond the runway end and be at least 150 ft. wide the entire length of the safety area.

Once the planned improved runway approaches are published in Stage I (0-5 years) and the airport classification changes to C-II based on a more demanding critical aircraft, the RSA would be required to be augmented to 1,000 ft. beyond each runway end and widened out uniformly to 500 ft. Consequently, within Stage I, Runway 9/27's extended RSA will be required to meet the larger standard. In order to achieve this goal, land acquisitions on Runway End 9 and the relocation of Wallace Airport Road and Old Mill Road along with the displacement of Runway End 27 will enable enough area to be graded for Stage I, Stage II, and Stage III runway extensions, as well as the required 1,000' x 500' RSA. The 500' width will extend the full length of the runway, 250' each side of the centerline, and extend 1,000' beyond the proposed 1,798 ft. extension at Runway End 9 and 1,000' beyond the stop end of the accelerate-stop and landing distances available for Runway 9 at Runway End 27. This all is proposed to occur in Stage I concurrent with the first runway extension to prepare for the expected improved minima, and then adjusted accordingly after the Stage II runway extension and the Stage III runway extension.

Taxiways

The Henderson Field Airport is currently served by a 40 ft. wide Stub taxiway located approximately 1,900 ft. from the Runway 27 threshold. A full parallel taxiway is planned along with the runway extensions in Phases I, II, and III. This taxiway is planned to be located at 400 ft. separation from the runway centerline. The current stub taxiway is equipped with Medium Intensity Taxiway Lights (MITLs). All expansions to the existing taxiway system will have MITLs as well.

Geometric Standards

Runways

Runway 9/27 presently meets the geometric standards for an Approach Category "B", Design Category II Airport, as defined by FAA AC/150 5300-13A (latest change). This category of facility will accommodate aircraft with approach speeds between 91 and 120 knots and wingspans between 49 and 79 feet. Current levels indicate that the Airport is expected to utilize the Approach Category "C", Design Category II critical design class of aircraft beginning in Stage I and for the remainder of the planning period and ultimately achieving lower than ¾ mile but not lower than ½ mile visibility approaches; this would make the Runway Design Code (RDC) C-II-2400. Incremental justified development projects at the facility to accommodate these aircraft will eventually enable the facility to be considered for reclassification as a Design Category C-II airport. A Design Category C-II facility will accommodate aircraft with approach speeds between 121 and 140 knots and

wingspans between 49 and 79 feet. The recommended minimum standards are as follows for the existing and planned airfield:

	Design Category B-II Visibility Minimums Not Lower Than ¾ Mile (Existing)	**Design Category C-II Visibility Minimums Lower Than ¾ Mile (Planned)**
Runway width	75 feet	100 feet
Runway shoulder width	10 feet	10 feet
Runway blast pad width	95 feet	120 feet
Runway blast pad length	150 feet	150 feet
Runway safety area width	150 feet	500 feet
Runway safety area length prior to landing threshold	300 feet	600 feet
Runway safety area length beyond runway end	300 feet	1,000 feet
Runway object free area width	500 feet	800 feet
Runway object free area length beyond runway end	300 feet	1,000 feet
Runway centerline to edge of aircraft parking	250 feet	500 feet

Source: FAA Airport Design Airplane and Airport Data reference AC 150/5300-13A

Taxiways

The design standards for a taxiway serving the existing and planned Airplane Design Group (ADG) "II" Runway based on Taxiway Design Group (TDG) "2" at the Henderson Field Airport are as follows:

	Airplane Design Group II and Taxiway Design Group 2
Taxiway width	35 feet
Taxiway safety area width	79 feet
Taxiway edge safety margin	7.5 feet
Taxiway shoulder width	15 feet
Taxiway centerline to fixed or moveable object	65.5 feet
Taxilane centerline to fixed or moveable object	57.5 feet
Taxiway object free area width	131 feet

Taxilane object free area width	115 feet

Source: FAA Airport Design Airplane and Airport Data reference AC 150/5300-13A

Navigational Aids and Lighting

The Henderson Field Airport currently has navigational aid facilities that allow straight-in or circling non-precision approaches to the Airport. Published minimums for Runway 9 are currently set at 1 mile for visibility and a ceiling of 314 feet, achieved with a non-precision GPS LPV WAAS Approach. Runway 27 has a non-precision GPS LPV WAAS Approach published that provides 1-mile visibility with a ceiling of 331 feet. No Approach Lighting System (ALS) or Runway End Identifier Lights (REILs) are present at ACZ, nor is a VOR published, present or active.

As previously mentioned, because of the climatic conditions and use of navigational aids at ACZ, the average annual days of operation is reduced to 358 (closed approximately 1.9% of the year).

The Henderson Field Airport currently has a Medium Intensity Runway Lighting (MIRL) system for Runway 9/27 with a Medium Intensity Taxiway Lighting (MITL) system on the airfield taxiway. This equipment is of varying ages. It should supply adequate service through most of the planning period.

The existing MITLs on the taxiway system should be adequate to service the airfield during the planning period. However, should any replacements or additions be made to any of the airfield lighting system (runway or taxiway), including the full parallel taxiway installation in Stage I, such projects should include the installation of newer LED lighting systems. The LED lighting system is more energy efficient and requires less maintenance than a standard bulb lighting system.

Other lighting equipment that can be found on the ACZ airfield includes two-box Precision Approach Path Indicators (PAPI-2) on each runway end and a 36″ rotating beacon located just to the north of the terminal parking lot. The beacon is located on a 50 ft. tower. The Henderson Field Airport does not have Runway End Identifier Lights (REILs) or a Medium Approach Light System with Runway Alignment Indicator Lights (MALSR) on either runway end.

Consequently, it is recommended that REILs are added to each runway end as part of the runway extension/runway safety area project planned for Stage I. The installation of a MALSR on Runway End 9 is planned for Stage III. A lighted windsock with segmented circle is located on the north side of the runway just east of the terminal apron area; it is currently functioning without problems and should be maintained.

Terminal Area

Due to the airport classification change over the planning period to C-II, the separation of the planned full parallel taxiway to runway will be required to be 400 ft. Consequently, the existing terminal area will need to be relocated. Additionally, with the planned runway extensions, the more centralized and optimally located terminal area will be necessary. As such, the Terminal Building and surrounding auto access, and aircraft storage system will be developed over the entire planning period.

The existing Terminal Building at the Henderson Field Airport was built in 2001 and consists of a 2,600 sq. ft. building, which provides:

- Airport management
- Aviation fuel
- Aircraft parking (ramp or tiedown)
- Restrooms
- Passenger terminal and lounge
- Aircraft maintenance
- Rental cars
- Courtesy transportation
- Public telephone
- Kitchen facilities
- Conference Room
- Flight planning room
- Computerized weather
- Internet access

Using the annual occupants projected to use the facility during the planning period, an estimate of gross terminal building requirements can be determined. **Table C-8** in Chapter C (Forecasts) reveals that by the year 2035, over 46,000 annual occupants are expected over the course of a year period. The peak daily occupants are determined by taking 110% of the average daily occupants based on the average number of days the airport is open for operations. Of this number, the peak hour occupants represent 25% of the peak daily occupants. This process provides that 35 passengers/pilots per peak hour can be expected to use the terminal by the end of the planning period. Based on industry trends for general aviation facilities and the consultant's experience, between 125 sq. ft. and 175 sq. ft. per peak hour occupant should be used to determine gross terminal building requirements. The result is that approximately 5,700 sq. ft. of terminal space could be needed by 2035. **Table E-1** displays these calculations and the corresponding terminal requirements.

Table E-1
Terminal Building Requirements
Henderson Field Airport

Year	Annual Occupants	Forecast Peak Daily Occupants	Forecast Peak Hour Occupants	Terminal Bldg. Requirements (SF)
2015	18,718	58	14	2,301
2020	24,775	76	19	3,045
2025	30,605	94	23	3,741
2030	37,793	115	29	4,594
2035	46,527	141	35	5,655

As can be seen in the table, the existing 2,600 sq. ft. terminal is sufficient in accommodating the current demand, but not the future demand. As such, the construction of a new Terminal Building is recommended in Stage I. When the new terminal area is constructed. A Terminal Building with 6,000 square feet should accommodate the entire planning period's demand and beyond.

Other buildings at ACZ include four box hangars (2,705; 1,305; 1,250; 4,813 sq. ft.), a maintenance hangar (3,745 sq. ft.), two span hangars (6,213; 4,185 sq. ft.), and a 12-unit shadeport building (20,265 sq. ft.), which equates to approximately 1,625 sq. ft. per unit.

With the planned growth of based aircraft at ACZ, it is expected that box, corporate, and T-hangars will be constructed as the market demands grow throughout the 20-year planning period. The Terminal Area Plans (Chapter G) outlines an ideal layout for ACZ's terminal area that includes building a new terminal area early in Stage I to accommodate the aforementioned airfield expansions.

Auto Parking

At present, there are approximately 1,000 sq. yds. of total pavement near the Terminal Building used for auto parking, although no spaces are marked. Vehicular parking spaces are typically based on peak hour pilots and passengers using 34 square yards of space per vehicle, including circulation. Due to the fact that the aforementioned Terminal Building is expected to move and expand, the construction of a larger parking area adjacent to the new terminal area is recommended. Due to the expansion of the terminal area, auto parking is shown in the Terminal Area Plan (Chapter G) to appropriately service each planned type of development.

Aircraft Apron/Hangars

Aircraft operational usage at ACZ is expected to continue to grow throughout the planning period (20 years). This will continually increase the need for additional aircraft parking and storage. Careful consideration should be given to determine the type and degree of development required to accommodate this important component.

Hangar/apron demands are predicated on the number of based aircraft, the type of aircraft accommodated, owner preference, and land availability. Historical observations and industry trends find that there is potential demand for approximately 85% of the forecast based aircraft to be hangared and 15% to be non-hangared. Multiplying the forecasted based aircraft of 45 by 15% yields an approximate 7 tiedowns that would be needed to accommodate based aircraft. Additionally, there should be enough tiedown spaces to accommodate the daily itinerant aircraft. Typically, a standard estimate is to take 20 to 25 percent of the based aircraft to provide a guideline for accommodating these transient aircraft. Multiplying the forecasted based aircraft of 45 by 25% yields an approximate 11 tiedowns that would be needed to accommodate daily itinerant aircraft. Tiedown spaces for 7 based aircraft and 11 itinerant aircraft means the airport will need a minimum of 18 tiedown spaces by the end of the planning period.

Resultantly, the Airport will need four more tiedown spaces than the existing 14 tiedown spaces to fulfill this need sufficiently throughout the planning period. Considering the capital investment scenario forecast discussed in Chapter C, additional increases in apron size and tiedown spaces are recommended in the event of higher than projected aircraft traffic. To accommodate this potential need, it is recommended that the facility have a total of 27 tiedown spaces by the end of the planning period.

Furthermore, throughout the Carolinas and the southeast, the demand for hangar space far exceeds supply. This strong demand validates almost any hangar construction. The Henderson Field Airport Commission has recognized this and continues to work toward development of hangars to accommodate the market. **Table E-2** reflects the facility requirements including the need for aircraft storage spaces, both hangared and non-hangared.

Fuel Storage

100LL and Jet A fuel for aircraft is stored at the Airport in above ground tanks. The fuel types and storage facilities are listed below:

- ✈ 100LL -- One 10,000 gallon above ground tank
- ✈ Jet A -- One 10,000 gallon above ground tank

These facilities should be adequate throughout the planning period, assuming maximum delivery schedules. Should the demand dictate additional fuel quantities be kept on-site, it is assumed that fuel storage and delivery schedule changes will be addressed by those responsible for dispensing the fuel. Additionally, mobile fuel trucks should be incorporated in the ACZ fueling services offered as larger corporate traffic operations become more prevalent throughout the planning period.

Table E-2
Facility Requirements
Henderson Field Airport

ITEM	EXISTING	STAGE I	STAGE II	STAGE III
1. Runway 9/27				
a. Length & Width	4,153’ x 75'	5,500’ x 75’	N/C	6,500’ x 100’
b. Strength (lbs.)				
- single wheel (SW)	12,500 SW	30,000 SW	N/C	N/C
- dual wheel (DW)	30,000 DW	65,000 DW	N/C	N/C
- PCN	N/A	20 F/C/X/T	N/C	N/C
2. Taxiways	Stub (40’ wide)	Full Parallel	N/C	N/C

Table E-2
Facility Requirements
Henderson Field Airport

ITEM	EXISTING	STAGE I	STAGE II	STAGE III
3. Navigational Aids & Lighting	PAPI-2 Both RWYs, MIRL, MITL, GPS LPV Both RWYs, Rot. Beacon	REILs	HIRL	MALSR, PAPI-4 Both RWYs
4. Aircraft Storage				
a. Tiedown #	14	16	27	N/C
b. Tiedown area SY (Est.)	2,300	3,800	8,400	N/C
c. Apron area SY	11,500	48,100	84,800	111,300
d. Total Hangar Spaces (Est.)	18	26	52	75
e. T-Hangars (bldgs.)	12	8	24	48
f. Total Hangar area SF (Est.)	29,300	68,700	137,200	188,080
5. Terminal SF	2,600	6,000	N/C	N/C
6. Total Auto Parking				
a. Spaces	20	32	55	78
b. Area SY (Est.)	1,000	1,520	2,612	2,145
7. Fuel Storage (gal.)				
a. 100 LL	10,000 (above ground)	N/C	12,000	N/C
b. Jet A	10,000 (above ground)	N/C	12,000	N/C
c. Fuel Trucks	N/A	N/C	100LL/Jet A	N/C
8. Property				
a. Fee (acres)	212.6	465	531.3	583.3
b. Easement (acres)	0	0	0	0
9. Perimeter Fencing (LF)	2,055	20,500	24,500	26,500

**Note: Tiedown and apron space need estimates are dependent upon new hangar construction and overall availability of hangar spaces and could increase if hangar construction does meet demand.*

Land Acquisition

Currently, ACZ's land envelope includes 212.6 acres fee simple and no acres of avigation easement over land. The lands needing to be acquired through the 20-year planning period total an additional 370.7 acres of fee simple. The fee simple acquisition planned includes approximately 307.8 acres for the phased runway extension development, Wallace Airport Road/Old Mill Road relocations, and RPZ control off Runway End 9.

Fencing

Presently, the Henderson Field Airport has a combination of four (4) ft. and six (6) ft. fence located around the terminal area, main apron, and parking lot. It is suggested that the Airport Sponsor add fencing to enclose the entire perimeter as soon as possible in Stage I (approximately 18,500 LF of additional fence) to replace and augment the existing fence. With security now a top priority at all aviation facilities, the maintenance of this fencing is essential to ensure safety at the facility with the prevention of vermin, vandals, and trespassers onto the airfield.

As additional land is acquired in Stages II & III, it is recommended that fencing be added to encompass the additional Airport perimeter. Utilizing at least an eight (8) ft. chain link fence with three strands of barbed wire is recommended. Additional fencing enclosures during the planning period are estimated to total approximately 24,500 linear ft.

FAR Part 77 Surfaces and FAA AC 150/5300-13A TERPS Surfaces

The design criteria used for the Airport under its existing conditions puts Henderson Field Airport in the category of "B-II." and ultimately "C-II". The existing and planned surfaces under these design criteria are listed in **Table E-3**.

Table E-3
Surface Dimensions
Henderson Field Airport

SURFACE	EXISTING DIMENSIONS	EXISTING SLOPE	STAGE III (ULT.) DIMENSIONS	STAGE III (ULT.) SLOPE
Runway 9 Protection Zone	500′ x 1,000′ x 700′	N/A	1,000′ x 2,500′ x 1,750′	N/A
Runway 27 Protection Zone	500′ x 1,000′ x 700′	N/A	1,000′ x 2,500′ x 1,750′	N/A
Runway Safety Area	4,753′ x 150′	N/A	8,100′ x 500′	N/A

Table E-3
Surface Dimensions
Henderson Field Airport

SURFACE	EXISTING DIMENSIONS	EXISTING SLOPE	STAGE III (ULT.) DIMENSIONS	STAGE III (ULT.) SLOPE
Runway Object Free Area	4,753′ x 500′	N/A	8,100′ x 800′	N/A
Obstacle Free Zone	4,553' x 400'	N/A	6,900' x 400'	N/A
Part 77 Approach Surface Runway 9	500′ x 10,000′ x 3,500′	34:1	1,000′ x 50,000′ x 16,000′	50:1
Part 77 Approach Surface Runway 27	500′ x 10,000′ x 3,500′	34:1	1,000′ x 10,000′ x 4,000′	34:1
TERPS Approach Surface Runway 9	400′ x 10,000′ x 3,800′	20:1	400′ x 10,000′ x 3,800′	34:1
TERPS Approach Surface Runway 27	400′ x 10,000′ x 3,800′	20:1	400′ x 10,000′ x 3,800′	34:1

It is extremely important to protect these surfaces from being penetrated by future construction, tree growth, and facility additions. For lands within the Approaches and beyond the fee simple and avigation easement lands owned by the Airport, the Unified Development Ordinance can be used to protect these surfaces and should be enforced as necessary.

Summary

The preceding discussion provided a determination of the facilities required to satisfy the expected demand. **Table E-2** provides a concise tabulation of the facilities suggested in the preceding discussion. The following chapters will discuss the methods of providing these facilities while considering the environment, development opportunities, and development constraints.

It is expected that the operating dynamics of the Airport will change drastically in the first ten years of the planning period (2015-2025). Currently, the 4,153 feet of usable runway length makes it difficult for the Airport to capture business jets already desiring to operate at the airport. To accommodate for this market demand, it is recommended that a runway extension program be implemented to extend the runway to 5,500 feet.

In order to determine the runway length needed for the planning period at the Henderson Field Airport, a justification effort was conducted utilizing data received from airport management, discussions with local industry, and airport user survey responses collected from aircraft operators over the last year. This Report outlines the findings of that justification effort.

Airport User Survey and Fuel Sale/Operations Tracking Data

In 2015, aircraft operators utilizing the Airport were provided a user survey that collects data on the aircraft needs to airport users. This and other data was considered in regard to AC 150/5325-4B *Runway Length Requirements for Airport Design* in order to determine the runway length needed at the present time and over the planning period for ACZ.

The survey asked the respondents for data on their aircraft facility needs and as aircraft operators and pilots, what types of capital development they would like/need. Among the questions asked were aircraft(s) type, airfield needs, insurance requirements, terminal area needs, approach needs, etc. An example of the actual circulated survey is shown in **Exhibit F-1**.

Runway Length Calculations

The runway length required was calculated utilizing the aircraft manufacturing data available, FAA *Runway Length AC,* and the FAA RGL with adjustments made for airfield elevation (38 ft.) and the maximum mean hottest month temperature (90°F).

The next step is to determine the recommended runway length for aircraft currently using the Airport. **Exhibit F-2** provides that accommodating 100 percent of the aircraft substantially utilizing the Henderson Field Airport at the airfield elevation of 38 ft. at the mean daily maximum temperature of the hottest month of 90°F requires 3,700 feet of length. At 4,153 feet, the current runway length sufficiently accommodates aircraft currently using the Airport.

The current usable length of 4,153 feet length limits operations at the facility to small aircraft only. It is reasonable to expect the Airport to begin accommodating business jets and meet the needs of the local and transient industry users by the end of Phase I of the

planning period. Two local companies with jets based at nearby airports and a non-local itinerant operator with a jet are interested in operating at Henderson Field Airport.

One of these local companies, Murphy Family Ventures, corporate headquarters is located in Wallace only a few miles from Henderson Field. Murphy Family Ventures's Gulfstream G200 is based at a nearby airport, and business executives are routinely shuttled from Henderson Field by helicopter to the nearby based aircraft. Upon future extension of the runway, this shuttling will not be required, and the Murphy Family Ventures aircraft will be able to operate in and out of Henderson Field.

Additionally, House of Raeford Farms operates facilities a few miles from Henderson Field and has expressed their desire to utilize Henderson Field in the future, to access this facility, once the required runway length for their Gulfstream G450 is provided.

Airport Management has also observed that Henderson Field receives considerable amounts of itinerate traffic and military use from users who consider Henderson Field as a secondary location to Wilmington International Airport (ILM) and Brunswick County (SUT). The airport currently accommodates an estimated 23 itinerant military operations per week. This trend is expected to increase as capital improvements to Henderson Field are implemented.

Documents highlighting these desires can be found in **Exhibit F-4**. **Tables F-1 and F-2** highlight these and many of the larger aircraft to be expected that will weigh in excess of 12,500 pounds, but less than or equal to 60,000 pounds. **Exhibit F-3** provides that accommodating 100 percent of these aircraft at 60 percent useful load requires 5,400 feet of length. With temperatures regularly exceeding the mean daily maximum temperature of the hottest month of 90°F during the summer months, a benchmark runway length of **5,500 feet** would be optimal.

Justified Recommendation

Classified in the most recent North Carolina Airport System Plan as a Blue airport, the Henderson Field Airport is forecasted to grow and eventually host business jet aircraft. The two business jet operators requesting a runway extension will complete an estimated 600 annual operations combined at ACZ with a longer runway. In order to accommodate these aircraft, the Airport will need to extend the runway to 5,500 feet. It is recommended that the current usable runway length of 4,153 feet be extended to **5,500 feet in Stage I (years 0-5)**, which will accommodate the larger business jet aircraft forecasted to use the Airport.

Exhibit F-1
Survey Form
Henderson Field Airport

HENDERSON FIELD AIRPORT (ACZ)
Wallace, NC
Airport User Survey

In order to provide documented justification for the development of the Henderson Field Airport, please complete this Aircraft Operation Survey Form. We **must have** your name, address, title (if appropriate), company affiliation (if appropriate), aircraft tail number, type/model, reason for visits, signature, and date. *You may substitute a letter for this form, but please be sure to include all necessary information.*

Your Name: _____ Title _____

Company: _____

Address: _____

City, State, Zip Code: _____

Telephone Number: _____

Email: _____

Aircraft Tail Number(s): (1)_____ (2)_____ (3)_____

Aircraft Type(s): (1)_____ (2)_____ (3)_____

Primary Purpose of Flights: _____

Home Airport (Based): _____

Average Length of Trip (miles) (Stage Length): _____

Typical Takeoff Weight for Aircraft (lbs.): (1)_____ (2)_____ (3)_____

Runway Length Required (@90°F): (1)_____ (2)_____ (3)_____

Number of Landings per Month at **ACZ**: (1)_____ (2)_____ (3)_____

Reason for using the Henderson Field Airport:

_____

_____

Please list any flight procedures or requirements that may affect your runway length/NAVAIDs needs (e.g., insurance requirements, specific runway length or width, taxiway, pavement strength, ILS, LPV GPS WAAS, etc.)

_____

_____

What features and amenities would you like to see at the Henderson Field Airport (e.g. enhanced Terminal Building, corporate hangars, t-hangars, enhanced maintenance/FBO service, restaurant, etc)?

_____

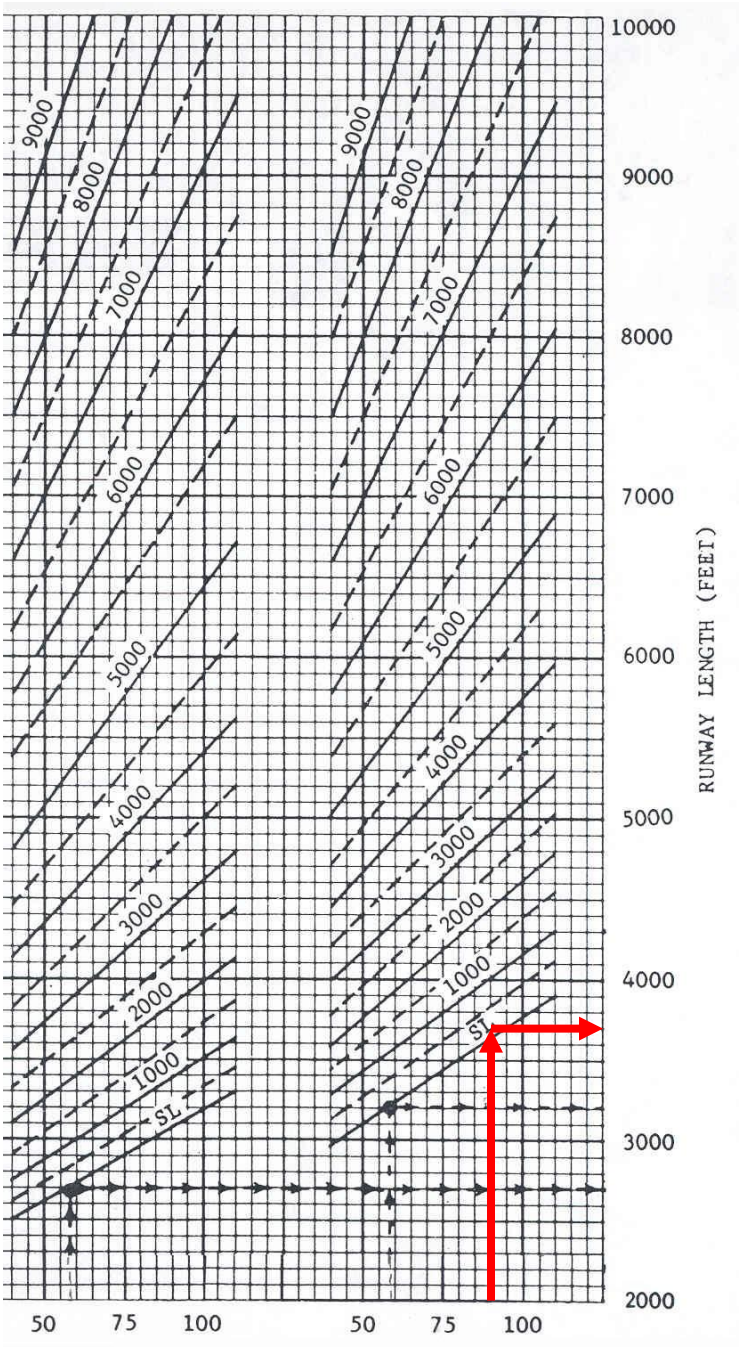
_____

Signature: _____ Date: _____

THANK YOU

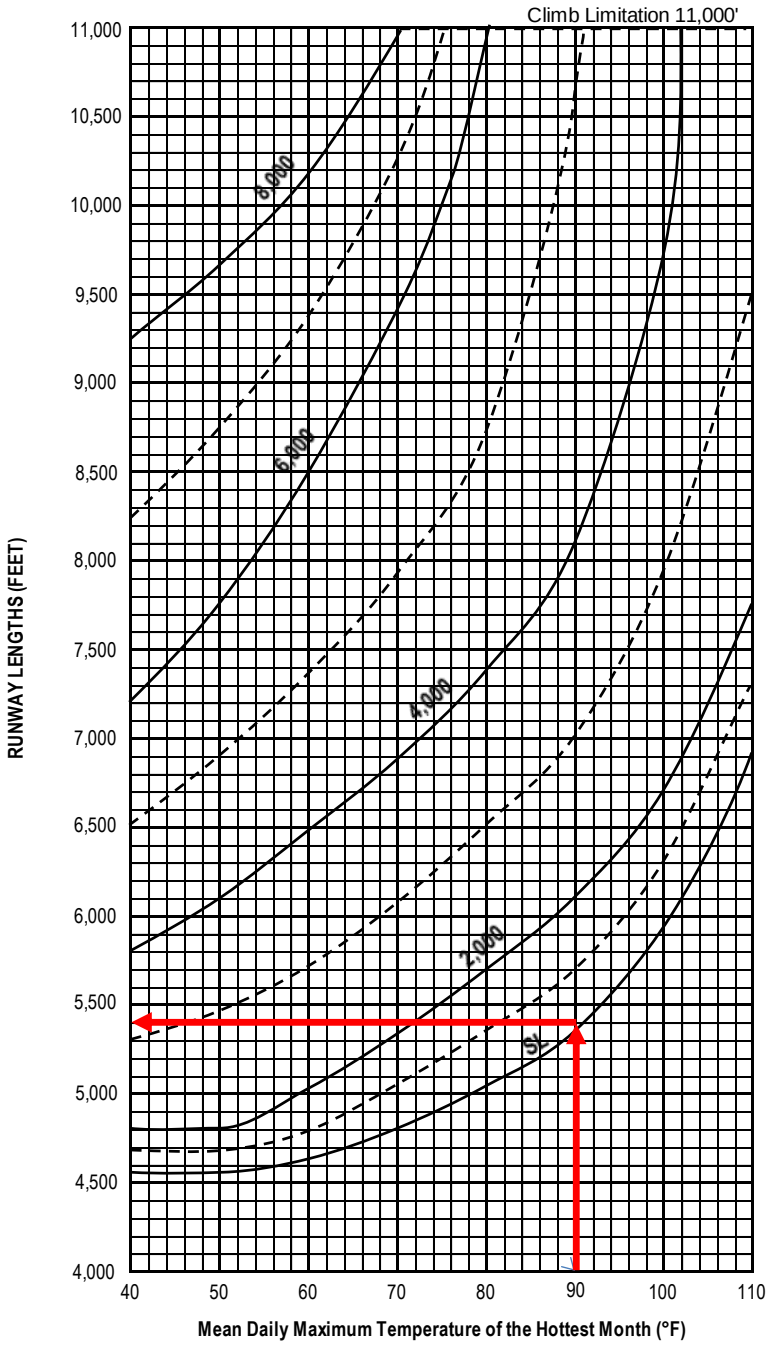
Upon completion please return the Survey to WK Dickson, Attn: Jason Kennedy, 720 Corporate Center Drive, Raleigh NC, 27607 or to Jkennedy@wkdickson.com. This survey may also be completed on line using a computer or phone at: https://www.surveymonkey.com/s/HendersonField

Exhibit F-2
Runway Length Requirement Chart
Henderson Field Airport



Source: FAA AC 150/5325-4B, Figure 2-1 Small Airplanes with Fewer than 10 Passenger Seats

Exhibit F-3
Runway Length Requirement Chart
Henderson Field Airport



Source: FAA AC 150/5325-4B, Figure 3-2 100 Percent of Fleet at 60 Percent Useful Load

Exhibit F-4
Supporting Documents
Henderson Field Airport

MURPHY Family VENTURES

November 23, 2015

Mr. Charley Farrior
Henderson Field Airport (ACZ)
250 Henderson Field Road
Wallace, NC 28466

Re: Aircraft Requirements for the Henderson Field Airport
Wallace, North Carolina

Dear Mr. Farrior,

The Henderson Field Airport (ACZ) is an invaluable asset not only to the Town of Wallace and Pender County, but to my organization as well. As such, I would like to take this opportunity to provide you my aircraft needs as an operator at the Henderson Field Airport.

We currently own a Gulfstream G200, N321SF based at Duplin County Airport (DPL) and this aircraft requires 5,500 feet of usable runway at 60% useful load and 7,050 feet of usable runway at 90% useful load. Once the required runway length is provided, I anticipate this aircraft would perform 40 operations per month at ACZ. I appreciate any efforts you can make to accommodate my aircraft. Pender County and the Town of Wallace's citizens and businesses will all benefit from improvements to the Henderson Field.

Thank you and please don't hesitate to contact me at 919.931.0939 if you have any questions or need any other information regarding my organization's needs at the Henderson Field.

Very truly yours,

Courtney St. Pierre
Chief Pilot, Murphy Family Ventures

Exhibit F-4 (continued)
Supporting Documents
Henderson Field Airport

Aviation Department
House of Raeford Farms, INC
Director of Aviation
N Bruce Bullock

April 6, 2016

Mr. Charley Farrior
Henderson Field Airport (ACZ)
250 Henderson Field Road
Wallace, NC 28466

Re: Aircraft Requirements for the Henderson Field Airport
Wallace, North Carolina

Dear Mr. Farrior,

The Henderson Field Airport (ACZ) is an invaluable asset not only to the Town of Wallace and Pender County, but to my organization as well. As such, I would like to take this opportunity to provide you my aircraft needs as an operator at the Henderson Field Airport.

We currently own a Gulfstream G450, based at Duplin County Airport (DPL) and this aircraft requires 4,800 feet of usable runway at 60% useful load and 5,400 feet of usable runway at 90% useful load. Once the required runway length is provided, I anticipate this aircraft would perform 10 operations per month at ACZ. I appreciate any efforts you can make to accommodate my aircraft. Pender County and the Town of Wallace's citizens and businesses will all benefit from improvements to the Henderson Field.

Thank you and please don't hesitate to contact me at 910-315-3614 if you have any questions or need any other information regarding my organization's needs at the Henderson Field.

Very truly yours,

N. Bruce Bullock
Director of Aviation
House of Raeford Farms, INC

Exhibit F-4 (continued)
Supporting Documents
Henderson Field Airport

11-13-14

HENDERSON FIELD AIRPORT (ACZ)
Wallace, NC
Airport User Survey

In order to provide documented justification for the development of the Henderson Field Airport, please complete this Aircraft Operation Survey Form. We must have your name, address, title (if appropriate), company affiliation (if appropriate), aircraft tail number, type/model, reason for visits, signature, and date.

You may substitute a letter for this form, but please be sure to include all necessary information.

Your Name: Tom Smith Title President

Company: Four Star Greenhouse Set Inc

Address: 1015 Indian Trail Rd

City, State, Zip Code: Carleton MI 48117

Telephone Number: 734-654-6420

Aircraft Tail Number(s): (1) 443PW (2)_____ (3)_____

Aircraft Type(s): (1) C525 D (2)_____ (3)_____

Primary Purpose of Flights: Visit Customer (Johnson's Nursery)

Home Airport (Based): TTF

Average Length of Trip (miles) (Stage Length): 500

Typical Takeoff Weight for Aircraft (lbs.): (1) 13000 (2)_____ (3)_____

Runway Length Required (@90°F): (1) 5500 (2)_____ (3)_____

Number of Landings per Month at **ACZ**: (1)_____ (2)_____ (3)_____

Reason for using the Henderson Field Airport?

Visit customer in area

Willard, NC Sales for Johnson Nursery

Any flight procedures or requirements that may affect your runway length/NAVAIDs needs (e.g., insurance requirements, specific runway length or width, taxiway, pavement strength, ILS, LPV GPS WAAS, etc...)?

AWOS & Approach Lighting

Table F-1
Airplanes that Make Up 75 Percent of the Fleet
Henderson Field Airport

Manufacturer	Model
Aerospatiale	Sn-601 Corvette
Bae	125-700
Beech Jet	400A
Beech Jet	Premier I
Beech Jet	2000 Starship
Bombardier	Challenger 300
Cessna	500 Citation/501Citation Sp
Cessna	Citation I/II/III
Cessna	525A Citation II (CJ-2)
Cessna	550 Citation Bravo
Cessna	550 Citation II
Cessna	551 Citation II/Special
Cessna	552 Citation
Cessna	560 Citation Encore
Cessna	560/560 XL Citation Excel
Cessna	560 Citation V Ultra
Cessna	650 Citation VII
Cessna	680 Citation Sovereign

Manufacturer	Model
Dassault	Falcon 10
Dassault	Falcon 20
Dassault	Falcon 50/50 EX
Dassault	Falcon 900/900B
Israel Aircraft Industries (IAI)	Jet Commander 1121
IAI	Westwind 1123/1124
Learjet	20 Series
Learjet	31/31A/31A ER
Learjet	35/35A/36/36A
Learjet	40/45
Mitsubishi	Mu-300 Diamond
Raytheon	390 Premier
Raytheon Hawker	400/400 XP
Raytheon Hawker	600
Sabreliner	40/60
Sabreliner	75A
Sabreliner	80
Sabreliner	T-39

Source: FAA AC 150/5325-4B, Table 3-1, Airplanes that Make Up 75 Percent of the Fleet

Table F-2
Remaining 25 Percent of Airplanes that Make Up 100 Percent of Fleet
Henderson Field Airport

Manufacturer	Model
Bae	Corporate 800/1000
Bombardier	600 Challenger
Bombardier	601/601-3A/3ER Challenger
Bombardier	604 Challenger
Bombardier	BD-100 Continental
Cessna	S550 Citation S/II
Cessna	650 Citation III/IV
Cessna	750 Citation X
Dassault	Falcon 900C/900EX
Dassault	Falcon 2000/2000EX
Israel Aircraft Industries (IAI)	Astra 1125
IAI	Galaxy 1126
Learjet	45 XR
Learjet	55/55B/55C
Learjet	60
Raytheon/Hawker	Horizon
Raytheon/Hawker	800/800 XP
Raytheon/Hawker	1000
Sabreliner	65/75

Source: FAA AC 150/5325-4B, Table 3-2 Remaining 25 Percent of Airplanes that Make Up 100 Percent of Fleet

Note: **Airplanes in tables F-1 and F-2 combine to comprise 100% of the fleet.**

This Chapter presents the drawings that have been prepared to illustrate the development proposed during the planning process. These drawings present, in a graphical format, the airside/landside facility improvements necessary to satisfy the existing and future demand at the Henderson Field Airport. This drawing set includes:

- Airport Layout Plan
- Airspace Plan
- Approach Surface Plan Runway 9
- Departure Surface Plan Runway 27
- Approach Surface Plan Runway 9
- Departure Surface Plan Runway 27
- Terminal Area Plan
- Land Use Plan
- Property Map

All plans are presented at the end of this chapter.

Airport Layout Plan

The Airport Layout Plan Drawing illustrates the existing facilities and property at the Henderson Field Airport, as well as the location and size of the facilities recommended to satisfy the projected need through the forecast period, and ultimately the Year 2035. The facilities proposed in Chapter E were developed through consultations with the Airport Management and the Town of Wallace, with guidance from the Federal Aviation Administration and the North Carolina Division of Aviation. In early 2016, over a time period of a couple of months, alternatives were presented to the airport sponsor.

The primary purpose of the Airport Layout Plan is to identify existing and projected facility needs. The major development items required to improve the facility include:

- Ultimate 2,347' Runway Extension;
- Improve Runway Safety Area (RSA);
- Add a full parallel taxiway to the runway;
- Acquire land in and around the terminal area along Wallace Airport Road;
- Acquire land for Runway End 9 extension fee simple;
- Acquire land in Approach to Runway End 27 fee simple;
- Relocate Wallace Airport Road and Old Mill Road near Runway End 9;
- New Corporate Hangars in the terminal area;
- New Box Hangars in the terminal area;
- New T-Hangar Buildings in the terminal area;

- ✈ Perimeter fence to enclose the entire airfield;
- ✈ Expand main apron;
- ✈ Expand/Renovate existing Terminal Building.

The development items are staged to conform to the following periods of development:

- ✈ Stage I – Short Term (0-5 years)
- ✈ Stage II – Intermediate Term (6-10 years)
- ✈ Stage III – Long Term (11-20 years)

Alternative Analysis

Alternatives were developed and evaluated in order to arrive at the recommended Airport Layout Plant. Numerous factors including constructability, cost, additional land needs, environmental impacts, and operational impacts were taken into consideration in these discussions. More specifically, various iterations of two primary layout alternatives were evaluated by the airport and local stakeholders.

Alternative 1 represented the relocating the proposed terminal area to the location shown on the recommended plan. Within Alternative 1, numerous iterations where developed and discussed to agree upon the most desirable Terminal Area layout. Hangar layout and grouping as well as various proposed roadway relocation alternatives were considered in the development of the final Alternative 1.

Several iterations of Alternative 2 were also developed for consideration. This alternative reflected moving the entire terminal area cross field to the south of the runway. Upon evaluation of constructability, cost, additional land needs, environmental impacts, and operational impacts, Alternative 1 was selected and is shown as the recommended alternative outlined in this Airport Layout Plan update.

Approach/Departure Plans and Profiles

According to Federal Aviation Regulations (FAR) Part 77, airports are required to protect the surrounding airspace to ensure that it is free and clear of obstructions that could be hazardous to aircraft on departure and approach paths. It is, therefore, desirable and necessary to maintain the surrounding airspace free from obstacles, preventing the development and growth of obstructions to airspace that could cause the airport to become unusable. The regulations for the protection of airspace in the vicinity of the Airport are established by the definition of a set of imaginary obstacle limitation surfaces, penetration of which represents an obstacle to air navigation.

The dimensional standards for these surfaces are determined by the runway classification, such as visual, non-precision instrument, or precision instrument. A visual runway is a facility designed for operation under visual approach conditions only (a published circling approach is considered visual for the purpose of FAR Part 77). A non-precision instrument runway has azimuth guidance or area-wide navigation equipment. A precision instrument runway has azimuth guidance as well as vertical guidance.

Protected airspace around the airport is made up of five principle imaginary surfaces:

Primary Surface: A 500 or 1,000 foot wide surface that is longitudinally centered on the runway, extending 200 feet beyond the threshold in each direction, and coincides with the centerline runway elevation.

Approach Surface: An inclined trapezoidal plane centered on the runway centerline varying in size and slope, extending out from each end of the primary surface and beginning with the same elevation as the runway end.

Transitional Surface: An inclined plane with a slope of 7:1 extending outward and upward from the edge of the primary and approach surfaces, terminating at the horizontal surface where the planes meet.

Horizontal Surface: A horizontal flat plane 150 feet above the established airport elevation. The dimension of the horizontal surface is set by where the transitional surface ends and the Conical Surface begins, both being the same elevation.

Conical Surface: An inclined plane at a slope of 20:1 extending outward and upward from the periphery of the horizontal surface for a horizontal distance of 4,000 feet and a vertical distance of 200'.

Beyond these five principal Part 77 surfaces, the FAA also requires the Inner Approach Surface Plans to show Terminal Instrument Procedures (TERPS) Surfaces. These surfaces are similar to approach surfaces. However, they vary in size and slope and are utilized by the FAA Flight Procedures Office (FPO) to develop and protect the instrument approaches for each runway end. As such, the FAA evaluates them for impacts to approach minimums.

TERPS Surface: An inclined trapezoidal plane centered on the runway centerline varying in size and slope, extending out from each end of the primary surface and beginning with the same elevation as the runway end.

Additionally, the FAA requires Airport Layout Plans to create a Runway Departure Surface Plan that outlines any potential obstructions to the departure end of any instrument runway. The surface therein is described as:

> **Departure Surface:** An inclined 40:1 trapezoidal plane, centered on the runway centerline that begins at the runway threshold of the departure end of the runway at the same elevation as the runway threshold.

The Airport Airspace Plan for the Henderson Field Airport, in conjunction with the Inner Approach Surfaces, shows in plan and profile view the planned approaches for each ultimate runway end. It also identifies the location of obstructions which exceed the Federal Aviation Regulations (FAR) Part 77 criteria.

The surfaces identified will need to be included and referenced in any new or updated height/hazard ordinances that are adopted by the Town of Wallace.

Terminal Area Plans

The purpose of the Terminal Area Plan is to present, in more detail, the development recommended on the Airport Layout Plan. The Terminal Area Plan presents the following major items:

- Building locations and sizes
- Aircraft parking apron – tie downs and fuel area
- Hangar areas
- Servicing taxiways and taxilanes
- Auto parking areas
- Access and service roads
- Security Fencing

The planning stages mentioned previously are consistent on the terminal area plan drawings.

Land Use Plan

The Land Use Plan depicts general guidelines for developing the key functional areas on the airport. The purpose of preparing an airport land use plan is to delineate a land use pattern considering the Airport's current and future development. The land use categories are in accordance with adapted designations and include:

- Airport Operations Area
- Public Use Area
- Residential/Rural/Agricultural Areas

The assignment of the land for the airport operations area has the highest priority since it requires the most land and represents the most critical airport element. The size of the active airfield is dictated by application of FAA safety criteria for building restriction lines surrounding the runways and taxiways and includes the airspace zones within the airport property. Once the areas are defined and approach zones are established, the configuration of the remaining land uses can be determined.

Priority dictates that dedication of the airport land be made first to aviation activity centers and then to secondary activity centers. Thus, the first priority in allocating airport land is for runways and taxiways, plus the area required to protect them from obstructions. The second priority is to provide for direct aviation base activities, such as the terminal, apron, and hangars. The third priority is assigned to businesses that, for various reasons, wish to locate at the airport. Often, these businesses wish to locate at the airport because of some dependence upon the air transportation of personnel and/or goods. The fourth, and last, priority is given to general industrial uses and vacant buffers that occupy the balance of airport property.

The land use plan is a large scale allocation of property to each of the appropriate categories with suggested guidance for land uses around the airport. The suggested land uses illustrated on the Land Use Plan are based on airport operational data, aircraft traffic patterns, and expected noise levels at and around the Airport. Recommend land uses are broken down into four different Land Use Guidance (LUG) zones as described in **Table G-1**.

Table G-1
Land Use Guidance Zones
Henderson Field Airport

LUG Zone	Zone Area	Description
A	Zone A includes the Runway Protection Zone, as defined in FAA AC 150/5300-13A, Section 310 (latest change), and the portion of the Approach Surface from the edge of the Runway Protection Zone to where each Approach Surface is 150 feet of height above its respective runway end elevation.	Land should be reserved for activities that can tolerate a high level of sound exposure such as some agricultural, industrial, and commercial uses. No residential developments of any type are recommended. Sound sensitive activities such as schools, offices, hospitals, churches, and like activities should not be constructed in this area unless no alternative location is possible. All regularly occupied structures should consider sound control in design.
B	Zone B includes the portion of the Approach Surface from the edge of Zone A to 10,000 feet from the inner edge of the Approach Surface, and the area formed by offsetting the Primary Surface edge outward by 1,500 feet and extending its ends and squaring them off at the edge of Zone A.	Activities where uninterrupted communication is essential should consider sound exposure in design. Generally, residential development is not considered a suitable use although multifamily developments where sound control features have been incorporated in building design might be considered. Open-air activities and outdoor living will be affected by aircraft sound. The construction of auditoriums, schools, churches, hospitals, theaters, and like activities should be avoided within this zone where possible.
C	Zone C includes the areas of the Transitional and Horizontal Surfaces not part of Zones A or B.	Few activities will be affected by aircraft sounds, although building designs for especially sound sensitive activities such as auditoriums, churches, schools, hospitals, and theaters should consider sound control in areas closest to the airport. Detailed studies by qualified personnel are recommended for outdoor amphitheaters and like places of public assembly in the general vicinity of the airport.
D	Zone D is identical in area to the Conical Zone.	No special considerations

Property Map

The Property Map shows the existing airport property with regards to fee simple and easement ownership types. It also shows major airport developments that necessitate land acquisition. These parcels are shown on the Property Map as well and the type of ownership recommended.

Additionally, the federal government requires the establishment of a Runway Protection Zone (RPZ) at the end of each runway when federal funds are to be expended on new or existing airports. The airport owner must have positive control over development within the critical portions of the RPZ. This gives long-term positive assurance that there will be no encroachment of airspace within the critical portions of this section of the inner approach surface.

AIRPORT LAYOUT PLAN

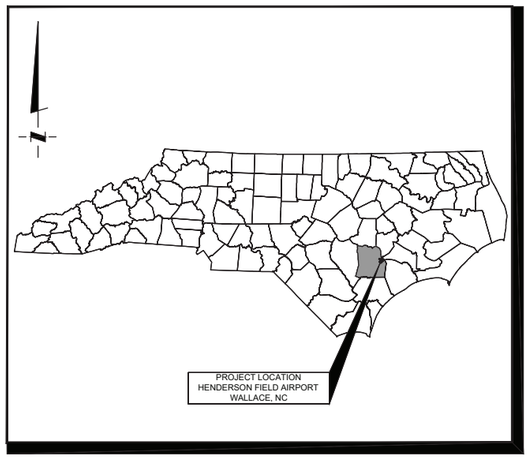
FOR

HENDERSON FIELD AIRPORT

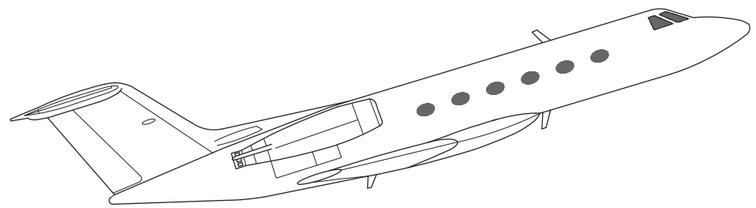
250 HENDERSON FIELD ROAD
WALLACE, NC 28466

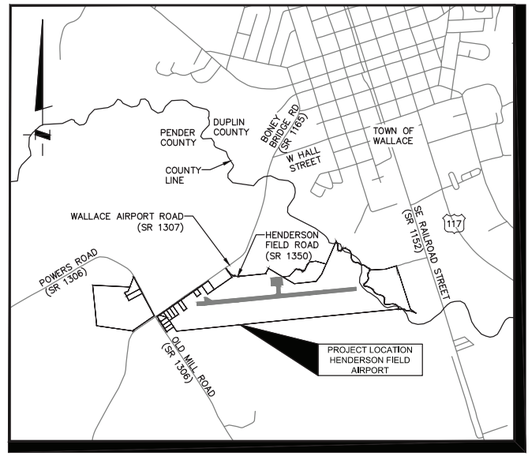
FAA AIP/NCDOT GRANT NO. 36237.56.11.1

APRIL 2017



NORTH CAROLINA VICINITY MAP
NOT TO SCALE'





LOCATION MAP
1" = 2000'

INDEX OF DRAWINGS

C1	COVER SHEET
C2	AIRPORT LAYOUT PLAN
C3	AIRSPACE PLAN (1)
C4	AIRSPACE PLAN (2)
C5	INNER APPROACH SURFACES RUNWAY 9
C6	INNER APPROACH RUNWAY 9 OBSTRUCTION TABLES
C7	INNER APPROACH SURFACES RUNWAY 27
C8	INNER APPROACH RWY 27 OBSTRUCTION TABLES
C9	DEPARTURE SURFACES RUNWAY END 9
C10	DEPARTURE OBSTRUCTION TABLES RUNWAY 9
C11	DEPARTURE SURFACES RUNWAY END 27
C12	DEPARTURE OBSTRUCTION TABLES RUNWAY 27
C13	TERMINAL AREA PLAN
C14	LAND USE PLAN
C15	AIRPORT PROPERTY MAP

TOWN OF WALLACE

ON BEHALF OF WK DICKSON, THIS AIRPORT LAYOUT PLAN (ALP) WAS PREPARED FOR HENDERSON FIELD AIRPORT ACCORDING TO THE APPLICABLE ADVISORY CIRCULARS, THE CURRENT VERSION OF THE FAA STANDARD OPERATING PROCEDURE (SOP) STANDARD PROCEDURE FOR FAA REVIEW AND APPROVAL OF AIRPORT LAYOUT PLANS (ALPS), AND ACCURATELY DEPICTS THE PROPOSED USE OF AIRSPACE AT THE TIME OF SUBMITTAL. THE ALP CONFORMS WITH FAA DESIGN STANDARDS, EXCEPT WHERE NOTED.

CONSTRUCTION NOTICE REQUIREMENT
TO PROTECT OPERATIONAL SAFETY AND FUTURE DEVELOPMENT, ALL PROPOSED CONSTRUCTION ON THE AIRPORT MUST BE COORDINATED BY THE AIRPORT OWNER WITH THE FAA AIRPORTS DISTRICT OFFICE PRIOR TO CONSTRUCTION. FAA'S REVIEW TAKES APPROXIMATELY 60 DAYS.

THIS SIGNATURE CERTIFIES SPONSOR'S APPROVAL OF THE INFORMATION CONTAINED IN THIS PLAN.

_____ DATE:_____
MATT LIVINGSTON
TOWN OF WALLACE, TOWN MANAGER

WK DICKSON
community infrastructure consultants

- DRAWING STATUS - PLANNING DOCUMENTS - FINAL

WK DICKSON
community infrastructure consultants
Transportation + Water Resources
Urban Development + Geomatics
720 Corporate Center Drive
Raleigh, NC 27607
919.782.0495 (t)
919.782.9672 (f)
www.wkdickson.com
NC LICENSE NO. F-0374

WKD PROJ.: 20150003.00.RA
PROJ. ORIGIN DATE: APRIL 2017
P.M.: JPK
DRAWN BY: RAB/MRM

PROFESSIONAL SEAL

REV. RECORD:

BY	DATE	DESCRIPTION

PROJECT NAME:
ACZ AIRPORT LAYOUT PLAN UPDATE

OWNER OR CLIENT:
TOWN OF WALLACE

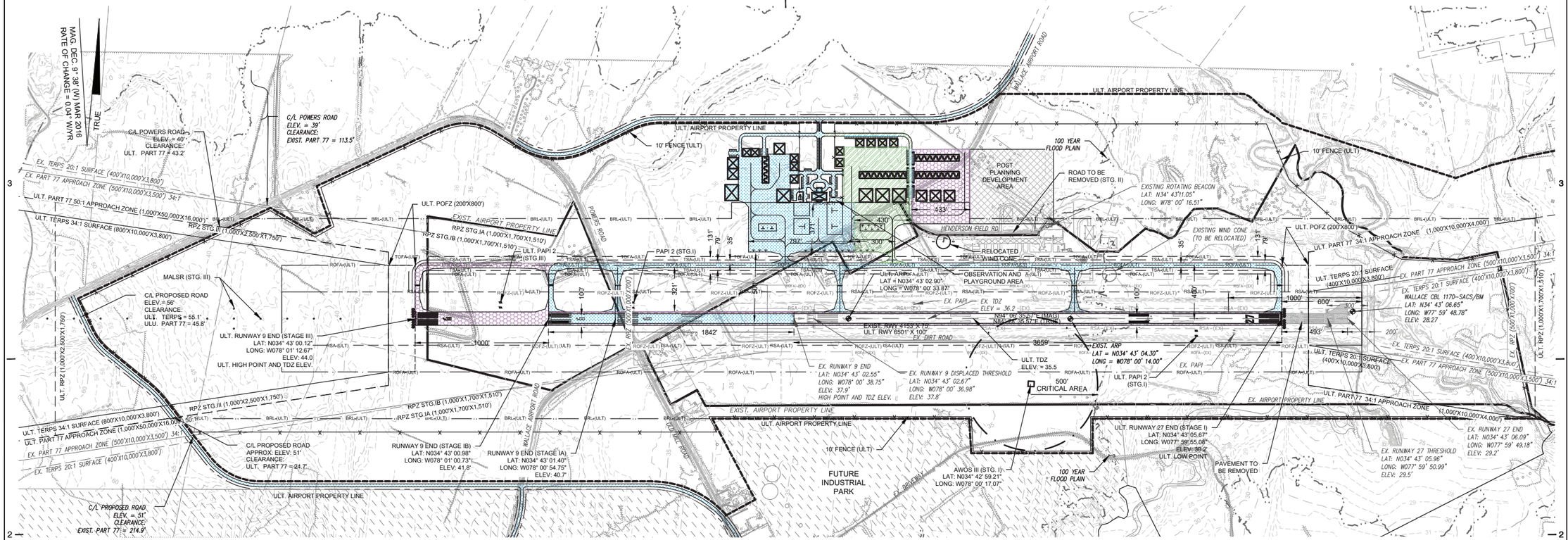
PLAN KEY:

DRAWING TITLE:
COVER SHEET

DRAWING NUMBER:
C1

PLOT DATE: 4/27/2017

FILE PATH: J:\Projects\Wallace\20150003OORA - ACZ Airport Layout Plan Update TO11\CADD\Plan Set\20150003OORA_C_SHT_COVER.dwg



NOTE:

1: ALL LATITUDE AND LONGITUDE COORDINATES ARE IN NAD '83 FORMAT.
2: ALL ELEVATIONS SHOWN ARE IN REFERENCE TO NAVD 88.
3: PLANIMETRICS/CONTOURS WERE OBTAINED JUNE 2015 BY WOOLPERT, INC.
4: THE WETLANDS SHOWN ON PLANS WERE DETERMINED BY THE APPROVED JURISDICTIONAL WETLAND DETERMINATION, US ARMY CORPS OF ENGINEERS DATED MARCH 6, 2013 AND FROM THE NATIONAL WETLAND INVENTORY.
5: THE 100 YEAR FLOOD PLAIN SHOWN WAS OBTAINED BY FEMA MAP# 3720239500K DATED FEBRUARY 16, 2007.
6: MAGNETIC VARIATION CITED ON NORTH ARROW WAS CALCULATED ON THE NOAA WEBSITE: http://www.ngdc.noaa.gov/geomag-web
7: SEE SHEETS C9 AND C11 FOR DEPARTURE SURFACE INFORMATION.

GRAPHIC SCALE

400 0 200 400 800 1600

(IN FEET)
1 inch = 400 ft.

RUNWAY 9-27 DATA TABLE

DESCRIPTION	EXISTING	STAGE I	STAGE II	STAGE III
EFFECTIVE GRADIENT (%)	0.21%	N/C	N/C	N/C
WIND COVERAGE (ALL WEATHER)	(13 KNOTS/15 MPH) 94.54%	N/C	N/C	N/C
WIND COVERAGE (IFR)	(13 KNOTS/15 MPH) 93.35%	N/C	N/C	N/C
MAX. ELEVATION (MSL)	38	N/C	N/C	N/C
RUNWAY (LENGTH X WIDTH)	4,153' X 75'	5,501' X 75'	N/C	6,501' X 100'
DISPLACED THRESHOLD	(RWY 9) 148.6' (RWY 27) 151.2'	N/A	N/A	N/A
USABLE RUNWAY LENGTH	3,853.2'	5,501'	N/C	6,501'
SURFACE TYPE	ASPHALT	N/C	N/C	N/C
PAVEMENT STRENGTH (SINGLE WHEEL)	12,500 LBS.	30,000 LBS.	N/C	N/C
PAVEMENT STRENGTH (DUAL WHEEL)	30,000 LBS.	65,000 LBS.	N/C	N/C
PAVEMENT CLASSIFICATION NUMBER (PCN)	N/A	20 F/C/X/T	N/C	N/C
APPROACH SURFACE SLOPE (RWY 9)	34:1 (NPI) 500'X10,000'X3,500'	34:1 (NPI) 500'X10,000'X4,000'	N/C	50:1 (PI) 1,000'X50,000'X16,000'
APPROACH SURFACE SLOPE (RWY 27)	34:1 (NPI) 500'X10,000'X3,500'	34:1 (NPI) 1,000'X10,000'X4,000'	N/C	N/C
DEPARTURE SURFACE SLOPE (RWY 9)	40:1 1,000' X 10,200 X 6,466'	N/C	N/C	N/C
DEPARTURE SURFACE SLOPE (RWY 27)	40:1 1,000' X 10,200 X 6,466'	N/C	N/C	N/C
APPROACH MINIMUMS (RWY 9)	314 - 1 MILE	250 - ½ MILE	N/C	200 - ½ MILE
APPROACH MINIMUMS (RWY 27)	331 - 1 MILE	250 - ½ MILE	N/C	N/C
VISUAL APPROACH AIDS	PAPI (9/27),	REILs	N/C	MALSR
INSTRUMENT APPROACH AIDS	ROTATING BEACON GPS LPV, VOR	N/C	N/C	N/C
RUNWAY LIGHTING	MIRL	N/C	N/C	HIRL
RUNWAY MARKING	NPI/NPI	N/C	N/C	PIR/NPI
RUNWAY DESIGN CODE (RDC)	B-II-5000	C-II-4000	N/C	C-II-2400
CRITICAL AIRCRAFT	CITATION 560	G450	N/C	N/C
OBJECT FREE AREA (OFA) (WIDTH)	500'	800'	N/C	N/C
(OFA) LENGTH BEYOND RUNWAY	300'	1000'	N/C	N/C
RUNWAY SAFETY AREA (RSA) (WIDTH)	150'	400'	N/C	N/C
(RSA) LENGTH BEYOND RUNWAY	300'	1000'	N/C	N/C
OBSTACLE FREE ZONE (OFZ) (WIDTH)	400'	400'	N/C	N/C
(OFZ) LENGTH BEYOND RUNWAY	200'	200'	N/C	N/C
FAR PART 77 APPROACH CATEGORY	C(NP)	D(NP)	N/C	PIR
RUNWAY PROTECTION ZONE (RPZ) RWY 9	500'X1,000'X700'	1,000'X1,700'X1,510'	N/C	1,000'X2,500'X1,750'
RUNWAY PROTECTION ZONE (RPZ) RWY 27	500'X1,000'X700'	1,000'X1,700'X1,510'	N/C	N/C
RUNWAY 9 LATITUDE (THRESHOLD)	034° 43' 02.55" N	034° 43' 00.98" N	N/C	034° 43' 00.12" N
RUNWAY 9 LONGITUDE (THRESHOLD)	078° 00' 38.75" W	078° 01' 00.73" W	N/C	078° 01' 12.67" W
RUNWAY 9 LATITUDE (DISP. THRESHOLD)	034° 43' 02.67" N	N/A	N/A	N/A
RUNWAY 9 LONGITUDE (DISP. THESHOLD)	078° 00' 36.98" W	N/A	N/A	N/A
RUNWAY 27 LATITUDE (THRESHOLD)	034° 43' 06.09" N	034° 43' 06.09" N	N/C	034° 43' 06.09" N
RUNWAY 27 LONGITUDE (THRESHOLD)	077° 59' 49.18" W	077° 59' 49.18" W	N/C	077° 59' 49.18" W
RUNWAY 27 LATITUDE (DISP. THRESHOLD)	034° 43' 05.96" N	N/A	N/A	N/A
RUNWAY 27 LONGITUDE (DISP. THESHOLD)	077° 59' 50.99" W	N/A	N/A	N/A
RUNWAY END ELEVATION (MSL) RWY 9	37.9	41.8	42.9	44.0
RUNWAY END ELEVATION (MSL) RWY 27	29.2	29.2	N/C	N/C
DISP. THRESHOLD ELEVATION (MSL) RWY 9	37.8	N/A	N/A	N/A
DISP. THRESHOLD ELEVATION (MSL) RWY 27	29.5	N/A	N/A	N/A
TDZ ELEVATION (MSL)	RWY 9 (37.9) - RWY 23 (36.2)	RWY 9 (41.8) - RWY 23 (35.5)	N/C	RWY 9 (44.0) - RWY 23 (N/C)
LINE OF SIGHT VIOLATIONS	N/A	N/C	N/C	N/C

AIRPORT DATA TABLE

DESCRIPTION	EXISTING	ULTIMATE
AIRPORT ELEVATION (MSL)	38.0	44.0
AIRPORT REFERENCE POINT (NAD 83)		
LATITUDE	34° 43' 04.30" N	34° 43' 02.90" N
LONGITUDE	78° 00' 14.00" W	78° 00' 33.87" W
MEAN MAXIMUM TEMPERATURE (HOTTEST MONTH)	89° (F)	N/C
AIRPORT TERMINAL AREA NAVAIDS (OWNERSHIP)	GPS, ROTATING BEACON (SPONSOR); VOR (FAA REMOTE)	MALSR
MAGNETIC VARIATION	0.04°	N/C
DATE OF MAGNETIC VARIATION	MARCH 2016	N/C
NPIAS SERVICE LEVEL	GENERAL AVIATION	N/C
NCDOA SERVICE LEVEL	BLUE	RED
AIRPORT REFERENCE CODE (ARC)	B-II	C-II
TAXIWAY WIDTH	41'	35'
TAXIWAY SAFETY AREA (TSA) WIDTH	79'	N/C
TAXIWAY OFA	131'	N/C
TAXILANE OFA	115'	N/C
TAXIWAY STRENGTH	12,500 LBS. SW	30,000 LBS. SW
TAXIWAY LIGHTING	MITL	MITL
TAXIWAY MARKING	YES	N/C
GPS AVAILABILITY AT AIRPORT	RUNWAY 9 (STRAIGHT-IN) RUNWAY 27 (STRAIGHT-IN)	N/C

LEGEND

EXISTING	DESCRIPTION	ULTIMATE
	RUNWAY MARKING	
RSA–(EX)	RUNWAY SAFETY AREA (RSA)	RSA-(ULT)
ROFA-(EX)	RUNWAY OBJECT FREE AREA (ROFA)	ROFA-(ULT)
ROFZ-(EX)	RUNWAY OBSTACLE FREE ZONE (ROFZ)	ROFZ-(ULT)
RPZ-(EX)	RUNWAY PROTECTION ZONE (RPZ)	RPZ-(ULT)
TOFA-(EX)	TAXIWAY OBJECT FREE AREA (TOFA)	TOFA-(ULT)
TSA-(EX)	TAXIWAY SAFETY AREA (TSA)	TSA-(ULT)
N/A	BUILDING RESTRICTION LINE (BRL)	BRL-(ULT)
	AIRPORT PAVEMENT	
	AIRPORT REFERENCE POINT	
	AIRPORT BUILDINGS	
	OTHER BUILDINGS	N/A
	AIRPORT PROPERTY LINE	
	AIRPORT EASEMENT LINE	
	OTHER PROPERTY LINES	N/A
	FENCE	
	ROADS	
	TREE LINE	N/A
	100 YEAR FLOODPLAIN	N/A
	GROUND ELEVATION CONTOURS	N/A
	DITCH/CREEK	N/A
	THRESHOLD LIGHTS	
N/A	PAVEMENT TO BE REMOVED	
N/A	FUTURE INDUSTRIAL PARK	

STAGE I (0-5 YEARS) | STAGE II (6-10 YEARS) | STAGE III (11-20 YEARS)

EXISTING DECLARED DISTANCES

	RUNWAY 9	RUNWAY 27
TORA	4,153'	4,153'
TODA	4,153'	4,153'
ASDA	4,002'	4,153'
LDA	3,854'	4,002'

ULTIMATE DECLARED DISTANCES

	RUNWAY 9	RUNWAY 27
TORA	6,500'	6,500'
TODA	6,500'	6,500'
ASDA	6,100'	6,500'
LDA	6,100'	6,500'

CONDITIONALLY APPROVED
FEDERAL AVIATION ADMINISTRATION /
NORTH CAROLINA DIVISION OF AVIATION

DATE: _____

APPROVING OFFICIAL
MEMPHIS AIRPORTS DISTRICT OFFICE / NCDOA

FAA / NCDOA APPROVAL STAMP

CONSTRUCTION NOTICE REQUIREMENT

TO PROTECT OPERATIONAL SAFETY AND FUTURE DEVELOPMENT, ALL PROPOSED CONSTRUCTION ON THE AIRPORT MUST BE COORDINATED BY THE AIRPORT OWNER WITH THE FAA AIRPORTS DISTRICT OFFICE PRIOR TO CONSTRUCTION. FAA'S REVIEW TAKES APPROXIMATELY 60 DAYS.

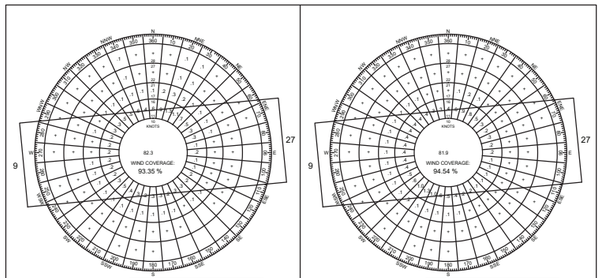
THIS SIGNATURE CERTIFIES SPONSOR'S APPROVAL OF THE INFORMATION CONTAINED IN THIS PLAN.

_____ DATE: _____

MATT LIVINGSTON
TOWN OF WALLACE, TOWN MANAGER

"THE PREPARATION OF THIS DOCUMENT WAS FINANCED IN PART THROUGH A PLANNING GRANT FROM THE FEDERAL AVIATION ADMINISTRATION AND THE NORTH CAROLINA DIVISION OF AVIATION AS PROVIDED UNDER SECTION 505 OF THE AIRPORT AND AIRWAY IMPROVEMENT ACT OF 1982. THE CONTENTS DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FAA.

ACCEPTANCE OF THIS REPORT BY THE FAA/SCAC DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED THEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAWS."



IFR

DIRECTION	10.5 KTS/ 12 MPH	13 KTS/ 15 MPH	16 KTS/ 18 MPH
9	33.44	36.03	38.45
27	28.96	30.84	32.45
CALMS	26.69	26.69	26.69
TOTAL	88.89	93.35	97.35
NOT COVERED	11.11	6.65	2.65

NOTE:
1. MAY NOT TOTAL DUE TO ROUNDING.
2. VALUES ARE EXPRESSED IN PERCENTAGE.

SOURCE: NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
STATION: WILMINGTON INTERNATIONAL AIRPORT
WILMINGTON , NC
PERIOD COVERED 2005-2015

HENDERSON FIELD AIRPORT
IFR WEATHER WIND ROSE

ALL WEATHER

DIRECTION	10.5 KTS/ 12 MPH	13 KTS/ 15 MPH	16 KTS/ 18 MPH
9	33.44	35.31	37.10
27	37.38	40.21	42.45
CALMS	19.21	19.21	19.21
TOTAL	89.84	94.54	98.53
NOT COVERED	10.16	5.46	1.47

NOTE:
1. MAY NOT TOTAL DUE TO ROUNDING.
2. VALUES ARE EXPRESSED IN PERCENTAGE.

SOURCE: NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
STATION: WILMINGTON INTERNATIONAL AIRPORT
WILMINGTON , NC
PERIOD COVERED 2005-2015

HENDERSON FIELD AIRPORT
ALL WEATHER WIND ROSE

WK DICKSON
community infrastructure consultants
Transportation + Water Resources
Urban Development + Geomatics
720 Corporate Center Drive
Raleigh, NC 27607
919.782.0495 (t)
919.782.9672 (f)
www.wkdickson.com
NC LICENSE NO. F-0374

WKD PROJ.: 20150003.00:RA
PROJ. ORIGIN DATE: MARCH 2017
P.M.: JPK
DRAWN BY: RAB/MRM

266 PROFESSIONAL SEAL

REV. RECORD:

BY	DATE	DESCRIPTION

PROJECT NAME:
ACZ AIRPORT LAYOUT PLAN UPDATE

OWNER OR CLIENT:
TOWN OF WALLACE

PLAN KEY:

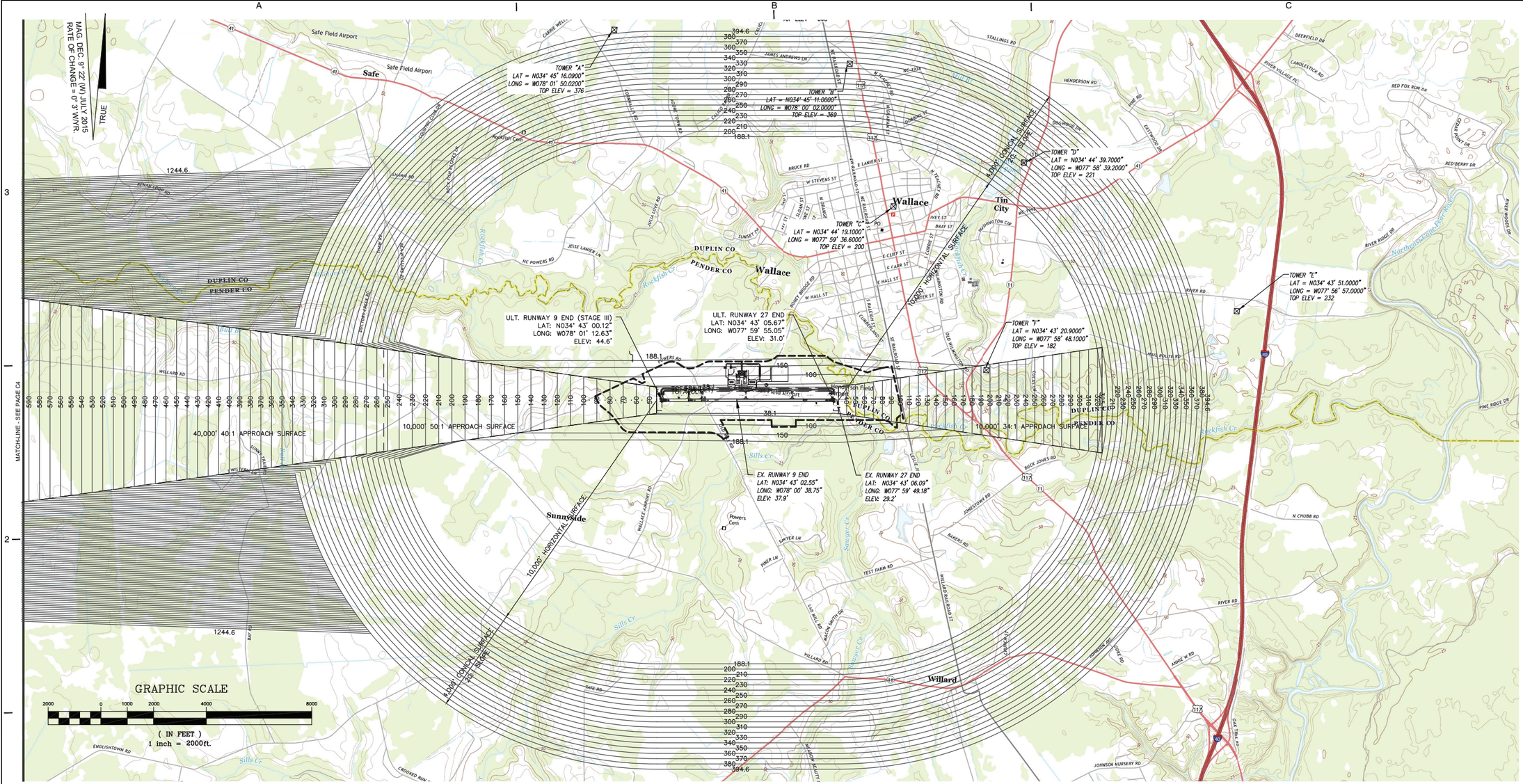
DRAWING TITLE:
AIRPORT LAYOUT PLAN

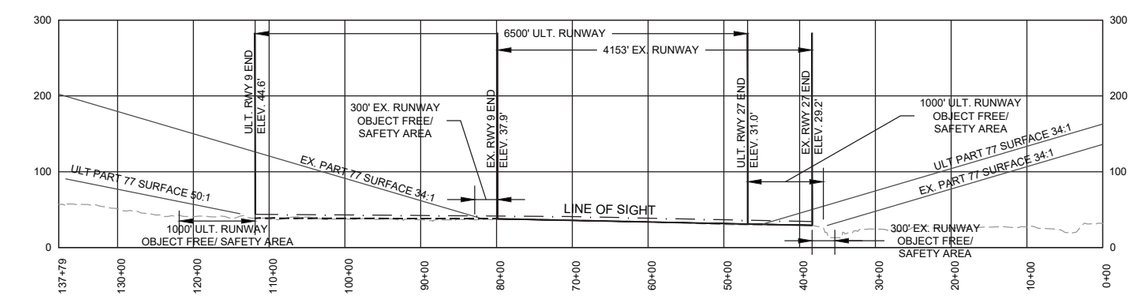
DRAWING NUMBER:
C2

PLOT DATE: 4/5/2017

- DRAWING STATUS - PLANNING DOCUMENTS - FINAL -

FILE PATH: J:\Projects\Wallace\2015000300RA - ACZ Airport Layout Plan Update TO11\CADD\Plan Set\2015000300RA_C_SHT_ALP.dwg





C/L AIRSPACE PROFILE

SCALE:
HORIZ. 1"=1000'
VERT. 1"=100'

EXISTING OBSTRUCTIONS

DESCRIPTION	OBSTRUCTION TOP ELEV.	OBSTRUCTION GROUND ELEV.	AIRSPACE PENETRATION	STROBE INDICATOR
TOWER "A"	310	71	NONE	NONE
TOWER "B"	314	65	39'	D
TOWER "C"	415	55	12'	D
TOWER "D"	390	48	NONE	NONE
TOWER "E"	232	33	NONE	NONE
TOWER "F	182	31	NONE	NONE

NOTES:

STROBE INDICATOR "D" (DUAL RED WITH MEDIUM INTENSITY WHITE STROBE)

NOTES:

1. ALL TOWER LOCATIONS AND ELEVATIONS ARE APPROXIMATE AND PROVIDED BY THE FAA NATIONAL AERONAUTICAL CHARTING OFFICE (3/2/16).
2. TOWER LOCATIONS ARE BASED ON NAD 83 INFORMATION, AND TOWER ELEVATIONS ARE BASED ON NAVD 88 INFORMATION.
3. FOR CLOSE-IN OBSTRUCTIONS REFER TO "INNER APPROACH AND DEPARTURE SURFACE PLANS". ALL OTHER KNOWN OBSTRUCTIONS ARE SHOWN HERE.
4. USGS 7.5 MINUTE QUAD MAP WAS USED TO PREPARE THIS PLAN.
5. WALLACE HEIGHT AND HAZARD RESTRICTION ZONING IS IN PLACE (*CHAPTER 4, SECTION 8 AIRPORT ZONING CODE, WITHIN THE UNIFIED DEVELOPMENT ORDINANCE*).
6. PLANIMETRICS/CONTOURS WERE OBTAINED JUNE 2015 BY WOOLPERT, INC.

- DRAWING STATUS - PLANNING DOCUMENTS - FINAL

WK DICKSON
community infrastructure consultants
Transportation + Water Resources
Urban Development + Geomatics
720 Corporate Center Drive
Raleigh, NC 27607
919.782.0495 (t)
919.782.9672 (f)
www.wkdickson.com
NC LICENSE NO. F-0374

WKD PROJ.: 20150003.00.RA
PROJ. ORIGIN DATE: MARCH 2017
P.M.: JPK
DRAWN BY: RAB/MRM

PROFESSIONAL SEAL

REV. RECORD:

BY	DATE	DESCRIPTION

PROJECT NAME:
ACZ AIRPORT LAYOUT PLAN UPDATE

OWNER OR CLIENT:
TOWN OF WALLACE

PLAN KEY:

DRAWING TITLE:
AIRSPACE PLAN (1)

DRAWING NUMBER:
C3

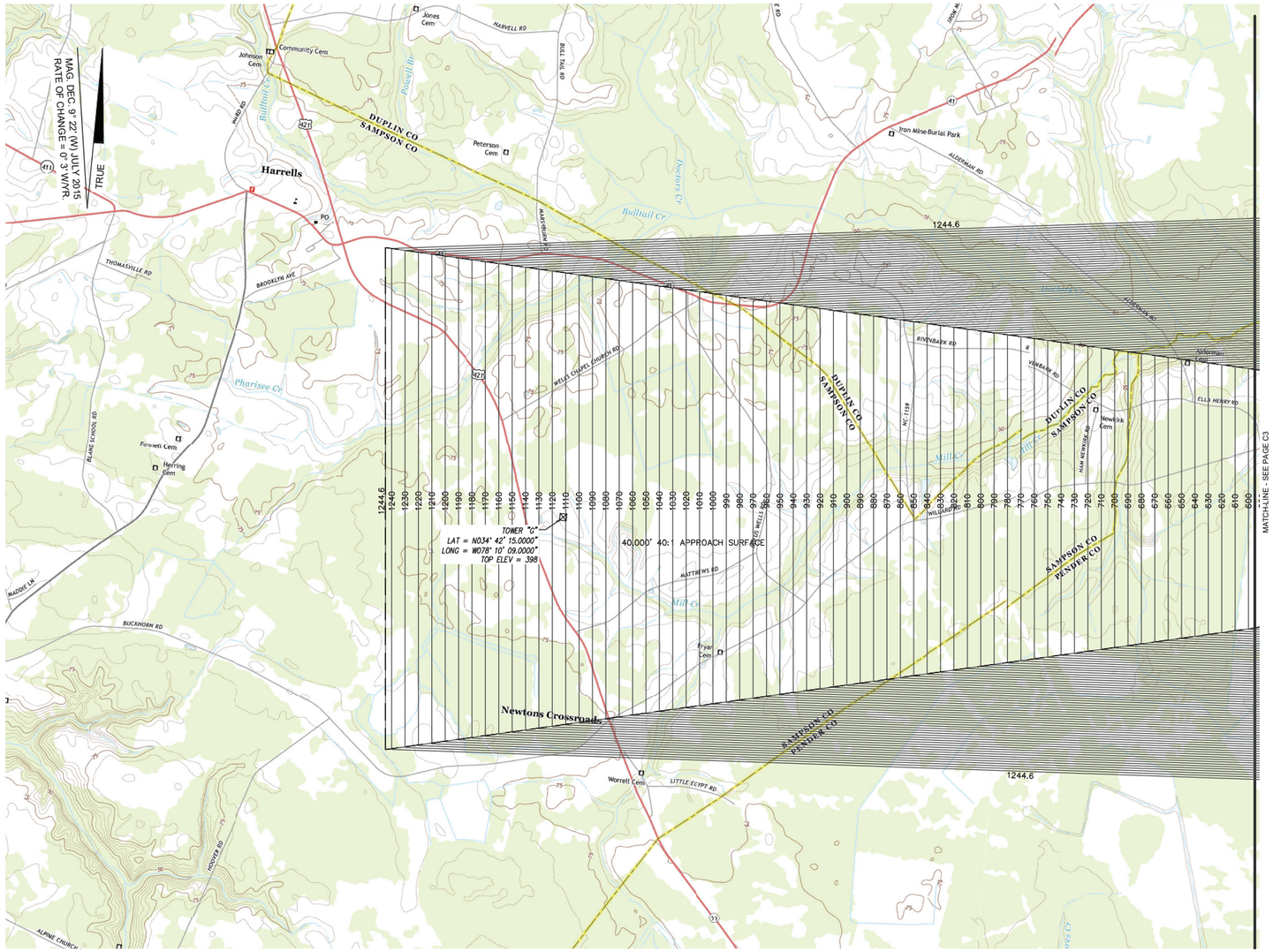
PLOT DATE: 4/5/2017

FILE PATH: J:\Projects\Wallace\20150003000RA - ACZ Airport Layout Plan Update TO11\CADD\Plan Set\20150003000RA_C_SHT_AIRSPACE PLAN.dwg

LEGEND		
EXISTING	**DESCRIPTION**	**ULTIMATE**
	RUNWAY MARKING	
RSA-(EX)	RUNWAY SAFETY AREA (RSA)	RSA-(ULT)
ROFA-(EX)	RUNWAY OBJECT FREE AREA (ROFA)	ROFA-(ULT)
ROFZ-(EX)	RUNWAY OBSTACLE FREE ZONE (ROFZ)	ROFZ-(ULT)
RPZ-(EX)	RUNWAY PROTECTION ZONE (RPZ)	RPZ-(ULT)
TOFA-(EX)	TAXIWAY OBJECT FREE AREA (TOFA)	TOFA-(ULT)
TSA-(EX)	TAXIWAY SAFETY AREA (TSA)	TSA-(ULT)
N/A	BUILDING RESTRICTION LINE (BRL)	BRL-(ULT)
	AIRPORT PAVEMENT	
	AIRPORT REFERENCE POINT	
	AIRPORT BUILDINGS	
	OTHER BUILDINGS	N/A
	AIRPORT PROPERTY LINE	PL
	AIRPORT EASEMENT LINE	
	OTHER PROPERTY LINES	N/A
	FENCE	
	ROADS	
	TREE LINE	N/A
	WETLANDS	N/A
	GROUND ELEVATION CONTOURS	N/A
	DITCH/CREEK	N/A
	THRESHOLD LIGHTS	

NOTES:

1. ALL TOWER LOCATIONS AND ELEVATIONS ARE APPROXIMATE AND PROVIDED BY THE FAA NATIONAL AERONAUTICAL CHARTING OFFICE (3/2/16).
2. TOWER LOCATIONS ARE BASED ON NAD 83 INFORMATION, AND TOWER ELEVATIONS ARE BASED ON NAVD 88 INFORMATION.
3. FOR CLOSE-IN OBSTRUCTIONS REFER TO "INNER APPROACH AND DEPARTURE SURFACE PLANS". ALL OTHER KNOWN OBSTRUCTIONS ARE SHOWN HERE.
4. USGS 7.5 MINUTE QUAD MAP WAS USED TO PREPARE THIS PLAN.
5. WALLACE HEIGHT AND HAZARD RESTRICTION ZONING IS IN PLACE (*CHAPTER 4, SECTION 8 AIRPORT ZONING CODE, WITHIN THE UNIFIED DEVELOPMENT ORDINANCE*).
6. PLANIMETRICS/CONTOURS WERE OBTAINED JUNE 2015 BY WOOLPERT, INC.



GRAPHIC SCALE

2000 0 1000 2000 4000 8000

(IN FEET)
1 inch = 2000ft.

EXISTING OBSTRUCTIONS

DESCRIPTION	OBSTRUCTION TOP ELEV.	OBSTRUCTION GROUND ELEV.	AIRSPACE PENETRATION	STROBE INDICATOR
TOWER "G"	398	72	NONE	NONE

- DRAWING STATUS - PLANNING DOCUMENTS - FINAL

WK DICKSON
community infrastructure consultants
Transportation + Water Resources
Urban Development + Geomatics
720 Corporate Center Drive
Raleigh, NC 27607
919.782.0495 (t)
919.782.9672 (f)
www.wkdickson.com
NC LICENSE NO. F-0374

WKD PROJ.: 20150003.00.RA
PROJ. ORIGIN DATE: MARCH 2017
P.M.: JPK
DRAWN BY: RAB/MRM

PROFESSIONAL SEAL

REV. RECORD:

BY	DATE	DESCRIPTION

PROJECT NAME:
ACZ AIRPORT LAYOUT PLAN UPDATE

OWNER OR CLIENT:
TOWN OF WALLACE

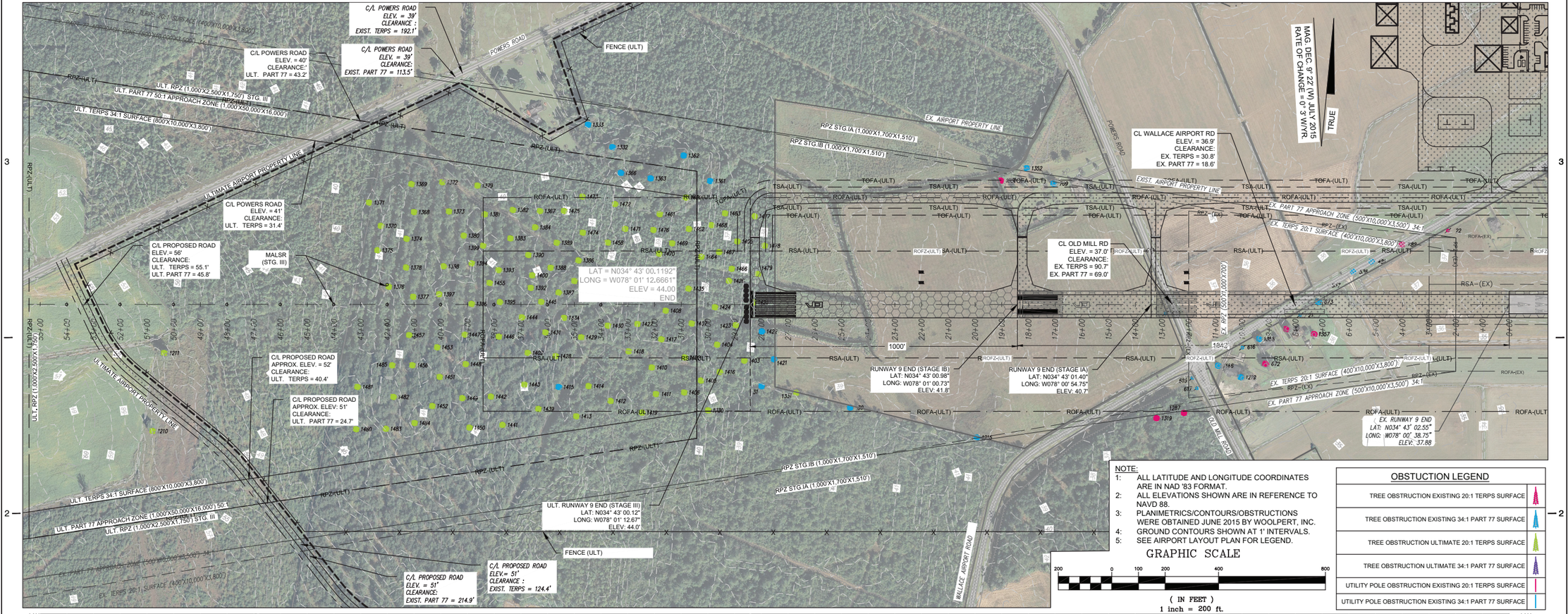
PLAN KEY:

DRAWING TITLE:
AIRSPACE PLAN (2)

DRAWING NUMBER:
C4

PLOT DATE: 4/5/2017

FILE PATH: J:\Projects\Wallace\20150003000RA - ACZ Airport Layout Plan Update TO11\CADD\Plan Set\20150003000RA_C_SHT_AIRSPACE PLAN.dwg



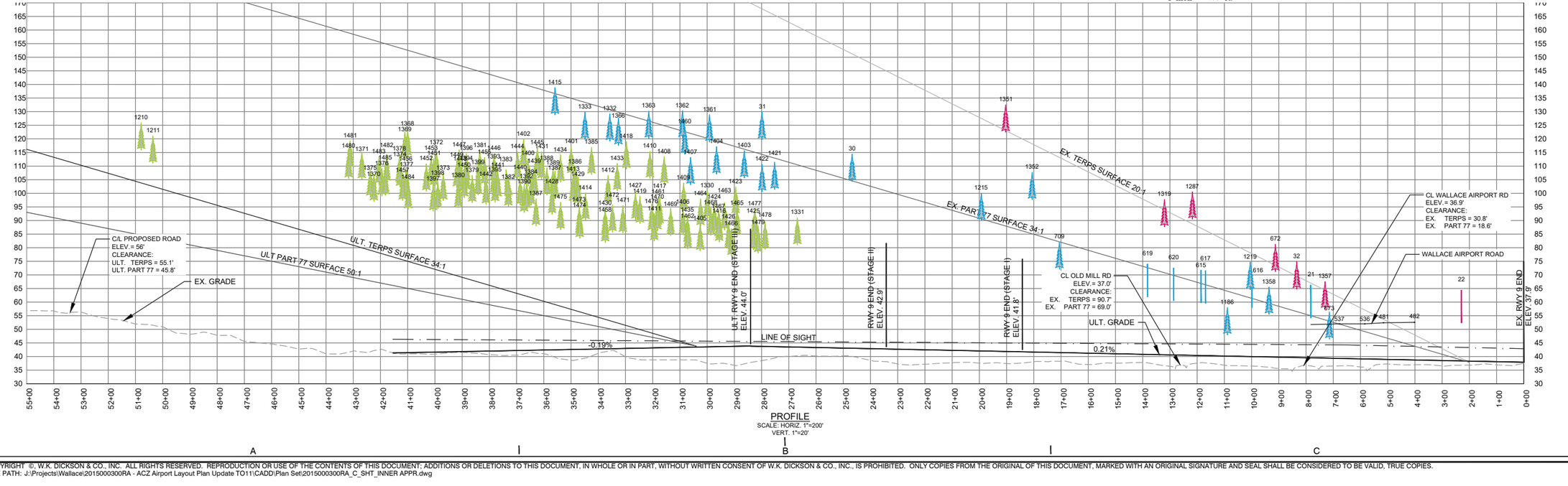
NOTE:
1: ALL LATITUDE AND LONGITUDE COORDINATES ARE IN NAD '83 FORMAT.
2: ALL ELEVATIONS SHOWN ARE IN REFERENCE TO NAVD 88.
3: PLANIMETRICS/CONTOURS/OBSTRUCTIONS WERE OBTAINED JUNE 2015 BY WOOLPERT, INC.
4: GROUND CONTOURS SHOWN AT 1' INTERVALS.
5: SEE AIRPORT LAYOUT PLAN FOR LEGEND.

GRAPHIC SCALE

200 0 100 200 400 800

(IN FEET)
1 inch = 200 ft.

OBSTUCTION LEGEND
TREE OBSTRUCTION EXISTING 20:1 TERPS SURFACE
TREE OBSTRUCTION EXISTING 34:1 PART 77 SURFACE
TREE OBSTRUCTION ULTIMATE 20:1 TERPS SURFACE
TREE OBSTRUCTION ULTIMATE 34:1 PART 77 SURFACE
UTILITY POLE OBSTRUCTION EXISTING 20:1 TERPS SURFACE
UTILITY POLE OBSTRUCTION EXISTING 34:1 PART 77 SURFACE



PROFILE
SCALE: HORIZ 1"=200'
VERT. 1"=20'

WK DICKSON
community infrastructure consultants
Transportation + Water Resources
Urban Development + Geomatics
720 Corporate Center Drive
Raleigh, NC 27607
919.782.0495 (t)
919.782.9672 (f)
www.wkdickson.com
NC LICENSE NO. F-0374

WKD PROJ.: 20150003.00.RA
PROJ. ORIGIN DATE: MARCH 2017
P.M.: JPK
DRAWN BY: RAB/MRM

PROFESSIONAL SEAL

REV. RECORD:

BY	DATE	DESCRIPTION

DRAWING STATUS - PLANNING DOCUMENTS - FINAL

PROJECT NAME:
ACZ AIRPORT LAYOUT PLAN UPDATE

OWNER OR CLIENT:
TOWN OF WALLACE

PLAN KEY:

DRAWING TITLE:
INNER APPROACH SURFACES RUNWAY 9

DRAWING NUMBER:
C5

PLOT DATE: 4/5/2017

FILE PATH: J:\Projects\Wallace\2015000300RA - ACZ Airport Layout Plan Update TO11\CADD\Plan Set\2015000300RA_C_SHT_INNER APPR.dwg

EXISTING TERPS 20:1 APPROACH OBSTRUCTION POINT TABLE

POINT #	OBSTRUCTION ELEVATION	LATITUDE	LONGITUDE	DESCRIPTION	PENETRATION	FEET	MITIGATION
22	64.41	N34° 43' 05.08"	W78° 00' 41.78"	PP	EX. TERPS 20:1	25.3	REMOVAL STG. I
32	74.79	N34° 43' 00.93"	W78° 00' 48.61"	TREE	EX. TERPS 20:1	5.1	REMOVAL STG. I
482	52.55	N34° 43' 04.42"	W78° 00' 43.78"	ROAD	EX. TERPS 20:1	4.6	REMOVAL STG. I
672	81.22	N34° 42' 59.58"	W78° 00' 49.41"	TREE	EX. TERPS 20:1	7.7	REMOVAL STG. I
1287	100.52	N34° 42' 57.51"	W78° 00' 52.86"	TREE	EX. TERPS 20:1	11.8	REMOVAL STG. I
1319	97.69	N34° 42' 57.23"	W78° 00' 54.07"	TREE	EX. TERPS 20:1	3.8	REMOVAL STG. I
1351	132.47	N34° 43' 05.49"	W78° 01' 01.95"	TREE	EX. TERPS 20:1	9.4	REMOVAL STG. I
1357	67.51	N34° 43' 00.84"	W78° 00' 47.35"	TREE	EX. TERPS 20:1	3.1	REMOVAL STG. I

EXISTING PART 77 34:1 OBSTRUCTION POINT TABLE

POINT #	OBSTRUCTION ELEVATION	LATITUDE	LONGITUDE	DESCRIPTION	PENETRATION	FEET	MITIGATION
21	66.22	N34° 43' 01.49"	W78° 00' 48.05"	PP	EX. PART 77 34:1	11.2	REMOVAL STG. I
30	114.41	N34° 42' 56.64"	W78° 01' 07.80"	TREE	EX. PART 77 34:1	9.8	REMOVAL STG. I
31	129.79	N34° 42' 57.15"	W78° 01' 11.84"	TREE	EX. PART 77 34:1	15.5	REMOVAL STG. I
481	52.40	N34° 43' 03.70"	W78° 00' 45.07"	ROAD	EX. PART 77 34:1	5.2	REMOVAL STG. I
536	52.00	N34° 43' 03.26"	W78° 00' 45.85"	ROAD	EX. PART 77 34:1	2.8	REMOVAL STG. I
615	71.75	N34° 42' 58.83"	W78° 00' 52.62"	TELEPHONE PYLON/POLE	EX. PART 77 34:1	4.9	REMOVAL STG. I
616	70.02	N34° 43' 00.10"	W78° 00' 50.51"	TELEPHONE PYLON/POLE	EX. PART 77 34:1	8.7	REMOVAL STG. I
617	71.55	N34° 42' 58.46"	W78° 00' 52.38"	TELEPHONE PYLON/POLE	EX. PART 77 34:1	5.3	REMOVAL STG. I
619	73.95	N34° 43' 03.37"	W78° 00' 55.46"	TELEPHONE PYLON/POLE	EX. PART 77 34:1	1.3	REMOVAL STG. I
620	72.54	N34° 43' 01.12"	W78° 00' 54.07"	TELEPHONE PYLON/POLE	EX. PART 77 34:1	2.8	REMOVAL STG. I
673	56.41	N34° 43' 02.04"	W78° 00' 47.29"	TREE	EX. PART 77 34:1	3.4	REMOVAL STG. I
709	82.11	N34° 43' 05.55"	W78° 00' 59.58"	TREE	EX. PART 77 34:1	-0.1	REMOVAL STG. I
1186	57.99	N34° 42' 59.36"	W78° 00' 51.51"	TREE	EX. PART 77 34:1	-6.0	REMOVAL STG. I
1215	100.07	N34° 42' 55.94"	W78° 01' 02.02"	TREE	EX. PART 77 34:1	9.4	REMOVAL STG. I
1219	74.68	N34° 42' 59.01"	W78° 00' 50.46"	TREE	EX. PART 77 34:1	13.2	REMOVAL STG. I
1332	129.20	N34° 43' 05.48"	W78° 01' 19.44"	TREE	EX. PART 77 34:1	-1.6	REMOVAL STG. I

EXISTING PART 77 34:1 OBSTRUCTION POINT TABLE

POINT #	OBSTRUCTION ELEVATION	LATITUDE	LONGITUDE	DESCRIPTION	PENETRATION	FEET	MITIGATION
1333	129.86	N34° 43' 06.23"	W78° 01' 20.61"	TREE	EX. PART 77 34:1	-3.6	REMOVAL STG. I
1352	107.68	N34° 43' 06.03"	W78° 01' 00.84"	TREE	EX. PART 77 34:1	22.5	REMOVAL STG. I
1358	65.53	N34° 43' 00.48"	W78° 00' 49.79"	TREE	EX. PART 77 34:1	6.0	REMOVAL STG. I
1361	128.89	N34° 43' 04.55"	W78° 01' 14.93"	TREE	EX. PART 77 34:1	8.9	REMOVAL STG. I
1362	130.31	N34° 43' 05.40"	W78° 01' 16.22"	TREE	EX. PART 77 34:1	7.4	REMOVAL STG. I
1363	130.15	N34° 43' 04.45"	W78° 01' 17.61"	TREE	EX. PART 77 34:1	3.6	REMOVAL STG. I
1366	127.63	N34° 43' 04.56"	W78° 01' 18.96"	TREE	EX. PART 77 34:1	-2.2	REMOVAL STG. I
1403	115.65	N34° 42' 58.03"	W78° 01' 12.71"	TREE	EX. PART 77 34:1	-0.6	REMOVAL STG. I
1404	117.07	N34° 42' 58.54"	W78° 01' 13.99"	TREE	EX. PART 77 34:1	-2.1	REMOVAL STG. I
1407	113.15	N34° 42' 59.23"	W78° 01' 15.21"	TREE	EX. PART 77 34:1	-8.8	REMOVAL STG. I
1415	138.86	N34° 42' 56.46"	W78° 01' 20.91"	TREE	EX. PART 77 34:1	2.2	REMOVAL STG. I
1421	111.41	N34° 42' 58.17"	W78° 01' 11.39"	TREE	EX. PART 77 34:1	-1.6	REMOVAL STG. I
1422	110.62	N34° 42' 59.16"	W78° 01' 12.04"	TREE	EX. PART 77 34:1	-3.7	REMOVAL STG. I
1460	124.43	N34° 43' 03.86"	W78° 01' 15.95"	TREE	EX. PART 77 34:1	1.8	REMOVAL STG. I

ULTIMATE TERPS 34:1 APPROACH OBSTRUCTION POINT TABLE

POINT #	OBSTRUCTION ELEVATION	LATITUDE	LONGITUDE	DESCRIPTION	PENETRATION	FEET	MITIGATION
1210	125.91	N34° 42' 53.53"	W78° 01' 38.88"	TREE	ULT. TERPS 34:1	22.1	REMOVAL STG. II
1211	121.06	N34° 42' 56.45"	W78° 01' 38.67"	TREE	ULT. TERPS 34:1	18.5	REMOVAL STG. II
1330	100.90	N34° 42' 56.08"	W78° 01' 14.14"	TREE	ULT. TERPS 34:1	57.2	REMOVAL STG. II
1331	90.98	N34° 42' 57.01"	W78° 01' 10.26"	TREE	ULT. TERPS 34:1	47.5	REMOVAL STG. II
1367	98.02	N34° 43' 02.89"	W78° 01' 22.42"	TREE	ULT. TERPS 34:1	36.9	REMOVAL STG. II
1368	123.49	N34° 43' 02.45"	W78° 01' 28.05"	TREE	ULT. TERPS 34:1	48.4	REMOVAL STG. II
1369	122.71	N34° 43' 03.48"	W78° 01' 28.27"	TREE	ULT. TERPS 34:1	47.4	REMOVAL STG. II
1370	107.03	N34° 43' 01.84"	W78° 01' 29.47"	TREE	ULT. TERPS 34:1	28.5	REMOVAL STG. II
1371	115.18	N34° 43' 02.66"	W78° 01' 30.09"	TREE	ULT. TERPS 34:1	35.2	REMOVAL STG. II
1372	115.50	N34° 43' 03.64"	W78° 01' 26.90"	TREE	ULT. TERPS 34:1	43.6	REMOVAL STG. II
1373	107.34	N34° 43' 02.59"	W78° 01' 26.49"	TREE	ULT. TERPS 34:1	36.3	REMOVAL STG. II
1374	112.36	N34° 43' 01.45"	W78° 01' 28.28"	TREE	ULT. TERPS 34:1	36.1	REMOVAL STG. II
1375	108.76	N34° 43' 00.93"	W78° 01' 29.53"	TREE	ULT. TERPS 34:1	29.8	REMOVAL STG. II
1376	109.07	N34° 42' 59.62"	W78° 01' 28.88"	TREE	ULT. TERPS 34:1	31.3	REMOVAL STG. II
1377	108.58	N34° 42' 59.33"	W78° 01' 27.76"	TREE	ULT. TERPS 34:1	33.5	REMOVAL STG. II
1378	113.91	N34° 43' 00.38"	W78° 01' 28.19"	TREE	ULT. TERPS 34:1	38.1	REMOVAL STG. II
1379	106.56	N34° 43' 03.63"	W78° 01' 25.32"	TREE	ULT. TERPS 34:1	38.6	REMOVAL STG. II
1380	104.68	N34° 43' 01.74"	W78° 01' 25.74"	TREE	ULT. TERPS 34:1	35.2	REMOVAL STG. II

ULTIMATE TERPS 34:1 APPROACH OBSTRUCTION POINT TABLE

POINT #	OBSTRUCTION ELEVATION	LATITUDE	LONGITUDE	DESCRIPTION	PENETRATION	FEET	MITIGATION
1381	115.65	N34° 43' 02.60"	W78° 01' 24.87"	TREE	ULT. TERPS 34:1	48.1	REMOVAL STG. II
1382	105.15	N34° 43' 02.85"	W78° 01' 23.64"	TREE	ULT. TERPS 34:1	41.1	REMOVAL STG. II
1383	108.76	N34° 43' 01.80"	W78° 01' 23.64"	TREE	ULT. TERPS 34:1	44.5	REMOVAL STG. II
1384	105.62	N34° 43' 02.28"	W78° 01' 22.58"	TREE	ULT. TERPS 34:1	43.9	REMOVAL STG. II
1385	116.91	N34° 43' 00.40"	W78° 01' 19.71"	TREE	ULT. TERPS 34:1	61.7	REMOVAL STG. II
1386	109.69	N34° 43' 01.20"	W78° 01' 20.51"	TREE	ULT. TERPS 34:1	52.8	REMOVAL STG. II
1387	108.13	N34° 42' 59.95"	W78° 01' 21.28"	TREE	ULT. TERPS 34:1	49.0	REMOVAL STG. II
1388	109.38	N34° 43' 00.84"	W78° 01' 21.73"	TREE	ULT. TERPS 34:1	49.4	REMOVAL STG. II
1389	109.22	N34° 43' 01.78"	W78° 01' 21.55"	TREE	ULT. TERPS 34:1	50.0	REMOVAL STG. II
1390	102.95	N34° 43' 01.24"	W78° 01' 22.77"	TREE	ULT. TERPS 34:1	40.6	REMOVAL STG. II
1392	104.21	N34° 43' 00.03"	W78° 01' 22.54"	TREE	ULT. TERPS 34:1	42.1	REMOVAL STG. II
1393	109.85	N34° 43' 00.58"	W78° 01' 24.05"	TREE	ULT. TERPS 34:1	44.2	REMOVAL STG. II
1394	110.95	N34° 43' 00.75"	W78° 01' 25.27"	TREE	ULT. TERPS 34:1	42.2	REMOVAL STG. II
1395	106.72	N34° 42' 59.41"	W78° 01' 23.86"	TREE	ULT. TERPS 34:1	41.1	REMOVAL STG. II
1396	114.56	N34° 42' 59.25"	W78° 01' 25.12"	TREE	ULT. TERPS 34:1	45.8	REMOVAL STG. II
1397	103.42	N34° 42' 59.50"	W78° 01' 26.61"	TREE	ULT. TERPS 34:1	31.3	REMOVAL STG. II
1398	104.36	N34° 43' 00.55"	W78° 01' 26.51"	TREE	ULT. TERPS 34:1	32.6	REMOVAL STG. II
1399	109.38	N34° 43' 01.44"	W78° 01' 24.83"	TREE	ULT. TERPS 34:1	42.0	REMOVAL STG. II

ULTIMATE TERPS 34:1 APPROACH OBSTRUCTION POINT TABLE

POINT #	OBSTRUCTION ELEVATION	LATITUDE	LONGITUDE	DESCRIPTION	PENETRATION	FEET	MITIGATION
1400	112.67	N34° 43' 00.50"	W78° 01' 22.52"	TREE	ULT. TERPS 34:1	50.6	REMOVAL STG. II
1401	117.07	N34° 43' 00.42"	W78° 01' 20.61"	TREE	ULT. TERPS 34:1	59.7	REMOVAL STG. II
1402	119.89	N34° 42' 57.62"	W78° 01' 22.42"	TREE	ULT. TERPS 34:1	57.4	REMOVAL STG. II
1405	88.84	N34° 42' 57.16"	W78° 01' 14.57"	TREE	ULT. TERPS 34:1	45.2	REMOVAL STG. II
1406	94.80	N34° 42' 56.67"	W78° 01' 15.28"	TREE	ULT. TERPS 34:1	49.6	REMOVAL STG. II
1408	113.46	N34° 42' 59.62"	W78° 01' 16.42"	TREE	ULT. TERPS 34:1	66.3	REMOVAL STG. II
1409	103.74	N34° 42' 57.96"	W78° 01' 15.38"	TREE	ULT. TERPS 34:1	58.6	REMOVAL STG. II
1410	115.50	N34° 42' 57.48"	W78° 01' 16.82"	TREE	ULT. TERPS 34:1	66.8	REMOVAL STG. II
1411	92.45	N34° 42' 56.52"	W78° 01' 16.53"	TREE	ULT. TERPS 34:1	44.0	REMOVAL STG. II
1412	106.56	N34° 42' 56.11"	W78° 01' 18.53"	TREE	ULT. TERPS 34:1	53.2	REMOVAL STG. II
1413	106.87	N34° 42' 55.44"	W78° 01' 20.00"	TREE	ULT. TERPS 34:1	49.7	REMOVAL STG. II
1414	100.13	N34° 42' 56.59"	W78° 01' 19.57"	TREE	ULT. TERPS 34:1	44.4	REMOVAL STG. II
1416	92.15	N34° 42' 57.53"	W78° 01' 13.76"	TREE	ULT. TERPS 34:1	48.5	REMOVAL STG. II
1417	98.57	N34° 42' 58.55"	W78° 01' 16.50"	TREE	ULT. TERPS 34:1	50.7	REMOVAL STG. II
1418	118.92	N34° 42' 58.00"	W78° 01' 17.92"	TREE	ULT. TERPS 34:1	67.4	REMOVAL STG. II
1419	98.88	N34° 42' 55.78"	W78° 01' 17.09"	TREE	ULT. TERPS 34:1	48.8	REMOVAL STG. II
1423	102.33	N34° 42' 59.31"	W78° 01' 13.23"	TREE	ULT. TERPS 34:1	58.6	REMOVAL STG. II
1424	95.91	N34° 42' 59.91"	W78° 01' 14.23"	TREE	ULT. TERPS 34:1	52.2	REMOVAL STG. II

ULTIMATE TERPS 34:1 APPROACH OBSTRUCTION POINT TABLE

POINT #	OBSTRUCTION ELEVATION	LATITUDE	LONGITUDE	DESCRIPTION	PENETRATION	FEET	MITIGATION
1425	89.33	N34° 43' 00.21"	W78° 01' 12.54"	TREE	ULT. TERPS 34:1	45.4	REMOVAL STG. II
1426	89.49	N34° 43' 00.93"	W78° 01' 13.71"	TREE	ULT. TERPS 34:1	45.7	REMOVAL STG. II
1427	100.29	N34° 42' 59.04"	W78° 01' 17.63"	TREE	ULT. TERPS 34:1	49.9	REMOVAL STG. II
1428	102.33	N34° 42' 57.59"	W78° 01' 21.16"	TREE	ULT. TERPS 34:1	42.9	REMOVAL STG. II
1429	105.93	N34° 42' 58.37"	W78° 01' 20.09"	TREE	ULT. TERPS 34:1	49.4	REMOVAL STG. II
1430	94.34	N34° 42' 58.88"	W78° 01' 18.95"	TREE	ULT. TERPS 34:1	40.7	REMOVAL STG. II
1431	115.17	N34° 42' 58.44"	W78° 01' 21.71"	TREE	ULT. TERPS 34:1	54.6	REMOVAL STG. II
1433	110.94	N34° 42' 59.93"	W78° 01' 18.52"	TREE	ULT. TERPS 34:1	58.5	REMOVAL STG. II
1434	114.07	N34° 42' 59.03"	W78° 01' 20.94"	TREE	ULT. TERPS 34:1	55.6	REMOVAL STG. II
1435	91.83	N34° 43' 00.51"	W78° 01' 15.48"	TREE	ULT. TERPS 34:1	47.0	REMOVAL STG. II
1439	109.84	N34° 42' 55.59"	W78° 01' 21.72"	TREE	ULT. TERPS 34:1	48.5	REMOVAL STG. II
1440	105.61	N34° 42' 56.44"	W78° 01' 22.45"	TREE	ULT. TERPS 34:1	42.8	REMOVAL STG. II
1441	108.43	N34° 42' 54.89"	W78° 01' 23.27"	TREE	ULT. TERPS 34:1	43.1	REMOVAL STG. II
1442	105.93	N34° 42' 55.89"	W78° 01' 23.90"	TREE	ULT. TERPS 34:1	39.4	REMOVAL STG. II
1444	115.17	N34° 42' 58.92"	W78° 01' 22.82"	TREE	ULT. TERPS 34:1	52.1	REMOVAL STG. II
1445	116.73	N34° 42' 59.55"	W78° 01' 22.02"	TREE	ULT. TERPS 34:1	55.7	REMOVAL STG. II
1446	114.54	N34° 42' 58.13"	W78° 01' 23.77"	TREE	ULT. TERPS 34:1	48.9	REMOVAL STG. II
1447	115.95	N34° 42' 58.09"	W78° 01' 25.31"	TREE	ULT. TERPS 34:1	46.4	REMOVAL STG. II

ULTIMATE TERPS 34:1 APPROACH OBSTRUCTION POINT TABLE

POINT #	OBSTRUCTION ELEVATION	LATITUDE	LONGITUDE	DESCRIPTION	PENETRATION	FEET	MITIGATION
1448	110.62	N34° 42' 57.01"	W78° 01' 25.15"	TREE	ULT. TERPS 34:1	41.3	REMOVAL STG. II
1449	112.19	N34° 42' 55.74"	W78° 01' 25.17"	TREE	ULT. TERPS 34:1	42.5	REMOVAL STG. II
1450	108.43	N34° 42' 54.68"	W78° 01' 24.73"	TREE	ULT. TERPS 34:1	39.6	REMOVAL STG. II
1451	112.66	N34° 42' 56.45"	W78° 01' 26.26"	TREE	ULT. TERPS 34:1	40.6	REMOVAL STG. II
1452	110.78	N34° 42' 55.36"	W78° 01' 26.48"	TREE	ULT. TERPS 34:1	37.8	REMOVAL STG. II
1453	113.60	N34° 42' 57.54"	W78° 01' 26.49"	TREE	ULT. TERPS 34:1	41.1	REMOVAL STG. II
1455	113.13	N34° 43' 00.08"	W78° 01' 24.39"	TREE	ULT. TERPS 34:1	46.5	REMOVAL STG. II
1456	108.90	N34° 42' 56.80"	W78° 01' 27.53"	TREE	ULT. TERPS 34:1	33.7	REMOVAL STG. II
1457	107.34	N34° 42' 57.90"	W78° 01' 27.79"	TREE	ULT. TERPS 34:1	31.8	REMOVAL STG. II
1458	91.97	N34° 43' 01.95"	W78° 01' 19.27"	TREE	ULT. TERPS 34:1	38.4	REMOVAL STG. II
1461	98.08	N34° 43' 03.16"	W78° 01' 17.06"	TREE	ULT. TERPS 34:1	50.1	REMOVAL STG. II
1462	89.62	N34° 43' 02.71"	W78° 01' 15.70"	TREE	ULT. TERPS 34:1	44.9	REMOVAL STG. II
1463	96.52	N34° 43' 03.40"	W78° 01' 14.15"	TREE	ULT. TERPS 34:1	52.8	REMOVAL STG. II
1464	97.93	N34° 43' 01.72"	W78° 01' 15.03"	TREE	ULT. TERPS 34:1	54.4	REMOVAL STG. II
1465	94.48	N34° 43' 02.40"	W78° 01' 13.49"	TREE	ULT. TERPS 34:1	50.6	REMOVAL STG. II
1466	86.95	N34° 43' 01.38"	W78° 01' 13.63"	TREE	ULT. TERPS 34:1	43.2	REMOVAL STG. II
1467	93.85	N34° 43' 01.96"	W78° 01' 14.26"	TREE	ULT. TERPS 34:1	50.1	REMOVAL STG. II
1468	94.64	N34° 43' 02.92"	W78° 01' 14.70"	TREE	ULT. TERPS 34:1	51.1	REMOVAL STG. II

ULTIMATE TERPS 34:1 APPROACH OBSTRUCTION POINT TABLE

POINT #	OBSTRUCTION ELEVATION	LATITUDE	LONGITUDE	DESCRIPTION	PENETRATION	FEET	MITIGATION
1469	94.48	N34° 43' 02.13"	W78° 01' 16.39"	TREE	ULT. TERPS 34:1	48.0	REMOVAL STG. II
1470	96.36	N34° 43' 01.70"	W78° 01' 16.93"	TREE	ULT. TERPS 34:1	48.4	REMOVAL STG. II
1471	95.42	N34° 43' 02.51"	W78° 01' 18.54"	TREE	ULT. TERPS 34:1	43.7	REMOVAL STG. II
1472	95.73	N34° 43' 03.39"	W78° 01' 19.10"	TREE	ULT. TERPS 34:1	42.8	REMOVAL STG. II
1473	95.11	N34° 43' 03.57"	W78° 01' 20.58"	TREE	ULT. TERPS 34:1	38.7	REMOVAL STG. II
1474	93.54	N34° 43' 02.24"	W78° 01' 20.42"	TREE	ULT. TERPS 34:1	37.2	REMOVAL STG. II
1475	96.67	N34° 43' 02.98"	W78° 01' 21.35"	TREE	ULT. TERPS 34:1	38.0	REMOVAL STG. II
1476	96.05	N34° 43' 02.56"	W78° 01' 17.28"	TREE	ULT. TERPS 34:1	47.5	REMOVAL STG. II
1477	94.32	N34° 43' 03.39"	W78° 01' 12.81"	TREE	ULT. TERPS 34:1	50.4	REMOVAL STG. II
1478	89.46	N34° 43' 02.34"	W78° 01' 12.25"	TREE	ULT. TERPS 34:1	45.7	REMOVAL STG. II
1479	88.04	N34° 43' 01.27"	W78° 01' 12.44"	TREE	ULT. TERPS 34:1	44.2	REMOVAL STG. II
1480	115.46	N34° 42' 54.26"	W78° 01' 29.79"	TREE	ULT. TERPS 34:1	34.1	REMOVAL STG. II
1481	119.29	N34° 42' 55.82"	W78° 01' 29.90"	TREE	ULT. TERPS 34:1	38.0	REMOVAL STG. II
1482	114.27	N34° 42' 55.57"	W78° 01' 28.25"	TREE	ULT. TERPS 34:1	36.9	REMOVAL STG. II
1483	113.33	N34° 42' 54.37"	W78° 01' 28.46"	TREE	ULT. TERPS 34:1	35.2	REMOVAL STG. II
1484	104.08	N34° 42' 54.67"	W78° 01' 27.20"	TREE	ULT. TERPS 34:1	29.2	REMOVAL STG. II
1485	109.25	N34° 42' 56.73"	W78° 01' 28.43"	TREE	ULT. TERPS 34:1	32.0	REMOVAL STG. II

WK DICKSON
community infrastructure consultants
Transportation + Water Resources
Urban Development + Geomatics
720 Corporate Center Drive
Raleigh, NC 27607
919.782.0495 (t)
919.782.9672 (f)
www.wkdickson.com
NC LICENSE NO. F-0374

WKD PROJ.: 20150003.00.RA
PROJ. ORIGIN DATE: MARCH 2017
P.M.: JPK
DRAWN BY: RAB/MRM

PROFESSIONAL SEAL

REV. RECORD:

BY	DATE	DESCRIPTION

PROJECT NAME:
ACZ AIRPORT LAYOUT PLAN UPDATE

OWNER OR CLIENT:
TOWN OF WALLACE

PLAN KEY:

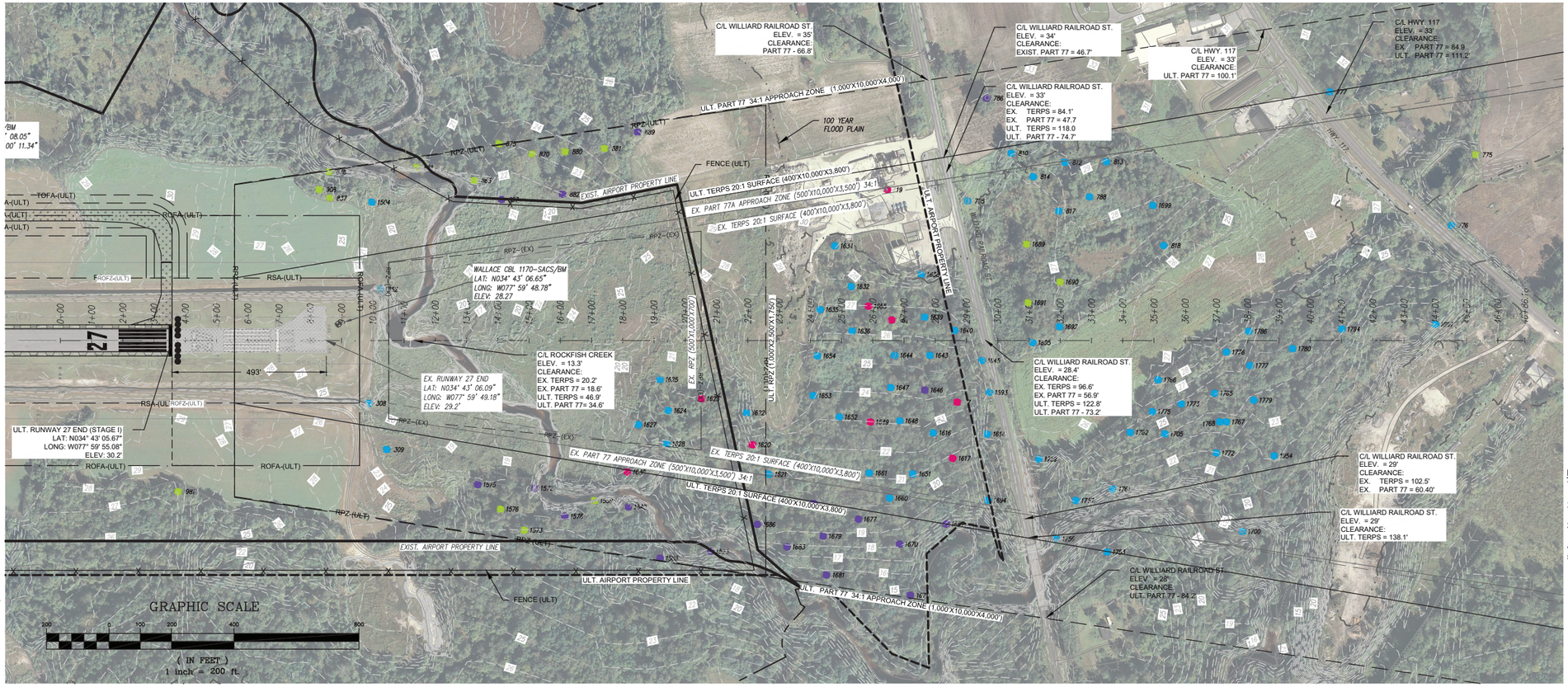
DRAWING TITLE:
INNER APPROACH RUNWAY 9 OBSTRUCTION TABLES

DRAWING NUMBER:
C6

PLOT DATE: 4/5/2017

DRAWING STATUS - PLANNING DOCUMENTS - FINAL

FILE PATH: J:\Projects\Wallace\2015000300RA - ACZ Airport Layout Plan Update TO11\CADD\Plan Set\2015000300RA_C_SHT_INNER APPR.dwg



PROFILE
SCALE: HORIZ. 1"=200'
VERT. 1"=20'

OBSTUCTION LEGEND	
TREE OBSTRUCTION EXISTING 20:1 TERPS SURFACE	
TREE OBSTRUCTION EXISTING 34:1 PART 77 SURFACE	
TREE OBSTRUCTION ULTIMATE 20:1 TERPS SURFACE	
TREE OBSTRUCTION ULTIMATE 34:1 PART 77 SURFACE	

NOTE:
1: ALL LATITUDE AND LONGITUDE COORDINATES ARE IN NAD '83 FORMAT.
2: ALL ELEVATIONS SHOWN ARE IN REFERENCE TO NAVD 88.
3: PLANIMETRICS/CONTOURS/OBSTRUCTIONS WERE OBTAINED JUNE 2015 BY WOOLPERT, INC.
4: GROUND CONTOURS SHOWN AT 1' INTERVALS.
5: SEE AIRPORT LAYOUT PLAN FOR LEGEND.

WK DICKSON
community infrastructure consultants
Transportation + Water Resources
Urban Development + Geomatics
720 Corporate Center Drive
Raleigh, NC 27607
919.782.0495 (t)
919.782.9672 (f)
www.wkdickson.com
NC LICENSE NO. F-0374

WKD PROJ.: 20150003.00.RA
PROJ. ORIGIN DATE: MARCH 2017
P.M.: JPK
DRAWN BY: RAB/MRM

PROFESSIONAL SEAL

REV. RECORD:

BY	DATE	DESCRIPTION

- DRAWING STATUS - PLANNING DOCUMENTS - FINAL

PROJECT NAME:
ACZ AIRPORT LAYOUT PLAN UPDATE

OWNER OR CLIENT:
TOWN OF WALLACE

PLAN KEY:

DRAWING TITLE:
INNER APPROACH SURFACES RUNWAY 27

DRAWING NUMBER:
C7

PLOT DATE: 4/5/2017

FILE PATH: J:\Projects\Wallace\20150003000RA - ACZ Airport Layout Plan Update TO11\CADD\Plan Set\20150003000RA_C_SHT_INNER APPR.dwg

EXISTING TERPS 20:1 APPROACH OBSTRUCTION POINT TABLE

POINT #	OBSTRUCTION ELEVATION	LATITUDE	LONGITUDE	DESCRIPTION	PENETRATION	FEET	MITIGATION
6	115.07	N34° 43' 08.28"	W77° 59' 27.66"	TREE	EX. TERPS 20:1	5.3	REMOVAL STG. I
7	112.53	N34° 43' 05.87"	W77° 59' 24.88"	TREE	EX. TERPS 20:1	7.6	REMOVAL STG. I
19	112.74	N34° 43' 12.38"	W77° 59' 28.25"	ANTENNA	EX. TERPS 20:1	3.7	REMOVAL STG. I
1617	115.87	N34° 43' 04.09"	W77° 59' 24.87"	TREE	EX. TERPS 20:1	3.5	REMOVAL STG. I
1620	87.90	N34° 43' 03.97"	W77° 59' 32.56"	TREE	EX. TERPS 20:1	0.7	REMOVAL STG. I
1623	80.83	N34° 43' 05.29"	W77° 59' 34.66"	TREE	EX. TERPS 20:1	1.8	REMOVAL STG. I
1630	71.88	N34° 43' 02.77"	W77° 59' 37.25"	TREE	EX. TERPS 20:1	4.5	REMOVAL STG. I
1649	101.57	N34° 43' 05.01"	W77° 59' 28.13"	TREE	EX. TERPS 20:1	15.8	REMOVAL STG. I
1655	101.57	N34° 43' 08.66"	W77° 59' 28.59"	TREE	EX. TERPS 20:1	4.3	REMOVAL STG. I

EXISTING PART 77 34:1 OBSTRUCTION POINT TABLE

POINT #	OBSTRUCTION ELEVATION	LATITUDE	LONGITUDE	DESCRIPTION	PENETRATION	FEET	MITIGATION
308	32.35	N34° 43' 04.23"	W77° 59' 47.35"	BUSH	EX. PART 77 34:1	17.1	REMOVAL STG. I
309	32.98	N34° 43' 02.82"	W77° 59' 46.52"	BUSH	EX. PART 77 34:1	13.6	REMOVAL STG. I
776	124.99	N34° 43' 12.79"	W77° 59' 06.60"	TREE	EX. PART 77 34:1	4.2	REMOVAL STG. I
777	112.61	N34° 43' 16.67"	W77° 59' 11.68"	TREE	EX. PART 77 34:1	5.2	REMOVAL STG. I
785	97.32	N34° 43' 12.24"	W77° 59' 25.15"	TREE	EX. PART 77 34:1	13.6	REMOVAL STG. I
788	113.94	N34° 43' 12.71"	W77° 59' 20.51"	TREE	EX. PART 77 34:1	18.9	REMOVAL STG. I
810	113.92	N34° 43' 13.87"	W77° 59' 23.65"	TREE	EX. PART 77 34:1	26.3	REMOVAL STG. I
812	110.00	N34° 43' 13.73"	W77° 59' 21.55"	TREE	EX. PART 77 34:1	17.3	REMOVAL STG. I
813	111.73	N34° 43' 13.86"	W77° 59' 19.98"	TREE	EX. PART 77 34:1	15.0	REMOVAL STG. I
814	89.06	N34° 43' 13.19"	W77° 59' 22.73"	TREE	EX. PART 77 34:1	0.8	REMOVAL STG. I
817	95.17	N34° 43' 12.18"	W77° 59' 21.63"	TREE	EX. PART 77 34:1	3.0	REMOVAL STG. I
818	93.76	N34° 43' 11.38"	W77° 59' 17.51"	TREE	EX. PART 77 34:1	8.6	REMOVAL STG. I
852	36.28	N34° 43' 07.86"	W77° 59' 47.28"	TREE	EX. PART 77 34:1	26.6	REMOVAL STG. I
1504	38.17	N34° 43' 10.58"	W77° 59' 47.90"	TREE	EX. PART 77 34:1	35.9	REMOVAL STG. I
1614	112.41	N34° 43' 04.95"	W77° 59' 23.64"	TREE	EX. PART 77 34:1	26.7	REMOVAL STG. I
1616	104.87	N34° 43' 04.84"	W77° 59' 25.70"	TREE	EX. PART 77 34:1	12.4	REMOVAL STG. I
1621	68.42	N34° 43' 03.08"	W77° 59' 31.85"	TREE	EX. PART 77 34:1	3.4	REMOVAL STG. I
1622	66.38	N34° 43' 04.96"	W77° 59' 32.89"	TREE	EX. PART 77 34:1	2.5	REMOVAL STG. I
1624	68.11	N34° 43' 04.82"	W77° 59' 35.89"	TREE	EX. PART 77 34:1	12.6	REMOVAL STG. I
1625	47.21	N34° 43' 05.78"	W77° 59' 36.31"	TREE	EX. PART 77 34:1	7.5	REMOVAL STG. I
1627	58.21	N34° 43' 04.29"	W77° 59' 36.99"	TREE	EX. PART 77 34:1	5.4	REMOVAL STG. I
1628	68.11	N34° 43' 03.77"	W77° 59' 35.84"	TREE	EX. PART 77 34:1	12.7	REMOVAL STG. I
1632	93.87	N34° 43' 09.23"	W77° 59' 29.32"	TREE	EX. PART 77 34:1	21.0	REMOVAL STG. I
1634	64.49	N34° 43' 10.47"	W77° 59' 30.07"	TREE	EX. PART 77 34:1	6.7	REMOVAL STG. I

EXISTING PART 77 34:1 OBSTRUCTION POINT TABLE

POINT #	OBSTRUCTION ELEVATION	LATITUDE	LONGITUDE	DESCRIPTION	PENETRATION	FEET	MITIGATION
1635	63.08	N34° 43' 08.42"	W77° 59' 30.42"	TREE	EX. PART 77 34:1	6.8	REMOVAL STG. I
1636	85.39	N34° 43' 07.83"	W77° 59' 29.13"	TREE	EX. PART 77 34:1	12.5	REMOVAL STG. I
1638	82.40	N34° 43' 09.80"	W77° 59' 26.68"	TREE	EX. PART 77 34:1	3.11	REMOVAL STG. I
1639	107.85	N34° 43' 08.46"	W77° 59' 26.41"	TREE	EX. PART 77 34:1	28.3	REMOVAL STG. I
1640	109.58	N34° 43' 08.13"	W77° 59' 25.22"	TREE	EX. PART 77 34:1	27.1	REMOVAL STG. I
1643	108.95	N34° 43' 07.27"	W77° 59' 26.08"	TREE	EX. PART 77 34:1	28.8	REMOVAL STG. I
1644	86.02	N34° 43' 07.18"	W77° 59' 27.44"	TREE	EX. PART 77 34:1	9.3	REMOVAL STG. I
1645	104.56	N34° 43' 07.25"	W77° 59' 24.07"	TREE	EX. PART 77 34:1	19.5	REMOVAL STG. I
1647	91.52	N34° 43' 06.15"	W77° 59' 27.47"	TREE	EX. PART 77 34:1	15.0	REMOVAL STG. I
1648	89.79	N34° 43' 05.12"	W77° 59' 27.02"	TREE	EX. PART 77 34:1	12.4	REMOVAL STG. I
1651	101.41	N34° 43' 03.49"	W77° 59' 26.34"	TREE	EX. PART 77 34:1	22.9	REMOVAL STG. I
1652	94.34	N34° 43' 05.08"	W77° 59' 29.34"	TREE	EX. PART 77 34:1	22.8	REMOVAL STG. I
1653	73.76	N34° 43' 05.69"	W77° 59' 30.40"	TREE	EX. PART 77 34:1	4.6	REMOVAL STG. I
1654	80.20	N34° 43' 06.95"	W77° 59' 30.37"	TREE	EX. PART 77 34:1	10.8	REMOVAL STG. I
1660	75.65	N34° 43' 02.66"	W77° 59' 27.15"	TREE	EX. PART 77 34:1	0.7	REMOVAL STG. I
1661	82.56	N34° 43' 03.40"	W77° 59' 28.01"	TREE	EX. PART 77 34:1	82.0	REMOVAL STG. I
1689	122.10	N34° 43' 11.04"	W77° 59' 22.75"	TREE	EX. PART 77 34:1	32.9	REMOVAL STG. I
1690	102.78	N34° 43' 09.94"	W77° 59' 21.35"	TREE	EX. PART 77 34:1	10.0	REMOVAL STG. I
1691	111.42	N34° 43' 09.20"	W77° 59' 22.50"	TREE	EX. PART 77 34:1	22.2	REMOVAL STG. I
1692	102.30	N34° 43' 08.53"	W77° 59' 21.23"	TREE	EX. PART 77 34:1	9.9	REMOVAL STG. I
1693	95.86	N34° 43' 06.27"	W77° 59' 23.69"	TREE	EX. PART 77 34:1	10.0	REMOVAL STG. I
1694	109.69	N34° 43' 02.86"	W77° 59' 23.38"	TREE	EX. PART 77 34:1	23.9	REMOVAL STG. I
1697	131.03	N34° 43' 09.62"	W77° 59' 06.88"	TREE	EX. PART 77 34:1	3.2	REMOVAL STG. I
1699	96.03	N34° 43' 12.61"	W77° 59' 18.06"	TREE	EX. PART 77 34:1	5.1	REMOVAL STG. I

EXISTING PART 77 34:1 OBSTRUCTION POINT TABLE

POINT #	OBSTRUCTION ELEVATION	LATITUDE	LONGITUDE	DESCRIPTION	PENETRATION	FEET	MITIGATION
1700	104.42	N34° 43' 02.58"	W77° 59' 13.56"	TREE	EX. PART 77 34:1	5.1	REMOVAL STG. I
1705	122.77	N34° 43' 05.44"	W77° 59' 16.85"	TREE	EX. PART 77 34:1	20.6	REMOVAL STG. I
1751	111.85	N34° 43' 02.42"	W77° 59' 17.82"	TREE	EX. PART 77 34:1	12.7	REMOVAL STG. I
1753	105.26	N34° 43' 01.55"	W77° 59' 18.66"	TREE	EX. PART 77 34:1	8.4	REMOVAL STG. I
1756	112.79	N34° 43' 01.83"	W77° 59' 20.64"	TREE	EX. PART 77 34:1	20.6	REMOVAL STG. I
1757	95.68	N34° 43' 03.09"	W77° 59' 20.03"	TREE	EX. PART 77 34:1	1.8	REMOVAL STG. I
1759	91.44	N34° 43' 04.30"	W77° 59' 21.58"	TREE	EX. PART 77 34:1	1.0	REMOVAL STG. I
1761	95.84	N34° 43' 03.56"	W77° 59' 18.66"	TREE	EX. PART 77 34:1	1.4	REMOVAL STG. I
1762	95.52	N34° 43' 05.39"	W77° 59' 18.18"	TREE	EX. PART 77 34:1	3.6	REMOVAL STG. I
1765	111.54	N34° 43' 06.86"	W77° 59' 15.08"	TREE	EX. PART 77 34:1	4.6	REMOVAL STG. I
1766	111.85	N34° 43' 07.12"	W77° 59' 17.28"	TREE	EX. PART 77 34:1	10.2	REMOVAL STG. I
1767	106.83	N34° 43' 05.98"	W77° 59' 14.54"	TREE	EX. PART 77 34:1	1.2	REMOVAL STG. I
1768	113.42	N34° 43' 05.97"	W77° 59' 14.79"	TREE	EX. PART 77 34:1	6.0	REMOVAL STG. I
1772	106.04	N34° 43' 04.97"	W77° 59' 14.82"	TREE	EX. PART 77 34:1	1.0	REMOVAL STG. I
1773	110.75	N34° 43' 06.43"	W77° 59' 16.32"	TREE	EX. PART 77 34:1	7.0	REMOVAL STG. I
1775	105.51	N34° 43' 06.10"	W77° 59' 17.40"	TREE	EX. PART 77 34:1	4.4	REMOVAL STG. I
1776	103.47	N34° 43' 08.18"	W77° 59' 14.76"	TREE	EX. PART 77 34:1	4.6	REMOVAL STG. I
1777	118.54	N34° 43' 07.82"	W77° 59' 13.82"	TREE	EX. PART 77 34:1	8.3	REMOVAL STG. I
1779	108.34	N34° 43' 06.74"	W77° 59' 13.57"	TREE	EX. PART 77 34:1	2.4	REMOVAL STG. I
1780	111.79	N34° 43' 08.47"	W77° 59' 12.25"	TREE	EX. PART 77 34:1	2.6	REMOVAL STG. I
1786	105.51	N34° 43' 08.90"	W77° 59' 13.98"	TREE	EX. PART 77 34:1	4.6	REMOVAL STG. I
1794	109.69	N34° 43' 09.23"	W77° 59' 10.44"	TREE	EX. PART 77 34:1	9.2	REMOVAL STG. I
1805	83.23	N34° 43' 07.96"	W77° 59' 22.20"	TREE	EX. PART 77 34:1	6.5	REMOVAL STG. I
1954	106.69	N34° 43' 05.04"	W77° 59' 12.60"	TREE	EX. PART 77 34:1	5.7	REMOVAL STG. I

ULTIMATE PART 77 34:1 OBSTRUCTION POINT TABLE

POINT #	OBSTRUCTION ELEVATION	LATITUDE	LONGITUDE	DESCRIPTION	PENETRATION	FEET	MITIGATION
786	110.96	N34° 43' 15.54"	W77° 59' 24.77"	TREE	ULT. PART 77 34:1	1.3	REMOVAL STG. II
867	66.38	N34° 43' 11.02"	W77° 59' 42.96"	TREE	ULT. PART 77 34:1	0.3	REMOVAL STG. II
882	86.60	N34° 43' 11.35"	W77° 59' 40.65"	TREE	ULT. PART 77 34:1	14.1	REMOVAL STG. II
889	85.19	N34° 43' 13.52"	W77° 59' 37.98"	TREE	ULT. PART 77 34:1	5.7	REMOVAL STG. II
1523	115.87	N34° 43' 00.50"	W77° 59' 33.81"	TREE	ULT. PART 77 34:1	29.4	REMOVAL STG. II
1540	99.53	N34° 43' 01.67"	W77° 59' 37.09"	TREE	ULT. PART 77 34:1	20.9	REMOVAL STG. II
1559	103.14	N34° 43' 01.78"	W77° 59' 38.41"	TREE	ULT. PART 77 34:1	27.7	REMOVAL STG. II
1572	92.45	N34° 43' 02.00"	W77° 59' 40.73"	TREE	ULT. PART 77 34:1	22.6	REMOVAL STG. II
1575	57.85	N34° 43' 01.96"	W77° 59' 42.93"	TREE	ULT. PART 77 34:1	6.8	REMOVAL STG. II
1578	95.75	N34° 43' 01.20"	W77° 59' 39.49"	TREE	ULT. PART 77 34:1	23.0	REMOVAL STG. II
1583	111.63	N34° 43' 00.14"	W77° 59' 35.72"	TREE	ULT. PART 77 34:1	30.1	REMOVAL STG. II
1646	110.68	N34° 43' 06.16"	W77° 59' 26.16"	TREE	ULT. PART 77 34:1	4.3	REMOVAL STG. II
1657	101.10	N34° 43' 02.00"	W77° 59' 24.90"	TREE	ULT. PART 77 34:1	73.1	REMOVAL STG. II
1670	100.31	N34° 43' 01.24"	W77° 59' 26.62"	TREE	ULT. PART 77 34:1	37.9	REMOVAL STG. II
1671	98.90	N34° 42' 59.65"	W77° 59' 26.04"	TREE	ULT. PART 77 34:1	61.9	REMOVAL STG. II
1677	91.20	N34° 43' 01.91"	W77° 59' 28.27"	TREE	ULT. PART 77 34:1	9.0	REMOVAL STG. II
1679	94.34	N34° 43' 01.28"	W77° 59' 29.56"	TREE	ULT. PART 77 34:1	2.5	REMOVAL STG. II
1681	106.60	N34° 43' 00.06"	W77° 59' 29.31"	TREE	ULT. PART 77 34:1	9.4	REMOVAL STG. II
1683	99.21	N34° 43' 00.84"	W77° 59' 30.91"	TREE	ULT. PART 77 34:1	5.7	REMOVAL STG. II
1685	94.03	N34° 43' 02.29"	W77° 59' 30.03"	TREE	ULT. PART 77 34:1	2.0	REMOVAL STG. II
1686	90.84	N34° 43' 01.47"	W77° 59' 32.11"	TREE	ULT. PART 77 34:1	0.1	REMOVAL STG. II

ULTIMATE TERPS 20:1 APPROACH OBSTRUCTION POINT TABLE

POINT #	OBSTRUCTION ELEVATION	LATITUDE	LONGITUDE	DESCRIPTION	PENETRATION	FEET	MITIGATION
837	69.67	N34° 43' 10.59"	W77° 59' 49.52"	TREE	ULT. TERPS 20:1	5.5	REMOVAL STG. II
838	78.13	N34° 43' 11.42"	W77° 59' 49.64"	TREE	ULT. TERPS 20:1	14.0	REMOVAL STG. II
861	110.11	N34° 43' 11.79"	W77° 59' 46.32"	TREE	ULT. TERPS 20:1	32.1	REMOVAL STG. II
863	117.48	N34° 43' 11.54"	W77° 59' 44.06"	TREE	ULT. TERPS 20:1	30.0	REMOVAL STG. II
870	120.77	N34° 43' 12.53"	W77° 59' 41.94"	TREE	ULT. TERPS 20:1	24.2	REMOVAL STG. II
875	121.09	N34° 43' 12.77"	W77° 59' 43.24"	TREE	ULT. TERPS 20:1	29.7	REMOVAL STG. II
880	107.61	N34° 43' 12.70"	W77° 59' 40.69"	TREE	ULT. TERPS 20:1	5.8	REMOVAL STG. II
881	108.70	N34° 43' 12.91"	W77° 59' 39.21"	TREE	ULT. TERPS 20:1	0.7	REMOVAL STG. II
908	77.35	N34° 43' 10.84"	W77° 59' 49.96"	TREE	ULT. TERPS 20:1	15.1	REMOVAL STG. II
981	83.38	N34° 43' 00.93"	W77° 59' 54.35"	TREE	ULT. TERPS 20:1	43.5	REMOVAL STG. II
1573	108.96	N34° 43' 00.65"	W77° 59' 40.99"	TREE	ULT. TERPS 20:1	13.6	REMOVAL STG. II
1576	100.78	N34° 43' 01.26"	W77° 59' 41.97"	TREE	ULT. TERPS 20:1	9.3	REMOVAL STG. II

WK DICKSON
community infrastructure consultants
Transportation + Water Resources
Urban Development + Geomatics
720 Corporate Center Drive
Raleigh, NC 27607
919.782.0495 (t)
919.782.9672 (f)
www.wkdickson.com
NC LICENSE NO. F-0374

WKD PROJ.: 20150003.00.RA
PROJ. ORIGIN DATE: MARCH 2017
P.M.: JPK
DRAWN BY: RAB/MRM

PROFESSIONAL SEAL

REV. RECORD:

BY	DATE	DESCRIPTION

- DRAWING STATUS - PLANNING DOCUMENTS - FINAL

PROJECT NAME:
ACZ AIRPORT LAYOUT PLAN UPDATE

OWNER OR CLIENT:
TOWN OF WALLACE

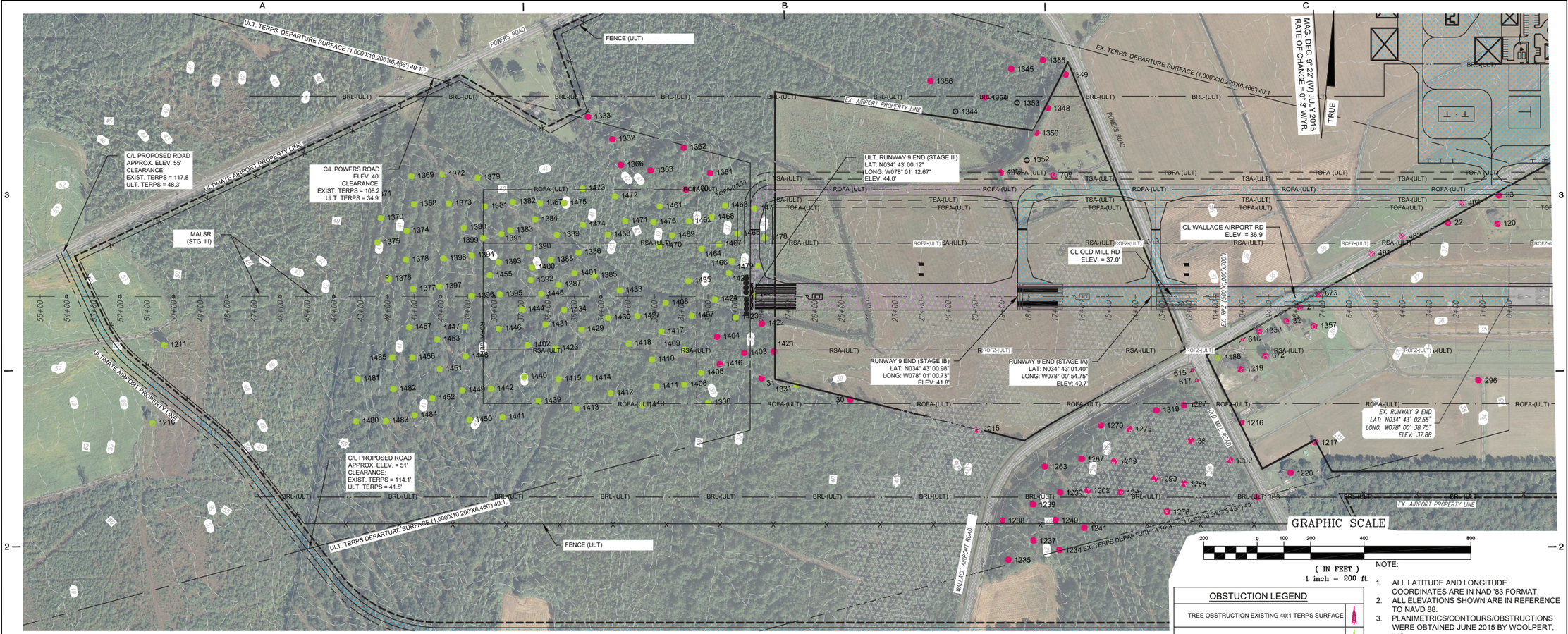
PLAN KEY:

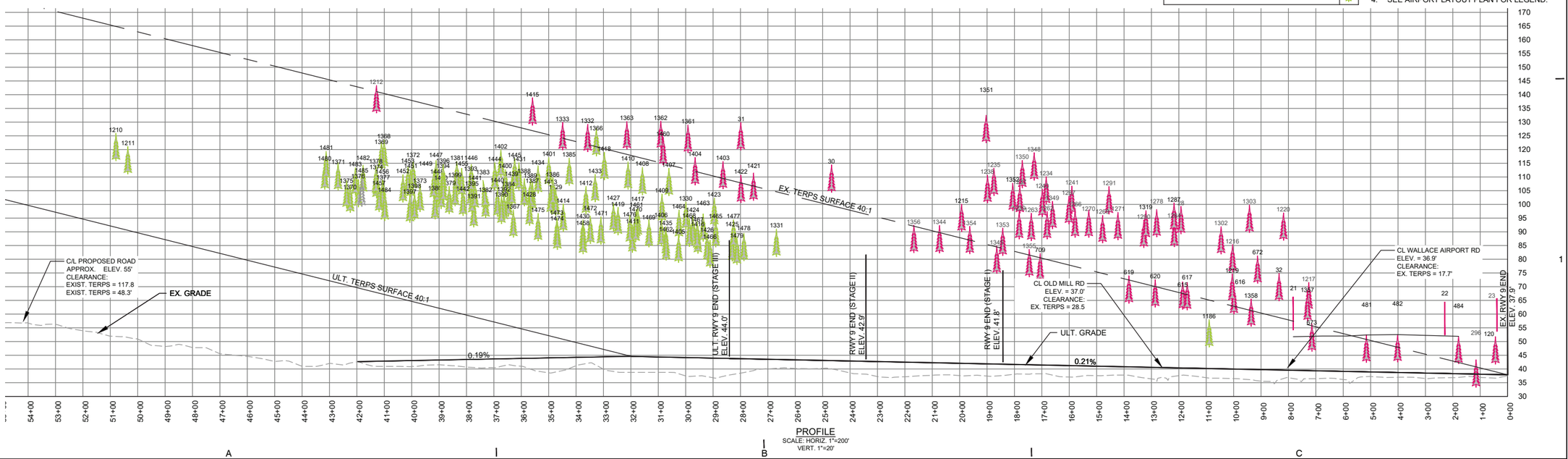
DRAWING TITLE:
INNER APPROACH RWY 27 OBSTRUCTION TABLES

DRAWING NUMBER:
C8

PLOT DATE: 4/5/2017

FILE PATH: J:\Projects\Wallace\2015000300RA - ACZ Airport Layout Plan Update TO11\CADD\Plan Set\2015000300RA_C_SHT_INNER APPR.dwg





WK DICKSON
community infrastructure consultants
Transportation + Water Resources
Urban Development + Geomatics
720 Corporate Center Drive
Raleigh, NC 27607
919.782.0495 (t)
919.782.9672 (f)
www.wkdickson.com
NC LICENSE NO. F-0374

WKD PROJ.: 20150003.00.RA
PROJ. ORIGIN DATE: APRIL 2017
P.M.: JPK
DRAWN BY: RAB/MRM

PROFESSIONAL SEAL

REV. RECORD:

BY	DATE	DESCRIPTION

DRAWING STATUS - PLANNING DOCUMENTS - FINAL

PROJECT NAME:
ACZ AIRPORT LAYOUT PLAN UPDATE

OWNER OR CLIENT:
TOWN OF WALLACE

PLAN KEY:

DRAWING TITLE:
DEPARTURE SURFACES RUNWAY END 9

DRAWING NUMBER:
C9

PLOT DATE: 4/27/2017

FILE PATH: J:\Projects\Wallace\2015000300RA - ACZ Airport Layout Plan Update TO11\CADD\Plan Set\2015000300RA_C_SHT_DEPARTURE.dwg

EXISTING TERPS DEPARTURE OBSTRUCTION POINT TABLE

POINT #	OBSTRUCTION ELEVATION	LATITUDE	LONGITUDE	DESCRIPTION	PENETRATION	FEET	MITIGATION
21	66.22	N34° 43' 01.49"	W78° 00' 48.05"	PP	EX. TERPS 20:1	8.8	REMOVAL STG. I
22	64.41	N34° 43' 05.08"	W78° 00' 41.78"	PP	EX. TERPS 20:1	21.0	REMOVAL STG. I
23	65.70	N34° 43' 06.26"	W78° 00' 39.61"	PP	EX. TERPS 20:1	26.9	REMOVAL STG. I
28	99.25	N34° 42' 56.23"	W78° 00' 52.42"	TREE	EX. TERPS 20:1	31.6	REMOVAL STG. I
30	114.41	N34° 42' 56.64"	W78° 01' 07.80"	TREE	EX. TERPS 20:1	14.7	REMOVAL STG. I
31	129.79	N34° 42' 57.15"	W78° 01' 11.84"	TREE	EX. TERPS 20:1	22.3	REMOVAL STG. I
32	74.79	N34° 43' 00.93"	W78° 00' 48.61"	TREE	EX. TERPS 20:1	16.0	REMOVAL STG. I
120	51.76	N34° 43' 05.20"	W78° 00' 39.57"	BUILDING	EX. TERPS 20:1	12.8	REMOVAL STG. I
296	43.30	N34° 42' 59.37"	W78° 00' 39.80"	BUSH	EX. TERPS 20:1	2.6	REMOVAL STG. I
481	52.40	N34° 43' 03.70"	W78° 00' 45.07"	PRIMARY ROAD	EX. TERPS 20:1	1.5	REMOVAL STG. I
482	52.55	N34° 43' 04.42"	W78° 00' 43.78"	PRIMARY ROAD	EX. TERPS 20:1	4.5	REMOVAL STG. I
484	51.92	N34° 43' 05.84"	W78° 00' 41.25"	PRIMARY ROAD	EX. TERPS 20:1	9.6	REMOVAL STG. I
615	71.75	N34° 42' 58.83"	W78° 00' 52.62"	TELEPHONE PYLON/POLE	EX. TERPS 20:1	4.3	REMOVAL STG. I
616	70.02	N34° 43' 00.10"	W78° 00' 50.51"	TELEPHONE PYLON/POLE	EX. TERPS 20:1	7.2	REMOVAL STG. I
617	71.55	N34° 42' 58.46"	W78° 00' 52.38"	TELEPHONE PYLON/POLE	EX. TERPS 20:1	4.4	REMOVAL STG. I
619	73.95	N34° 43' 03.37"	W78° 00' 55.46"	TELEPHONE PYLON/POLE	EX. TERPS 20:1	4.6	REMOVAL STG. I
620	72.54	N34° 43' 01.12"	W78° 00' 54.07"	TELEPHONE PYLON/POLE	EX. TERPS 20:1	2.6	REMOVAL STG. I
672	81.22	N34° 42' 59.58"	W78° 00' 49.41"	TREE	EX. TERPS 20:1	20.4	REMOVAL STG. I
673	56.41	N34° 43' 02.04"	W78° 00' 47.29"	TREE	EX. TERPS 20:1	0.7	REMOVAL STG. I
709	82.11	N34° 43' 05.55"	W78° 00' 59.58"	TREE	EX. TERPS 20:1	1.6	REMOVAL STG. I
1212	143.33	N34° 42' 43.57"	W78° 01' 26.40"	TREE	EX. TERPS 20:1	2.3	REMOVAL STG. I
1215	100.07	N34° 42' 55.94"	W78° 01' 02.02"	TREE	EX. TERPS 20:1	12.4	REMOVAL STG. I
1216	85.34	N34° 42' 57.05"	W78° 00' 50.25"	TREE	EX. TERPS 20:1	22.3	REMOVAL STG. I
1217	71.55	N34° 42' 56.56"	W78° 00' 46.85"	TREE	EX. TERPS 20:1	15.7	REMOVAL STG. I
1219	74.68	N34° 42' 59.01"	W78° 00' 50.46"	TREE	EX. TERPS 20:1	11.6	REMOVAL STG. I

EXISTING TERPS DEPARTURE OBSTRUCTION POINT TABLE

POINT #	OBSTRUCTION ELEVATION	LATITUDE	LONGITUDE	DESCRIPTION	PENETRATION	FEET	MITIGATION
1220	96.91	N34° 42' 55.36"	W78° 00' 47.83"	TREE	EX. TERPS 20:1	38.4	REMOVAL STG. I
1234	110.09	N34° 42' 51.77"	W78° 00' 57.87"	TREE	EX. TERPS 20:1	30.1	REMOVAL STG. I
1235	113.22	N34° 42' 51.25"	W78° 01' 00.11"	TREE	EX. TERPS 20:1	28.4	REMOVAL STG. I
1237	106.80	N34° 42' 52.03"	W78° 00' 59.06"	TREE	EX. TERPS 20:1	24.4	REMOVAL STG. I
1238	110.56	N34° 42' 52.68"	W78° 01' 00.54"	TREE	EX. TERPS 20:1	25.3	REMOVAL STG. I
1239	97.39	N34° 42' 53.37"	W78° 00' 59.23"	TREE	EX. TERPS 20:1	14.9	REMOVAL STG. I
1240	105.54	N34° 42' 52.86"	W78° 00' 58.15"	TREE	EX. TERPS 20:1	25.3	REMOVAL STG. I
1241	106.64	N34° 42' 52.67"	W78° 00' 56.84"	TREE	EX. TERPS 20:1	28.9	REMOVAL STG. I
1262	97.39	N34° 42' 53.89"	W78° 00' 58.05"	TREE	EX. TERPS 20:1	17.7	REMOVAL STG. I
1263	96.76	N34° 42' 54.81"	W78° 00' 58.85"	TREE	EX. TERPS 20:1	15.5	REMOVAL STG. I
1266	98.01	N34° 42' 54.06"	W78° 00' 56.84"	TREE	EX. TERPS 20:1	20.7	REMOVAL STG. I
1267	102.88	N34° 42' 55.20"	W78° 00' 57.23"	TREE	EX. TERPS 20:1	25.0	REMOVAL STG. I
1269	95.97	N34° 42' 55.22"	W78° 00' 55.76"	TREE	EX. TERPS 20:1	21.3	REMOVAL STG. I
1270	98.01	N34° 42' 56.50"	W78° 00' 56.50"	TREE	EX. TERPS 20:1	21.7	REMOVAL STG. I
1271	97.07	N34° 42' 56.46"	W78° 00' 55.22"	TREE	EX. TERPS 20:1	23.5	REMOVAL STG. I
1278	98.17	N34° 42' 53.53"	W78° 00' 53.21"	TREE	EX. TERPS 20:1	28.3	REMOVAL STG. I
1284	94.56	N34° 42' 54.62"	W78° 00' 52.55"	TREE	EX. TERPS 20:1	26.4	REMOVAL STG. I
1287	100.52	N34° 42' 57.51"	W78° 00' 52.86"	TREE	EX. TERPS 20:1	32.2	REMOVAL STG. I
1290	94.25	N34° 42' 54.71"	W78° 00' 53.90"	TREE	EX. TERPS 20:1	23.3	REMOVAL STG. I
1291	106.48	N34° 42' 54.09"	W78° 00' 55.36"	TREE	EX. TERPS 20:1	32.6	REMOVAL STG. I
1302	91.89	N34° 42' 55.62"	W78° 00' 50.60"	TREE	EX. TERPS 20:1	27.7	REMOVAL STG. I
1303	99.74	N34° 42' 54.36"	W78° 00' 49.22"	TREE	EX. TERPS 20:1	38.5	REMOVAL STG. I
1319	97.69	N34° 42' 57.23"	W78° 00' 54.07"	TREE	EX. TERPS 20:1	26.7	REMOVAL STG. I
1332	129.20	N34° 43' 05.48"	W78° 01' 19.44"	TREE	EX. TERPS 20:1	7.5	REMOVAL STG. I
1333	129.86	N34° 43' 06.23"	W78° 01' 20.61"	TREE	EX. TERPS 20:1	5.8	REMOVAL STG. I

EXISTING TERPS DEPARTURE OBSTRUCTION POINT TABLE

POINT #	OBSTRUCTION ELEVATION	LATITUDE	LONGITUDE	DESCRIPTION	PENETRATION	FEET	MITIGATION
1344	92.25	N34° 43' 07.61"	W78° 01' 04.22"	TREE	EX. TERPS 20:1	2.6	REMOVAL STG. I
1345	84.83	N34° 43' 09.36"	W78° 01' 01.89"	TREE	EX. TERPS 20:1	0.4	REMOVAL STG. I
1348	118.82	N34° 43' 08.03"	W78° 01' 00.11"	TREE	EX. TERPS 20:1	38.0	REMOVAL STG. I
1349	101.09	N34° 43' 09.33"	W78° 00' 59.43"	TREE	EX. TERPS 20:1	21.7	REMOVAL STG. I
1350	115.99	N34° 43' 07.08"	W78° 01' 00.53"	TREE	EX. TERPS 20:1	33.8	REMOVAL STG. I
1351	132.47	N34° 43' 05.49"	W78° 01' 01.95"	TREE	EX. TERPS 20:1	47.0	REMOVAL STG. I
1352	107.68	N34° 43' 06.03"	W78° 01' 00.84"	TREE	EX. TERPS 20:1	24.6	REMOVAL STG. I
1353	91.36	N34° 43' 08.12"	W78° 01' 01.50"	TREE	EX. TERPS 20:1	7.4	REMOVAL STG. I
1354	91.99	N34° 43' 08.22"	W78° 01' 02.95"	TREE	EX. TERPS 20:1	5.0	REMOVAL STG. I
1355	83.61	N34° 43' 09.78"	W78° 01' 00.50"	TREE	EX. TERPS 20:1	2.2	REMOVAL STG. I
1356	92.40	N34° 43' 08.65"	W78° 01' 05.45"	TREE	EX. TERPS 20:1	0.4	REMOVAL STG. I
1357	67.51	N34° 43' 00.84"	W78° 00' 47.35"	TREE	EX. TERPS 20:1	11.4	REMOVAL STG. I
1358	65.53	N34° 43' 00.48"	W78° 00' 49.79"	TREE	EX. TERPS 20:1	4.3	REMOVAL STG. I
1361	128.89	N34° 43' 04.55"	W78° 01' 14.93"	TREE	EX. TERPS 20:1	16.2	REMOVAL STG. I
1362	130.31	N34° 43' 05.40"	W78° 01' 16.22"	TREE	EX. TERPS 20:1	15.0	REMOVAL STG. I
1363	130.15	N34° 43' 04.45"	W78° 01' 17.61"	TREE	EX. TERPS 20:1	11.8	REMOVAL STG. I
1366	127.63	N34° 43' 04.56"	W78° 01' 18.96"	TREE	EX. TERPS 20:1	6.6	REMOVAL STG. I
1403	115.65	N34° 42' 58.03"	W78° 01' 12.71"	TREE	EX. TERPS 20:1	6.2	REMOVAL STG. I
1404	117.07	N34° 42' 58.54"	W78° 01' 13.99"	TREE	EX. TERPS 20:1	5.1	REMOVAL STG. I
1415	138.86	N34° 42' 56.46"	W78° 01' 20.91"	TREE	EX. TERPS 20:1	12.0	REMOVAL STG. I
1421	111.41	N34° 42' 58.17"	W78° 01' 11.39"	TREE	EX. TERPS 20:1	4.6	REMOVAL STG. I
1422	110.62	N34° 42' 59.16"	W78° 01' 12.04"	TREE	EX. TERPS 20:1	2.8	REMOVAL STG. I
1460	124.43	N34° 43' 03.86"	W78° 01' 15.95"	TREE	EX. TERPS 20:1	94.4	REMOVAL STG. I

ULTIMATE TERPS DEPARTURE OBSTRUCTION POINT TABLE

POINT #	OBSTRUCTION ELEVATION	LATITUDE	LONGITUDE	DESCRIPTION	PENETRATION	FEET	MITIGATION
1186	57.99	N34° 42' 59.36"	W78° 00' 51.51"	TREE	ULT. TERPS 20:1	17.6	REMOVAL STG. II
1210	125.91	N34° 42' 53.53"	W78° 01' 38.88"	TREE	ULT. TERPS 20:1	34.1	REMOVAL STG. II
1211	121.06	N34° 42' 56.45"	W78° 01' 38.67"	TREE	ULT. TERPS 20:1	30.6	REMOVAL STG. II
1330	100.90	N34° 42' 56.08"	W78° 01' 14.14"	TREE	ULT. TERPS 20:1	57.2	REMOVAL STG. II
1331	90.98	N34° 42' 57.01"	W78° 01' 10.26"	TREE	ULT. TERPS 20:1	47.4	REMOVAL STG. II
1367	98.02	N34° 43' 02.89"	W78° 01' 22.42"	TREE	ULT. TERPS 20:1	42.2	REMOVAL STG. II
1368	123.49	N34° 43' 02.45"	W78° 01' 28.05"	TREE	ULT. TERPS 20:1	48.3	REMOVAL STG. II
1369	122.71	N34° 43' 03.48"	W78° 01' 28.27"	TREE	ULT. TERPS 20:1	47.4	REMOVAL STG. II
1370	107.03	N34° 43' 01.84"	W78° 01' 29.47"	TREE	ULT. TERPS 20:1	36.8	REMOVAL STG. II
1371	115.18	N34° 43' 02.66"	W78° 01' 30.09"	TREE	ULT. TERPS 20:1	44.0	REMOVAL STG. II
1372	115.50	N34° 43' 03.64"	W78° 01' 26.90"	TREE	ULT. TERPS 20:1	51.0	REMOVAL STG. II
1373	107.34	N34° 43' 02.59"	W78° 01' 26.49"	TREE	ULT. TERPS 20:1	43.6	REMOVAL STG. II
1374	112.36	N34° 43' 01.45"	W78° 01' 28.28"	TREE	ULT. TERPS 20:1	44.5	REMOVAL STG. II
1375	108.76	N34° 43' 00.93"	W78° 01' 29.53"	TREE	ULT. TERPS 20:1	38.2	REMOVAL STG. II
1376	109.07	N34° 42' 59.62"	W78° 01' 28.88"	TREE	ULT. TERPS 20:1	39.7	REMOVAL STG. II
1377	108.58	N34° 42' 59.33"	W78° 01' 27.76"	TREE	ULT. TERPS 20:1	41.4	REMOVAL STG. II
1378	113.91	N34° 43' 00.38"	W78° 01' 28.19"	TREE	ULT. TERPS 20:1	45.9	REMOVAL STG. II
1379	106.56	N34° 43' 03.63"	W78° 01' 25.32"	TREE	ULT. TERPS 20:1	38.4	REMOVAL STG. II
1380	104.68	N34° 43' 01.74"	W78° 01' 25.74"	TREE	ULT. TERPS 20:1	42.1	REMOVAL STG. II
1381	115.65	N34° 43' 02.60"	W78° 01' 24.87"	TREE	ULT. TERPS 20:1	48.4	REMOVAL STG. II
1382	105.15	N34° 43' 02.85"	W78° 01' 23.64"	TREE	ULT. TERPS 20:1	41.0	REMOVAL STG. II
1383	108.76	N34° 43' 01.80"	W78° 01' 23.64"	TREE	ULT. TERPS 20:1	44.2	REMOVAL STG. II
1384	105.62	N34° 43' 02.28"	W78° 01' 22.58"	TREE	ULT. TERPS 20:1	43.9	REMOVAL STG. II
1385	116.91	N34° 43' 00.40"	W78° 01' 19.71"	TREE	ULT. TERPS 20:1	61.4	REMOVAL STG. II
1386	109.69	N34° 43' 01.20"	W78° 01' 20.51"	TREE	ULT. TERPS 20:1	58.1	REMOVAL STG. II
1387	108.13	N34° 42' 59.95"	W78° 01' 21.28"	TREE	ULT. TERPS 20:1	54.6	REMOVAL STG. II
1388	109.38	N34° 43' 00.84"	W78° 01' 21.73"	TREE	ULT. TERPS 20:1	55.1	REMOVAL STG. II
1389	109.22	N34° 43' 01.78"	W78° 01' 21.55"	TREE	ULT. TERPS 20:1	55.4	REMOVAL STG. II
1390	102.95	N34° 43' 01.24"	W78° 01' 22.77"	TREE	ULT. TERPS 20:1	46.5	REMOVAL STG. II
1391	101.70	N34° 43' 01.64"	W78° 01' 24.03"	TREE	ULT. TERPS 20:1	42.8	REMOVAL STG. II
1392	104.21	N34° 43' 00.03"	W78° 01' 22.54"	TREE	ULT. TERPS 20:1	47.9	REMOVAL STG. II
1393	109.85	N34° 43' 00.58"	W78° 01' 24.05"	TREE	ULT. TERPS 20:1	50.4	REMOVAL STG. II
1394	110.95	N34° 43' 00.75"	W78° 01' 25.27"	TREE	ULT. TERPS 20:1	49.3	REMOVAL STG. II
1395	106.72	N34° 42' 59.41"	W78° 01' 23.86"	TREE	ULT. TERPS 20:1	47.6	REMOVAL STG. II
1396	114.56	N34° 42' 59.25"	W78° 01' 25.12"	TREE	ULT. TERPS 20:1	51.9	REMOVAL STG. II
1397	103.42	N34° 42' 59.50"	W78° 01' 26.61"	TREE	ULT. TERPS 20:1	38.8	REMOVAL STG. II
1398	104.36	N34° 43' 00.55"	W78° 01' 26.51"	TREE	ULT. TERPS 20:1	39.9	REMOVAL STG. II
1399	109.38	N34° 43' 01.44"	W78° 01' 24.83"	TREE	ULT. TERPS 20:1	48.3	REMOVAL STG. II

ULTIMATE TERPS DEPARTURE OBSTRUCTION POINT TABLE

POINT #	OBSTRUCTION ELEVATION	LATITUDE	LONGITUDE	DESCRIPTION	PENETRATION	FEET	MITIGATION
1400	112.67	N34° 43' 00.50"	W78° 01' 22.52"	TREE	ULT. TERPS 20:1	56.8	REMOVAL STG. II
1401	117.07	N34° 43' 00.42"	W78° 01' 20.61"	TREE	ULT. TERPS 20:1	65.2	REMOVAL STG. II
1402	119.89	N34° 42' 57.62"	W78° 01' 22.42"	TREE	ULT. TERPS 20:1	63.4	REMOVAL STG. II
1405	88.84	N34° 42' 57.16"	W78° 01' 14.57"	TREE	ULT. TERPS 20:1	44.9	REMOVAL STG. II
1406	94.80	N34° 42' 56.67"	W78° 01' 15.28"	TREE	ULT. TERPS 20:1	50.0	REMOVAL STG. II
1407	113.15	N34° 42' 59.23"	W78° 01' 15.21"	TREE	ULT. TERPS 20:1	68.3	REMOVAL STG. II
1408	113.46	N34° 42' 59.62"	W78° 01' 16.42"	TREE	ULT. TERPS 20:1	68.8	REMOVAL STG. II
1409	103.74	N34° 42' 57.96"	W78° 01' 15.38"	TREE	ULT. TERPS 20:1	59.1	REMOVAL STG. II
1410	115.50	N34° 42' 57.48"	W78° 01' 16.82"	TREE	ULT. TERPS 20:1	70.6	REMOVAL STG. II
1411	92.45	N34° 42' 56.52"	W78° 01' 16.53"	TREE	ULT. TERPS 20:1	47.6	REMOVAL STG. II
1412	106.56	N34° 42' 56.11"	W78° 01' 18.53"	TREE	ULT. TERPS 20:1	58.0	REMOVAL STG. II
1413	106.87	N34° 42' 55.44"	W78° 01' 20.00"	TREE	ULT. TERPS 20:1	54.6	REMOVAL STG. II
1414	100.13	N34° 42' 56.59"	W78° 01' 19.57"	TREE	ULT. TERPS 20:1	49.8	REMOVAL STG. II
1416	92.15	N34° 42' 57.53"	W78° 01' 13.76"	TREE	ULT. TERPS 20:1	47.9	REMOVAL STG. II
1417	98.57	N34° 42' 58.55"	W78° 01' 16.50"	TREE	ULT. TERPS 20:1	53.9	REMOVAL STG. II
1418	118.92	N34° 42' 58.00"	W78° 01' 17.92"	TREE	ULT. TERPS 20:1	72.0	REMOVAL STG. II
1419	98.88	N34° 42' 55.78"	W78° 01' 17.09"	TREE	ULT. TERPS 20:1	53.2	REMOVAL STG. II
1423	102.33	N34° 42' 59.31"	W78° 01' 13.23"	TREE	ULT. TERPS 20:1	58.3	REMOVAL STG. II
1424	95.91	N34° 42' 59.91"	W78° 01' 14.23"	TREE	ULT. TERPS 20:1	51.7	REMOVAL STG. II
1425	89.33	N34° 43' 00.21"	W78° 01' 12.54"	TREE	ULT. TERPS 20:1	45.5	REMOVAL STG. II
1426	89.49	N34° 43' 00.93"	W78° 01' 13.71"	TREE	ULT. TERPS 20:1	45.3	REMOVAL STG. II
1427	100.29	N34° 42' 59.04"	W78° 01' 17.63"	TREE	ULT. TERPS 20:1	54.1	REMOVAL STG. II
1428	102.33	N34° 42' 57.59"	W78° 01' 21.16"	TREE	ULT. TERPS 20:1	48.5	REMOVAL STG. II
1429	105.93	N34° 42' 58.37"	W78° 01' 20.09"	TREE	ULT. TERPS 20:1	54.3	REMOVAL STG. II
1430	94.34	N34° 42' 58.88"	W78° 01' 18.95"	TREE	ULT. TERPS 20:1	45.3	REMOVAL STG. II
1431	115.17	N34° 42' 58.44"	W78° 01' 21.71"	TREE	ULT. TERPS 20:1	60.2	REMOVAL STG. II
1433	110.94	N34° 42' 59.93"	W78° 01' 18.52"	TREE	ULT. TERPS 20:1	45.9	REMOVAL STG. II
1434	114.07	N34° 42' 59.03"	W78° 01' 20.94"	TREE	ULT. TERPS 20:1	61.0	REMOVAL STG. II
1435	91.83	N34° 43' 00.51"	W78° 01' 15.48"	TREE	ULT. TERPS 20:1	47.3	REMOVAL STG. II
1439	109.84	N34° 42' 55.59"	W78° 01' 21.72"	TREE	ULT. TERPS 20:1	54.1	REMOVAL STG. II
1440	105.61	N34° 42' 56.44"	W78° 01' 22.45"	TREE	ULT. TERPS 20:1	48.8	REMOVAL STG. II
1441	108.43	N34° 42' 54.89"	W78° 01' 23.27"	TREE	ULT. TERPS 20:1	49.2	REMOVAL STG. II
1442	105.93	N34° 42' 55.89"	W78° 01' 23.90"	TREE	ULT. TERPS 20:1	39.2	REMOVAL STG. II
1444	115.17	N34° 42' 58.92"	W78° 01' 22.82"	TREE	ULT. TERPS 20:1	58.1	REMOVAL STG. II
1445	116.73	N34° 42' 59.55"	W78° 01' 22.02"	TREE	ULT. TERPS 20:1	61.2	REMOVAL STG. II
1446	114.54	N34° 42' 58.13"	W78° 01' 23.77"	TREE	ULT. TERPS 20:1	55.2	REMOVAL STG. II
1447	115.95	N34° 42' 58.09"	W78° 01' 25.31"	TREE	ULT. TERPS 20:1	53.5	REMOVAL STG. II
1448	110.62	N34° 42' 57.01"	W78° 01' 25.15"	TREE	ULT. TERPS 20:1	48.3	REMOVAL STG. II

ULTIMATE TERPS DEPARTURE OBSTRUCTION POINT TABLE

POINT #	OBSTRUCTION ELEVATION	LATITUDE	LONGITUDE	DESCRIPTION	PENETRATION	FEET	MITIGATION
1449	112.19	N34° 42' 55.74"	W78° 01' 25.17"	TREE	ULT. TERPS 20:1	49.4	REMOVAL STG. II
1450	108.43	N34° 42' 54.68"	W78° 01' 24.73"	TREE	ULT. TERPS 20:1	46.4	REMOVAL STG. II
1451	112.66	N34° 42' 56.45"	W78° 01' 26.26"	TREE	ULT. TERPS 20:1	47.9	REMOVAL STG. II
1452	110.78	N34° 42' 55.36"	W78° 01' 26.48"	TREE	ULT. TERPS 20:1	45.4	REMOVAL STG. II
1453	113.60	N34° 42' 57.54"	W78° 01' 26.49"	TREE	ULT. TERPS 20:1	48.7	REMOVAL STG. II
1455	113.13	N34° 43' 00.08"	W78° 01' 24.39"	TREE	ULT. TERPS 20:1	53.1	REMOVAL STG. II
1456	108.90	N34° 42' 56.80"	W78° 01' 27.53"	TREE	ULT. TERPS 20:1	41.6	REMOVAL STG. II
1457	107.34	N34° 42' 57.90"	W78° 01' 27.79"	TREE	ULT. TERPS 20:1	39.4	REMOVAL STG. II
1458	91.97	N34° 43' 01.95"	W78° 01' 19.27"	TREE	ULT. TERPS 20:1	43.0	REMOVAL STG. II
1461	98.08	N34° 43' 03.16"	W78° 01' 17.06"	TREE	ULT. TERPS 20:1	53.4	REMOVAL STG. II
1462	89.62	N34° 43' 02.71"	W78° 01' 15.70"	TREE	ULT. TERPS 20:1	45.1	REMOVAL STG. II
1463	96.52	N34° 43' 03.40"	W78° 01' 14.15"	TREE	ULT. TERPS 20:1	52.3	REMOVAL STG. II
1464	97.93	N34° 43' 01.72"	W78° 01' 15.03"	TREE	ULT. TERPS 20:1	53.6	REMOVAL STG. II
1465	94.48	N34° 43' 02.40"	W78° 01' 13.49"	TREE	ULT. TERPS 20:1	50.3	REMOVAL STG. II
1466	86.95	N34° 43' 01.38"	W78° 01' 13.63"	TREE	ULT. TERPS 20:1	42.8	REMOVAL STG. II
1467	93.85	N34° 43' 01.96"	W78° 01' 14.26"	TREE	ULT. TERPS 20:1	49.7	REMOVAL STG. II
1468	94.64	N34° 43' 02.92"	W78° 01' 14.70"	TREE	ULT. TERPS 20:1	50.5	REMOVAL STG. II
1469	94.48	N34° 43' 02.13"	W78° 01' 16.39"	TREE	ULT. TERPS 20:1	50.1	REMOVAL STG. II
1470	96.36	N34° 43' 01.70"	W78° 01' 16.93"	TREE	ULT. TERPS 20:1	51.8	REMOVAL STG. II
1471	95.42	N34° 43' 02.51"	W78° 01' 18.54"	TREE	ULT. TERPS 20:1	48.0	REMOVAL STG. II
1472	95.73	N34° 43' 03.39"	W78° 01' 19.10"	TREE	ULT. TERPS 20:1	47.5	REMOVAL STG. II
1473	95.11	N34° 43' 03.57"	W78° 01' 20.58"	TREE	ULT. TERPS 20:1	43.8	REMOVAL STG. II
1474	93.54	N34° 43' 02.24"	W78° 01' 20.42"	TREE	ULT. TERPS 20:1	42.2	REMOVAL STG. II
1475	96.67	N34° 43' 02.98"	W78° 01' 21.35"	TREE	ULT. TERPS 20:1	43.6	REMOVAL STG. II
1476	96.05	N34° 43' 02.56"	W78° 01' 17.28"	TREE	ULT. TERPS 20:1	51.4	REMOVAL STG. II
1477	94.32	N34° 43' 03.39"	W78° 01' 12.81"	TREE	ULT. TERPS 20:1	50.4	REMOVAL STG. II
1478	89.46	N34° 43' 02.34"	W78° 01' 12.25"	TREE	ULT. TERPS 20:1	45.4	REMOVAL STG. II
1479	88.04	N34° 43' 01.27"	W78° 01' 12.44"	TREE	ULT. TERPS 20:1	44.2	REMOVAL STG. II
1480	115.46	N34° 42' 54.26"	W78° 01' 29.79"	TREE	ULT. TERPS 20:1	42.8	REMOVAL STG. II
1481	119.29	N34° 42' 55.82"	W78° 01' 29.90"	TREE	ULT. TERPS 20:1	47.0	REMOVAL STG. II
1482	114.27	N34° 42' 55.57"	W78° 01' 28.25"	TREE	ULT. TERPS 20:1	45.2	REMOVAL STG. II
1483	113.33	N34° 42' 54.37"	W78° 01' 28.46"	TREE	ULT. TERPS 20:1	43.7	REMOVAL STG. II
1484	104.08	N34° 42' 54.67"	W78° 01' 27.20"	TREE	ULT. TERPS 20:1	37.0	REMOVAL STG. II
1485	109.25	N34° 42' 56.73"	W78° 01' 28.43"	TREE	ULT. TERPS 20:1	39.9	REMOVAL STG. II

WK DICKSON
community infrastructure consultants
Transportation + Water Resources
Urban Development + Geomatics
720 Corporate Center Drive
Raleigh, NC 27607
919.782.0495 (t)
919.782.9672 (f)
www.wkdickson.com
NC LICENSE NO. F-0374

WKD PROJ.: 20150003.00.RA
PROJ. ORIGIN DATEMARCH 2017
P.M.: JPK
DRAWN BY: RAB/MRM

PROFESSIONAL SEAL

REV. RECORD:

BY	DATE	DESCRIPTION

PROJECT NAME:
ACZ AIRPORT LAYOUT PLAN UPDATE

OWNER OR CLIENT:
TOWN OF WALLACE

PLAN KEY:

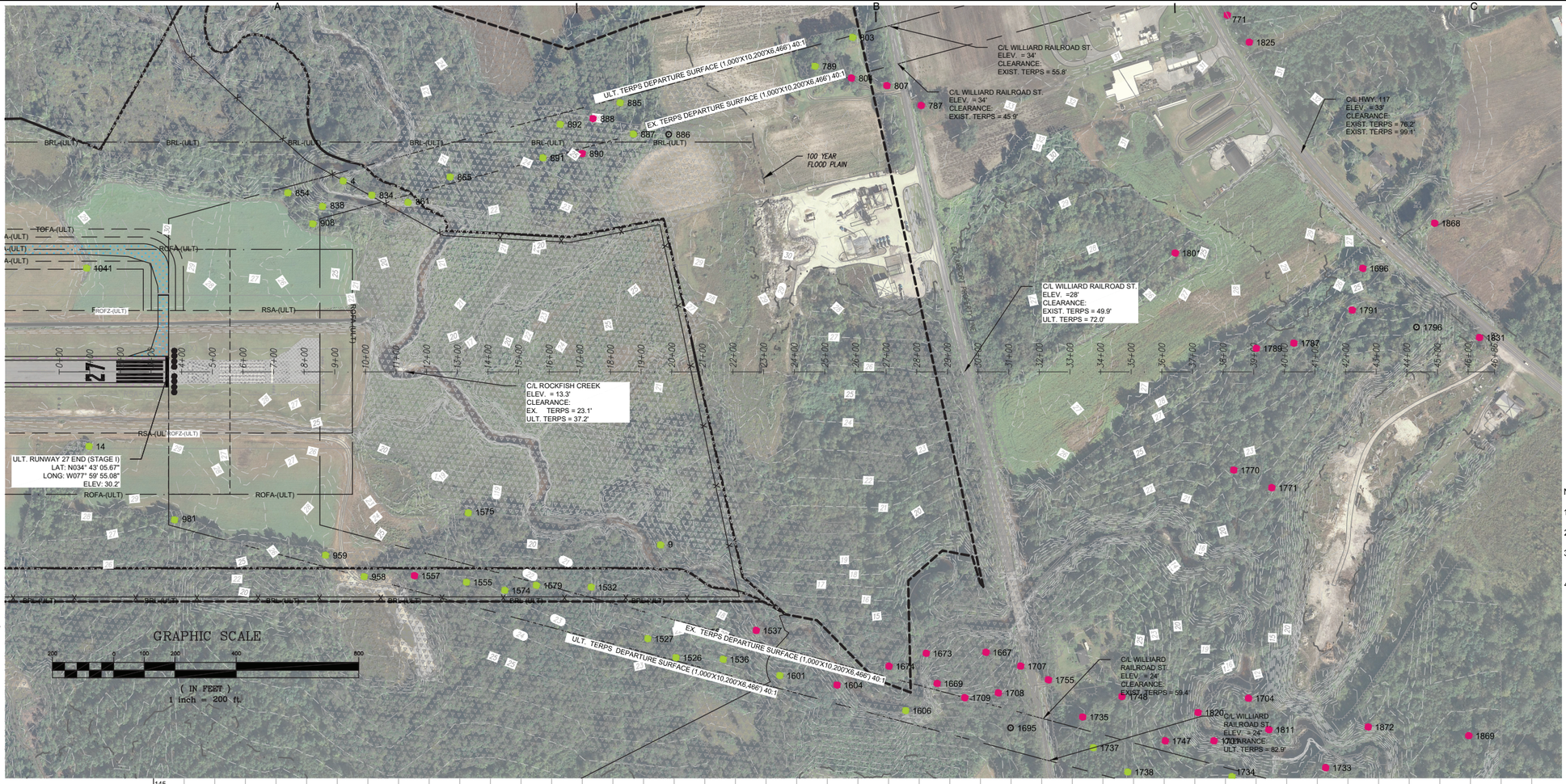
DRAWING TITLE:
DEPARTURE OBSTRUCTION TABLES RUNWAY 9

DRAWING NUMBER:
C10

PLOT DATE: 4/5/2017

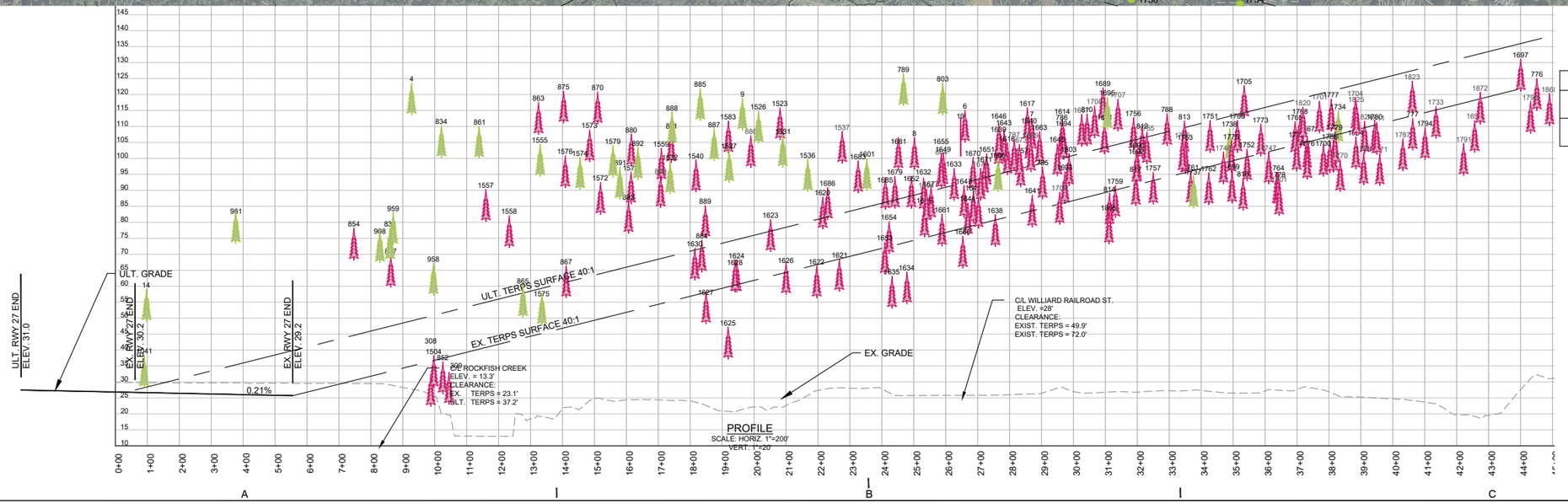
- DRAWING STATUS - PLANNING DOCUMENTS - FINAL

FILE PATH: J:\Projects\Wallace\2015000300RA - ACZ Airport Layout Plan Update TO11\CADD\Plan Set\2015000300RA_C_SHT_DEPARTURE.dwg



NOTE:

1. ALL LATITUDE AND LONGITUDE COORDINATES ARE IN NAD '83 FORMAT.
2. ALL ELEVATIONS SHOWN ARE IN REFERENCE TO NAVD 88.
3. PLANIMETRICS/CONTOURS/OBSTRUCTIONS WERE OBTAINED JUNE 2015 BY WOOLPERT, INC.
4. SEE AIRPORT LAYOUT PLAN FOR LEGEND.



OBSTUCTION LEGEND

TREE OBSTRUCTION EXISTING 40:1 TERPS SURFACE	
TREE OBSTRUCTION ULTIMATE 40:1 TERPS SURFACE	

WK DICKSON
community infrastructure consultants
Transportation + Water Resources
Urban Development + Geomatics
720 Corporate Center Drive
Raleigh, NC 27607
919.782.0495 (t)
919.782.9672 (f)
www.wkdickson.com
NC LICENSE NO. F-0374

WKD PROJ.: 20150003.00.RA
PROJ. ORIGIN DATE: APRIL 2017
P.M.: JPK
DRAWN BY: RAB/MRM

PROFESSIONAL SEAL

REV. RECORD:

BY	DATE	DESCRIPTION

- DRAWING STATUS - PLANNING DOCUMENTS - FINAL

PROJECT NAME:
ACZ AIRPORT LAYOUT PLAN UPDATE

OWNER OR CLIENT:
TOWN OF WALLACE

PLAN KEY:

DRAWING TITLE:
DEPARTURE SURFACES RUNWAY END 27

DRAWING NUMBER:
C11

PLOT DATE: 4/27/2017

FILE PATH: J:\Projects\Wallace\20150003.00RA - ACZ Airport Layout Plan Update TO11\CADD\Plan Set\20150003.00RA_C_SHT_DEPARTURE.dwg

EXISTING TERPS DEPARTURE OBSTRUCTION POINT TABLE

POINT #	OBSTRUCTION ELEVATION	LATITUDE	LONGITUDE	DESCRIPTION	PENETRATION	FEET	MITIGATION
6	115.07	N34° 43' 08.28"	W77° 59' 27.66"	TREE	EX. TERPS 20:1	40.6	REMOVAL STG. I
7	112.53	N34° 43' 05.87"	W77° 59' 24.88"	TREE	EX. TERPS 20:1	32.9	REMOVAL STG. I
8	106.58	N34° 43' 04.13"	W77° 59' 29.13"	TREE	EX. TERPS 20:1	36.2	REMOVAL STG. I
19	112.74	N34° 43' 12.38"	W77° 59' 28.25"	ANTENNA	EX. TERPS 20:1	38.6	REMOVAL STG. I
308	32.35	N34° 43' 04.23"	W77° 59' 47.35"	BUSH	EX. TERPS 20:1	0.0	REMOVAL STG. I
309	32.98	N34° 43' 02.82"	W77° 59' 46.52"	BUSH	EX. TERPS 20:1	0.0	REMOVAL STG. I
771	105.72	N34° 43' 20.09"	W77° 59' 15.03"	TREE	EX. TERPS 20:1	2.5	REMOVAL STG. I
775	122.64	N34° 43' 15.08"	W77° 59' 05.91"	TREE	EX. TERPS 20:1	1.5	REMOVAL STG. I
776	124.99	N34° 43' 12.79"	W77° 59' 06.60"	TREE	EX. TERPS 20:1	5.9	REMOVAL STG. I
777	112.61	N34° 43' 16.67"	W77° 59' 11.68"	TREE	EX. TERPS 20:1	3.2	REMOVAL STG. I
785	97.32	N34° 43' 12.24"	W77° 59' 25.15"	TREE	EX. TERPS 20:1	6.9	REMOVAL STG. I
786	110.96	N34° 43' 15.54"	W77° 59' 24.77"	TREE	EX. TERPS 20:1	28.9	REMOVAL STG. I
787	106.10	N34° 43' 16.34"	W77° 59' 26.65"	TREE	EX. TERPS 20:1	27.8	REMOVAL STG. I
788	113.94	N34° 43' 12.71"	W77° 59' 20.51"	TREE	EX. TERPS 20:1	23.7	REMOVAL STG. I
804	100.67	N34° 43' 17.02"	W77° 59' 29.46"	TREE	EX. TERPS 20:1	28.1	REMOVAL STG. I
807	88.13	N34° 43' 16.88"	W77° 59' 28.05"	TREE	EX. TERPS 20:1	12.6	REMOVAL STG. I
810	113.92	N34° 43' 13.87"	W77° 59' 23.65"	TREE	EX. TERPS 20:1	30.0	REMOVAL STG. I
812	110.00	N34° 43' 13.73"	W77° 59' 21.55"	TREE	EX. TERPS 20:1	21.7	REMOVAL STG. I
813	111.73	N34° 43' 13.86"	W77° 59' 19.98"	TREE	EX. TERPS 20:1	20.1	REMOVAL STG. I
814	89.06	N34° 43' 13.19"	W77° 59' 22.73"	TREE	EX. TERPS 20:1	3.2	REMOVAL STG. I
817	95.17	N34° 43' 12.18"	W77° 59' 21.63"	TREE	EX. TERPS 20:1	7.4	REMOVAL STG. I
818	93.76	N34° 43' 11.38"	W77° 59' 17.51"	TREE	EX. TERPS 20:1	-2.5	REMOVAL STG. I
837	69.67	N34° 43' 10.59"	W77° 59' 49.52"	TREE	EX. TERPS 20:1	40.3	REMOVAL STG. I
852	36.28	N34° 43' 07.86"	W77° 59' 47.28"	TREE	EX. TERPS 20:1	7.1	REMOVAL STG. I
863	117.48	N34° 43' 11.54"	W77° 59' 44.06"	TREE	EX. TERPS 20:1	76.5	REMOVAL STG. I
867	66.38	N34° 43' 11.02"	W77° 59' 42.96"	TREE	EX. TERPS 20:1	40.2	REMOVAL STG. I
870	120.77	N34° 43' 12.53"	W77° 59' 41.94"	TREE	EX. TERPS 20:1	75.2	REMOVAL STG. I
875	121.09	N34° 43' 12.77"	W77° 59' 43.24"	TREE	EX. TERPS 20:1	78.1	REMOVAL STG. I
880	107.61	N34° 43' 12.70"	W77° 59' 40.69"	TREE	EX. TERPS 20:1	59.3	REMOVAL STG. I
881	108.70	N34° 43' 12.91"	W77° 59' 39.21"	TREE	EX. TERPS 20:1	57.2	REMOVAL STG. I
882	86.60	N34° 43' 11.35"	W77° 59' 40.65"	TREE	EX. TERPS 20:1	38.5	REMOVAL STG. I
884	74.37	N34° 43' 11.61"	W77° 59' 37.92"	TREE	EX. TERPS 20:1	20.5	REMOVAL STG. I
886	107.14	N34° 43' 14.70"	W77° 59' 36.40"	TREE	EX. TERPS 20:1	49.5	REMOVAL STG. I

EXISTING TERPS DEPARTURE OBSTRUCTION POINT TABLE

POINT #	OBSTRUCTION ELEVATION	LATITUDE	LONGITUDE	DESCRIPTION	PENETRATION	FEET	MITIGATION
889	85.19	N34° 43' 13.52"	W77° 59' 37.98"	TREE	EX. TERPS 20:1	31.2	REMOVAL STG. I
890	94.59	N34° 43' 13.85"	W77° 59' 39.70"	TREE	EX. TERPS 20:1	44.1	REMOVAL STG. I
1504	38.17	N34° 43' 10.58"	W77° 59' 47.90"	TREE	EX. TERPS 20:1	8.9	REMOVAL STG. I
1523	115.87	N34° 43' 00.50"	W77° 59' 33.81"	TREE	EX. TERPS 20:1	55.9	REMOVAL STG. I
1537	108.49	N34° 42' 58.98"	W77° 59' 31.31"	TREE	EX. TERPS 20:1	43.6	REMOVAL STG. I
1540	99.53	N34° 43' 01.67"	W77° 59' 37.09"	TREE	EX. TERPS 20:1	46.3	REMOVAL STG. I
1557	90.24	N34° 42' 59.79"	W77° 59' 44.81"	TREE	EX. TERPS 20:1	53.3	REMOVAL STG. I
1558	82.06	N34° 43' 00.66"	W77° 59' 44.02"	TREE	EX. TERPS 20:1	43.3	REMOVAL STG. I
1559	103.14	N34° 43' 01.78"	W77° 59' 38.41"	TREE	EX. TERPS 20:1	52.4	REMOVAL STG. I
1572	92.45	N34° 43' 02.00"	W77° 59' 40.73"	TREE	EX. TERPS 20:1	46.4	REMOVAL STG. I
1573	108.96	N34° 43' 00.65"	W77° 59' 40.99"	TREE	EX. TERPS 20:1	64.0	REMOVAL STG. I
1576	100.78	N34° 43' 01.26"	W77° 59' 41.97"	TREE	EX. TERPS 20:1	57.6	REMOVAL STG. I
1578	95.75	N34° 43' 01.20"	W77° 59' 39.49"	TREE	EX. TERPS 20:1	47.3	REMOVAL STG. I
1583	111.63	N34° 43' 00.14"	W77° 59' 35.72"	TREE	EX. TERPS 20:1	55.7	REMOVAL STG. I
1604	90.26	N34° 42' 57.45"	W77° 59' 27.97"	TREE	EX. TERPS 20:1	18.9	REMOVAL STG. I
1614	112.41	N34° 43' 04.95"	W77° 59' 23.64"	TREE	EX. TERPS 20:1	30.3	REMOVAL STG. I
1616	104.87	N34° 43' 04.84"	W77° 59' 25.70"	TREE	EX. TERPS 20:1	27.1	REMOVAL STG. I
1617	115.87	N34° 43' 04.09"	W77° 59' 24.87"	TREE	EX. TERPS 20:1	36.5	REMOVAL STG. I
1620	87.90	N34° 43' 03.97"	W77° 59' 32.56"	TREE	EX. TERPS 20:1	24.6	REMOVAL STG. I
1621	68.42	N34° 43' 03.08"	W77° 59' 31.85"	TREE	EX. TERPS 20:1	3.8	REMOVAL STG. I
1622	66.38	N34° 43' 04.96"	W77° 59' 32.89"	TREE	EX. TERPS 20:1	3.6	REMOVAL STG. I
1623	80.83	N34° 43' 05.29"	W77° 59' 34.66"	TREE	EX. TERPS 20:1	21.7	REMOVAL STG. I
1624	68.11	N34° 43' 04.82"	W77° 59' 35.89"	TREE	EX. TERPS 20:1	11.6	REMOVAL STG. I
1625	47.21	N34° 43' 05.78"	W77° 59' 36.31"	TREE	EX. TERPS 20:1	-8.7	REMOVAL STG. I
1626	67.48	N34° 43' 04.43"	W77° 59' 33.99"	TREE	EX. TERPS 20:1	7.0	REMOVAL STG. I
1627	58.21	N34° 43' 04.29"	W77° 59' 36.99"	TREE	EX. TERPS 20:1	3.9	REMOVAL STG. I
1628	68.11	N34° 43' 03.77"	W77° 59' 35.84"	TREE	EX. TERPS 20:1	11.8	REMOVAL STG. I
1630	71.88	N34° 43' 02.77"	W77° 59' 37.25"	TREE	EX. TERPS 20:1	18.7	REMOVAL STG. I
1632	93.87	N34° 43' 09.23"	W77° 59' 29.32"	TREE	EX. TERPS 20:1	22.7	REMOVAL STG. I
1633	96.86	N34° 43' 09.81"	W77° 59' 28.22"	TREE	EX. TERPS 20:1	23.3	REMOVAL STG. I
1634	64.49	N34° 43' 10.47"	W77° 59' 30.07"	TREE	EX. TERPS 20:1	-5.3	REMOVAL STG. I
1635	63.08	N34° 43' 08.42"	W77° 59' 30.42"	TREE	EX. TERPS 20:1	-5.7	REMOVAL STG. I
1636	85.39	N34° 43' 07.83"	W77° 59' 29.13"	TREE	EX. TERPS 20:1	14.1	REMOVAL STG. I

EXISTING TERPS DEPARTURE OBSTRUCTION POINT TABLE

POINT #	OBSTRUCTION ELEVATION	LATITUDE	LONGITUDE	DESCRIPTION	PENETRATION	FEET	MITIGATION
1638	82.40	N34° 43' 09.80"	W77° 59' 26.68"	TREE	EX. TERPS 20:1	5.6	REMOVAL STG. I
1639	107.85	N34° 43' 08.46"	W77° 59' 26.41"	TREE	EX. TERPS 20:1	30.8	REMOVAL STG. I
1640	109.58	N34° 43' 08.13"	W77° 59' 25.22"	TREE	EX. TERPS 20:1	30.1	REMOVAL STG. I
1641	88.53	N34° 43' 10.03"	W77° 59' 25.31"	TREE	EX. TERPS 20:1	8.8	REMOVAL STG. I
1643	108.95	N34° 43' 07.27"	W77° 59' 26.08"	TREE	EX. TERPS 20:1	31.5	REMOVAL STG. I
1644	86.02	N34° 43' 07.18"	W77° 59' 27.44"	TREE	EX. TERPS 20:1	11.4	REMOVAL STG. I
1645	104.56	N34° 43' 07.25"	W77° 59' 24.07"	TREE	EX. TERPS 20:1	22.9	REMOVAL STG. I
1646	110.68	N34° 43' 06.16"	W77° 59' 26.16"	TREE	EX. TERPS 20:1	33.6	REMOVAL STG. I
1647	91.52	N34° 43' 06.15"	W77° 59' 27.47"	TREE	EX. TERPS 20:1	17.2	REMOVAL STG. I
1648	89.79	N34° 43' 05.12"	W77° 59' 27.02"	TREE	EX. TERPS 20:1	14.4	REMOVAL STG. I
1649	101.57	N34° 43' 05.01"	W77° 59' 28.13"	TREE	EX. TERPS 20:1	28.9	REMOVAL STG. I
1651	101.41	N34° 43' 03.49"	W77° 59' 26.34"	TREE	EX. TERPS 20:1	25.3	REMOVAL STG. I
1652	94.34	N34° 43' 05.08"	W77° 59' 29.34"	TREE	EX. TERPS 20:1	24.1	REMOVAL STG. I
1653	73.76	N34° 43' 05.69"	W77° 59' 30.40"	TREE	EX. TERPS 20:1	5.7	REMOVAL STG. I
1654	80.20	N34° 43' 06.95"	W77° 59' 30.37"	TREE	EX. TERPS 20:1	11.7	REMOVAL STG. I
1655	101.57	N34° 43' 08.66"	W77° 59' 28.59"	TREE	EX. TERPS 20:1	29.0	REMOVAL STG. I
1657	101.10	N34° 43' 02.00"	W77° 59' 24.90"	TREE	EX. TERPS 20:1	22.4	REMOVAL STG. I
1660	75.65	N34° 43' 02.66"	W77° 59' 27.15"	TREE	EX. TERPS 20:1	1.4	REMOVAL STG. I
1661	82.56	N34° 43' 03.40"	W77° 59' 28.01"	TREE	EX. TERPS 20:1	9.9	REMOVAL STG. I
1663	108.48	N34° 43' 01.23"	W77° 59' 24.11"	TREE	EX. TERPS 20:1	28.2	REMOVAL STG. I
1667	113.82	N34° 42' 58.92"	W77° 59' 22.28"	TREE	EX. TERPS 20:1	30.2	REMOVAL STG. I
1669	105.81	N34° 42' 57.78"	W77° 59' 24.08"	TREE	EX. TERPS 20:1	26.2	REMOVAL STG. I
1670	100.31	N34° 43' 01.24"	W77° 59' 26.62"	TREE	EX. TERPS 20:1	25.3	REMOVAL STG. I
1671	98.90	N34° 42' 59.65"	W77° 59' 26.04"	TREE	EX. TERPS 20:1	23.0	REMOVAL STG. I
1673	104.40	N34° 42' 58.72"	W77° 59' 24.61"	TREE	EX. TERPS 20:1	25.7	REMOVAL STG. I
1674	96.86	N34° 42' 58.20"	W77° 59' 26.01"	TREE	EX. TERPS 20:1	21.2	REMOVAL STG. I
1677	91.20	N34° 43' 01.91"	W77° 59' 28.27"	TREE	EX. TERPS 20:1	19.4	REMOVAL STG. I
1679	94.34	N34° 43' 01.28"	W77° 59' 29.56"	TREE	EX. TERPS 20:1	25.4	REMOVAL STG. I
1681	106.60	N34° 43' 00.06"	W77° 59' 29.31"	TREE	EX. TERPS 20:1	37.4	REMOVAL STG. I
1683	99.21	N34° 43' 00.84"	W77° 59' 30.91"	TREE	EX. TERPS 20:1	33.2	REMOVAL STG. I
1685	94.03	N34° 43' 02.29"	W77° 59' 30.03"	TREE	EX. TERPS 20:1	25.9	REMOVAL STG. I
1686	90.84	N34° 43' 01.47"	W77° 59' 32.11"	TREE	EX. TERPS 20:1	27.2	REMOVAL STG. I
1689	122.10	N34° 43' 11.04"	W77° 59' 22.75"	TREE	EX. TERPS 20:1	36.7	REMOVAL STG. I

EXISTING TERPS DEPARTURE OBSTRUCTION POINT TABLE

POINT #	OBSTRUCTION ELEVATION	LATITUDE	LONGITUDE	DESCRIPTION	PENETRATION	FEET	MITIGATION
1690	102.78	N34° 43' 09.94"	W77° 59' 21.35"	TREE	EX. TERPS 20:1	14.9	REMOVAL STG. I
1691	111.42	N34° 43' 09.20"	W77° 59' 22.50"	TREE	EX. TERPS 20:1	26.1	REMOVAL STG. I
1692	102.30	N34° 43' 08.53"	W77° 59' 21.23"	TREE	EX. TERPS 20:1	14.5	REMOVAL STG. I
1693	95.86	N34° 43' 06.27"	W77° 59' 23.69"	TREE	EX. TERPS 20:1	13.6	REMOVAL STG. I
1694	109.69	N34° 43' 02.86"	W77° 59' 23.38"	TREE	EX. TERPS 20:1	27.5	REMOVAL STG. I
1696	111.88	N34° 43' 12.32"	W77° 59' 08.89"	TREE	EX. TERPS 20:1	-2.5	REMOVAL STG. I
1697	131.03	N34° 43' 09.62"	W77° 59' 06.88"	TREE	EX. TERPS 20:1	13.2	REMOVAL STG. I
1699	96.03	N34° 43' 12.61"	W77° 59' 18.06"	TREE	EX. TERPS 20:1	0.7	REMOVAL STG. I
1700	104.42	N34° 43' 02.58"	W77° 59' 13.56"	TREE	EX. TERPS 20:1	2.0	REMOVAL STG. I
1701	117.92	N34° 42' 56.70"	W77° 59' 13.10"	TREE	EX. TERPS 20:1	15.8	REMOVAL STG. I
1704	119.01	N34° 42' 58.17"	W77° 59' 11.90"	TREE	EX. TERPS 20:1	14.0	REMOVAL STG. I
1705	122.77	N34° 43' 05.44"	W77° 59' 16.85"	TREE	EX. TERPS 20:1	26.5	REMOVAL STG. I
1707	118.61	N34° 42' 58.57"	W77° 59' 20.88"	TREE	EX. TERPS 20:1	32.3	REMOVAL STG. I
1708	116.41	N34° 42' 57.65"	W77° 59' 21.66"	TREE	EX. TERPS 20:1	31.9	REMOVAL STG. I
1709	89.40	N34° 42' 57.40"	W77° 59' 22.96"	TREE	EX. TERPS 20:1	7.6	REMOVAL STG. I
1733	116.31	N34° 42' 56.15"	W77° 59' 08.66"	TREE	EX. TERPS 20:1	5.0	REMOVAL STG. I
1735	105.94	N34° 42' 57.11"	W77° 59' 18.29"	TREE	EX. TERPS 20:1	14.5	REMOVAL STG. I
1747	102.02	N34° 42' 56.57"	W77° 59' 15.00"	TREE	EX. TERPS 20:1	3.8	REMOVAL STG. I
1748	102.02	N34° 42' 57.87"	W77° 59' 16.84"	TREE	EX. TERPS 20:1	7.4	REMOVAL STG. I
1751	111.85	N34° 43' 02.42"	W77° 59' 17.82"	TREE	EX. TERPS 20:1	18.3	REMOVAL STG. I
1752	102.90	N34° 43' 02.15"	W77° 59' 16.39"	TREE	EX. TERPS 20:1	6.4	REMOVAL STG. I
1753	105.26	N34° 43' 01.55"	W77° 59' 18.66"	TREE	EX. TERPS 20:1	13.6	REMOVAL STG. I
1755	108.24	N34° 42' 58.21"	W77° 59' 19.76"	TREE	EX. TERPS 20:1	19.7	REMOVAL STG. I
1756	112.79	N34° 43' 01.83"	W77° 59' 20.64"	TREE	EX. TERPS 20:1	25.3	REMOVAL STG. I
1757	95.68	N34° 43' 03.09"	W77° 59' 20.03"	TREE	EX. TERPS 20:1	6.6	REMOVAL STG. I
1759	91.44	N34° 43' 04.30"	W77° 59' 21.58"	TREE	EX. TERPS 20:1	5.3	REMOVAL STG. I
1761	95.84	N34° 43' 03.56"	W77° 59' 18.66"	TREE	EX. TERPS 20:1	3.7	REMOVAL STG. I
1762	95.52	N34° 43' 05.39"	W77° 59' 18.18"	TREE	EX. TERPS 20:1	2.1	REMOVAL STG. I
1764	95.68	N34° 43' 05.29"	W77° 59' 15.60"	TREE	EX. TERPS 20:1	-3.2	REMOVAL STG. I
1765	111.54	N34° 43' 06.86"	W77° 59' 15.08"	TREE	EX. TERPS 20:1	11.3	REMOVAL STG. I
1766	111.85	N34° 43' 07.12"	W77° 59' 17.28"	TREE	EX. TERPS 20:1	16.1	REMOVAL STG. I
1767	106.83	N34° 43' 05.98"	W77° 59' 14.54"	TREE	EX. TERPS 20:1	5.6	REMOVAL STG. I
1768	113.42	N34° 43' 05.97"	W77° 59' 14.79"	TREE	EX. TERPS 20:1	12.8	REMOVAL STG. I

EXISTING TERPS DEPARTURE OBSTRUCTION POINT TABLE

POINT #	OBSTRUCTION ELEVATION	LATITUDE	LONGITUDE	DESCRIPTION	PENETRATION	FEET	MITIGATION
1770	99.60	N34° 43' 05.47"	W77° 59' 13.24"	TREE	EX. TERPS 20:1	-4.2	REMOVAL STG. I
1771	101.49	N34° 43' 05.01"	W77° 59' 11.70"	TREE	EX. TERPS 20:1	-5.4	REMOVAL STG. I
1772	106.04	N34° 43' 04.97"	W77° 59' 14.82"	TREE	EX. TERPS 20:1	5.6	REMOVAL STG. I
1773	110.75	N34° 43' 06.43"	W77° 59' 16.32"	TREE	EX. TERPS 20:1	13.2	REMOVAL STG. I
1775	105.51	N34° 43' 06.10"	W77° 59' 17.40"	TREE	EX. TERPS 20:1	10.3	REMOVAL STG. I
1776	103.47	N34° 43' 08.18"	W77° 59' 14.76"	TREE	EX. TERPS 20:1	2.2	REMOVAL STG. I
1777	118.54	N34° 43' 07.82"	W77° 59' 13.82"	TREE	EX. TERPS 20:1	15.5	REMOVAL STG. I
1778	95.46	N34° 43' 07.52"	W77° 59' 15.79"	TREE	EX. TERPS 20:1	-3.5	REMOVAL STG. I
1779	108.34	N34° 43' 06.74"	W77° 59' 13.57"	TREE	EX. TERPS 20:1	5.0	REMOVAL STG. I
1780	111.79	N34° 43' 08.47"	W77° 59' 12.25"	TREE	EX. TERPS 20:1	5.3	REMOVAL STG. I
1786	105.51	N34° 43' 08.90"	W77° 59' 13.98"	TREE	EX. TERPS 20:1	2.5	REMOVAL STG. I
1787	106.14	N34° 43' 09.73"	W77° 59' 11.32"	TREE	EX. TERPS 20:1	-2.5	REMOVAL STG. I
1789	101.74	N34° 43' 09.45"	W77° 59' 12.77"	TREE	EX. TERPS 20:1	-3.9	REMOVAL STG. I
1791	104.67	N34° 43' 10.95"	W77° 59' 09.16"	TREE	EX. TERPS 20:1	-8.8	REMOVAL STG. I
1794	109.69	N34° 43' 09.23"	W77° 59' 10.44"	TREE	EX. TERPS 20:1	-0.7	REMOVAL STG. I
1796	117.86	N34° 43' 10.58"	W77° 59' 06.60"	TREE	EX. TERPS 20:1	-0.9	REMOVAL STG. I
1801	92.07	N34° 43' 12.30"	W77° 59' 16.25"	TREE	EX. TERPS 20:1	-7.0	REMOVAL STG. I
1803	101.45	N34° 43' 10.92"	W77° 59' 24.02"	TREE	EX. TERPS 20:1	18.9	REMOVAL STG. I
1805	83.23	N34° 43' 07.96"	W77° 59' 22.20"	TREE	EX. TERPS 20:1	-2.5	REMOVAL STG. I
1811	111.25	N34° 42' 57.22"	W77° 59' 11.00"	TREE	EX. TERPS 20:1	4.6	REMOVAL STG. I
1820	116.07	N34° 42' 57.57"	W77° 59' 13.81"	TREE	EX. TERPS 20:1	15.2	REMOVAL STG. I
1823	124.18	N34° 43' 21.15"	W77° 59' 12.16"	TREE	EX. TERPS 20:1	14.8	REMOVAL STG. I
1824	111.62	N34° 43' 20.89"	W77° 59' 13.93"	TREE	EX. TERPS 20:1	5.9	REMOVAL STG. I
1825	117.19	N34° 43' 19.28"	W77° 59' 14.07"	TREE	EX. TERPS 20:1	12.1	REMOVAL STG. I
1831	114.39	N34° 43' 10.42"	W77° 59' 04.11"	TREE	EX. TERPS 20:1	-9.4	REMOVAL STG. I
1868	120.26	N34° 43' 13.98"	W77° 59' 06.24"	TREE	EX. TERPS 20:1	0.1	REMOVAL STG. I
1869	124.32	N34° 42' 57.58"	W77° 59' 03.19"	TREE	EX. TERPS 20:1	1.4	REMOVAL STG. I
1872	120.72	N34° 42' 57.58"	W77° 59' 07.14"	TREE	EX. TERPS 20:1	6.0	REMOVAL STG. I
1954	106.69	N34° 43' 05.04"	W77° 59' 12.60"	TREE	EX. TERPS 20:1	1.7	REMOVAL STG. I

ULTIMATE TERPS DEPARTURE OBSTRUCTION POINT TABLE

POINT #	OBSTRUCTION ELEVATION	LATITUDE	LONGITUDE	DESCRIPTION	PENETRATION	FEET	MITIGATION
4	123.65	N34° 43' 12.30"	W77° 59' 48.92"	TREE	ULT. TERPS 20:1	69.7	REMOVAL STG. II
9	118.83	N34° 43' 01.47"	W77° 59' 35.33"	TREE	ULT. TERPS 20:1	38.7	REMOVAL STG. II
14	59.00	N34° 43' 03.05"	W77° 59' 57.93"	TREE	ULT. TERPS 20:1	25.3	REMOVAL STG. II
789	126.47	N34° 43' 17.31"	W77° 59' 30.92"	TREE	ULT. TERPS 20:1	33.9	REMOVAL STG. II
803	123.55	N34° 43' 18.34"	W77° 59' 29.55"	TREE	ULT. TERPS 20:1	27.7	REMOVAL STG. II
834	110.27	N34° 43' 11.92"	W77° 59' 47.75"	TREE	ULT. TERPS 20:1	53.6	REMOVAL STG. II
838	78.13	N34° 43' 11.42"	W77° 59' 49.64"	TREE	ULT. TERPS 20:1	14.1	REMOVAL STG. II
854	78.13	N34° 43' 11.76"	W77° 59' 51.03"	TREE	ULT. TERPS 20:1	28.5	REMOVAL STG. II
861	110.11	N34° 43' 11.79"	W77° 59' 46.32"	TREE	ULT. TERPS 20:1	50.6	REMOVAL STG. II
865	60.26	N34° 43' 12.72"	W77° 59' 44.77"	TREE	ULT. TERPS 20:1	2.7	REMOVAL STG. II
885	121.87	N34° 43' 15.59"	W77° 59' 38.39"	TREE	ULT. TERPS 20:1	45.0	REMOVAL STG. II
887	109.33	N34° 43' 14.61"	W77° 59' 37.77"	TREE	ULT. TERPS 20:1	31.4	REMOVAL STG. II
888	114.50	N34° 43' 15.00"	W77° 59' 39.39"	TREE	ULT. TERPS 20:1	39.9	REMOVAL STG. II
891	97.26	N34° 43' 13.60"	W77° 59' 41.21"	TREE	ULT. TERPS 20:1	26.7	REMOVAL STG. II
892	103.37	N34° 43' 14.73"	W77° 59' 40.65"	TREE	ULT. TERPS 20:1	31.5	REMOVAL STG. II
908	77.35	N34° 43' 10.84"	W77° 59' 49.96"	TREE	ULT. TERPS 20:1	14.9	REMOVAL STG. II
958	67.21	N34° 42' 59.63"	W77° 59' 46.77"	TREE	ULT. TERPS 20:1	11.2	REMOVAL STG. II
959	82.91	N34° 43' 00.21"	W77° 59' 48.34"	TREE	ULT. TERPS 20:1	30.2	REMOVAL STG. II
981	83.38	N34° 43' 00.93"	W77° 59' 54.35"	TREE	ULT. TERPS 20:1	53.3	REMOVAL STG. II
1041	38.32	N34° 43' 08.78"	W77° 59' 58.62"	TREE	ULT. TERPS 20:1	5.0	REMOVAL STG. II
1526	114.77	N34° 42' 57.89"	W77° 59' 34.34"	TREE	ULT. TERPS 20:1	33.4	REMOVAL STG. II
1527	102.52	N34° 42' 58.42"	W77° 59' 35.51"	TREE	ULT. TERPS 20:1	23.5	REMOVAL STG. II
1531	107.23	N34° 42' 58.79"	W77° 59' 33.53"	TREE	ULT. TERPS 20:1	24.0	REMOVAL STG. II
1532	98.91	N34° 42' 59.92"	W77° 59' 37.89"	TREE	ULT. TERPS 20:1	24.4	REMOVAL STG. II
1536	99.69	N34° 42' 57.96"	W77° 59' 32.50"	TREE	ULT. TERPS 20:1	14.4	REMOVAL STG. II
1555	104.39	N34° 42' 59.73"	W77° 59' 42.76"	TREE	ULT. TERPS 20:1	40.4	REMOVAL STG. II
1574	100.31	N34° 42' 59.57"	W77° 59' 41.24"	TREE	ULT. TERPS 20:1	32.8	REMOVAL STG. II
1575	57.85	N34° 43' 01.96"	W77° 59' 42.93"	TREE	ULT. TERPS 20:1	6.7	REMOVAL STG. II
1579	104.08	N34° 42' 59.82"	W77° 59' 40.03"	TREE	ULT. TERPS 20:1	34.1	REMOVAL STG. II
1601	100.00	N34° 42' 57.60"	W77° 59' 30.24"	TREE	ULT. TERPS 20:1	10.3	REMOVAL STG. II
1606	99.69	N34° 42' 56.82"	W77° 59' 25.22"	TREE	ULT. TERPS 20:1	0.4	REMOVAL STG. II
1695	119.10	N34° 42' 56.56"	W77° 59' 21.07"	TREE	ULT. TERPS 20:1	10.4	REMOVAL STG. II
1734	114.89	N34° 42' 55.60"	W77° 59' 12.28"	TREE	ULT. TERPS 20:1	11.7	REMOVAL STG. II
1737	94.48	N34° 42' 56.15"	W77° 59' 17.78"	TREE	ULT. TERPS 20:1	21.0	REMOVAL STG. II
1738	109.40	N34° 42' 55.46"	W77° 59' 16.35"	TREE	ULT. TERPS 20:1	8.7	REMOVAL STG. II

WK DICKSON
community infrastructure consultants
Transportation + Water Resources
Urban Development + Geomatics
720 Corporate Center Drive
Raleigh, NC 27607
919.782.0495 (t)
919.782.9672 (f)
www.wkdickson.com
NC LICENSE NO. F-0374

WKD PROJ.: 20150003.00.RA
PROJ. ORIGIN DATE MARCH 2017
P.M.: JPK
DRAWN BY: RAB/MRM

PROFESSIONAL SEAL

REV. RECORD:

BY	DATE	DESCRIPTION

DRAWING STATUS - PLANNING DOCUMENTS - FINAL

PROJECT NAME:
ACZ AIRPORT LAYOUT PLAN UPDATE

OWNER OR CLIENT:
TOWN OF WALLACE

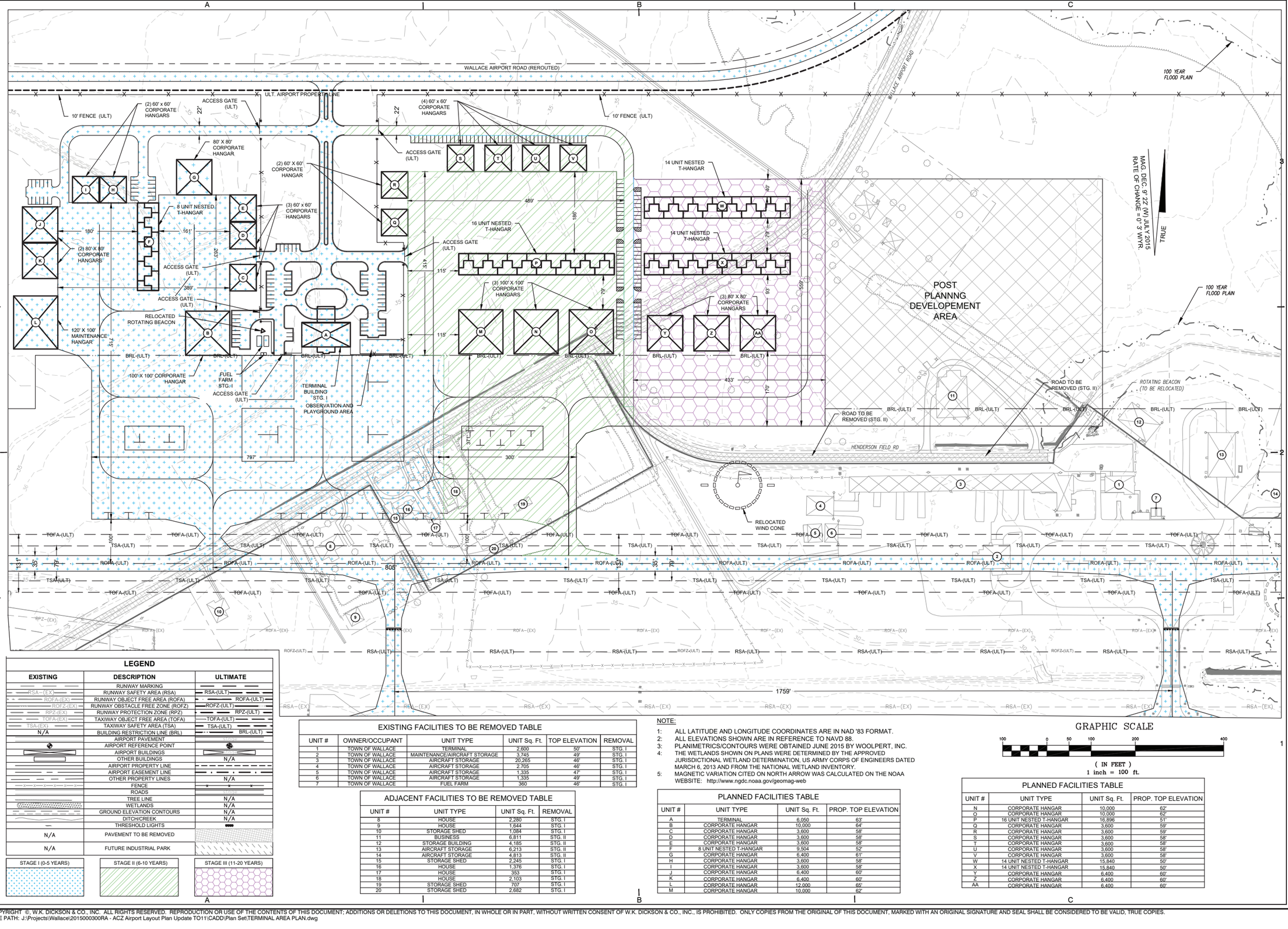
PLAN KEY:

DRAWING TITLE:
DEPARTURE OBSTRUCTION TABLES RUNWAY 27

DRAWING NUMBER:
C12

PLOT DATE: 4/5/2017

FILE PATH: J:\Projects\Wallace\2015000300RA - ACZ Airport Layout Plan Update TO11\CADD\Plan Set\2015000300RA_C_SHT_DEPARTURE.dwg



LEGEND

EXISTING	DESCRIPTION	ULTIMATE
	RUNWAY MARKING	
RSA-(EX)	RUNWAY SAFETY AREA (RSA)	RSA-(ULT)
ROFA-(EX)	RUNWAY OBJECT FREE AREA (ROFA)	ROFA-(ULT)
ROFZ-(EX)	RUNWAY OBSTACLE FREE ZONE (ROFZ)	ROFZ-(ULT)
RPZ-(EX)	RUNWAY PROTECTION ZONE (RPZ)	RPZ-(ULT)
TOFA-(EX)	TAXIWAY OBJECT FREE AREA (TOFA)	TOFA-(ULT)
TSA-(EX)	TAXIWAY SAFETY AREA (TSA)	TSA-(ULT)
N/A	BUILDING RESTRICTION LINE (BRL)	BRL-(ULT)
	AIRPORT PAVEMENT	
	AIRPORT REFERENCE POINT	
	AIRPORT BUILDINGS	
	OTHER BUILDINGS	N/A
	AIRPORT PROPERTY LINE	
	AIRPORT EASEMENT LINE	
	OTHER PROPERTY LINES	N/A
	FENCE	
	ROADS	
	TREE LINE	N/A
	WETLANDS	N/A
	GROUND ELEVATION CONTOURS	N/A
	DITCH/CREEK	N/A
	THRESHOLD LIGHTS	
N/A	PAVEMENT TO BE REMOVED	
N/A	FUTURE INDUSTRIAL PARK	

STAGE I (0-5 YEARS) | STAGE II (6-10 YEARS) | STAGE III (11-20 YEARS)

EXISTING FACILITIES TO BE REMOVED TABLE

UNIT #	OWNER/OCCUPANT	UNIT TYPE	UNIT Sq. Ft.	TOP ELEVATION	REMOVAL
1	TOWN OF WALLACE	TERMINAL	2,600	50'	STG. I
2	TOWN OF WALLACE	MAINTENANCE/AIRCRAFT STORAGE	3,745	49'	STG. I
3	TOWN OF WALLACE	AIRCRAFT STORAGE	20,265	46'	STG. I
4	TOWN OF WALLACE	AIRCRAFT STORAGE	2,705	46'	STG. I
5	TOWN OF WALLACE	AIRCRAFT STORAGE	1,335	47'	STG. I
6	TOWN OF WALLACE	AIRCRAFT STORAGE	1,335	49'	STG. I
7	TOWN OF WALLACE	FUEL FARM	360	48'	STG. I

ADJACENT FACILITIES TO BE REMOVED TABLE

UNIT #	UNIT TYPE	UNIT Sq. Ft.	REMOVAL
8	HOUSE	2,280	STG. I
9	HOUSE	1,644	STG. I
10	STORAGE SHED	1,084	STG. I
11	BUSINESS	6,811	STG. II
12	STORAGE BUILDING	4,185	STG. II
13	AIRCRAFT STORAGE	6,213	STG. II
14	AIRCRAFT STORAGE	4,813	STG. II
15	STORAGE SHED	2,245	STG. I
16	HOUSE	1,376	STG. I
17	HOUSE	353	STG. I
18	HOUSE	2,103	STG. I
19	STORAGE SHED	707	STG. I
20	STORAGE SHED	2,682	STG. I

NOTE:

1: ALL LATITUDE AND LONGITUDE COORDINATES ARE IN NAD '83 FORMAT.
2: ALL ELEVATIONS SHOWN ARE IN REFERENCE TO NAVD 88.
3: PLANIMETRICS/CONTOURS WERE OBTAINED JUNE 2015 BY WOOLPERT, INC.
4: THE WETLANDS SHOWN ON PLANS WERE DETERMINED BY THE APPROVED JURISDICTIONAL WETLAND DETERMINATION, US ARMY CORPS OF ENGINEERS DATED MARCH 6, 2013 AND FROM THE NATIONAL WETLAND INVENTORY.
5: MAGNETIC VARIATION CITED ON NORTH ARROW WAS CALCULATED ON THE NOAA WEBSITE: http://www.ngdc.noaa.gov/geomag-web

PLANNED FACILITIES TABLE

UNIT #	UNIT TYPE	UNIT Sq. Ft.	PROP. TOP ELEVATION
A	TERMINAL	6,050	63'
B	CORPORATE HANGAR	10,000	64'
C	CORPORATE HANGAR	3,600	58'
D	CORPORATE HANGAR	3,600	58'
E	CORPORATE HANGAR	3,600	58'
F	8 UNIT NESTED T-HANGAR	9,504	52'
G	CORPORATE HANGAR	6,400	61'
H	CORPORATE HANGAR	3,600	58'
I	CORPORATE HANGAR	3,600	58'
J	CORPORATE HANGAR	6,400	60'
K	CORPORATE HANGAR	6,400	60'
L	CORPORATE HANGAR	12,000	65'
M	CORPORATE HANGAR	10,000	62'

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

PLANNED FACILITIES TABLE

UNIT #	UNIT TYPE	UNIT Sq. Ft.	PROP. TOP ELEVATION
N	CORPORATE HANGAR	10,000	62'
O	CORPORATE HANGAR	10,000	62'
P	16 UNIT NESTED T-HANGAR	16,896	51'
Q	CORPORATE HANGAR	3,600	59'
R	CORPORATE HANGAR	3,600	59'
S	CORPORATE HANGAR	3,600	58'
T	CORPORATE HANGAR	3,600	58'
U	CORPORATE HANGAR	3,600	58'
V	CORPORATE HANGAR	3,600	58'
W	14 UNIT NESTED T-HANGAR	15,840	50'
X	14 UNIT NESTED T-HANGAR	15,840	50'
Y	CORPORATE HANGAR	6,400	60'
Z	CORPORATE HANGAR	6,400	60'
AA	CORPORATE HANGAR	6,400	60'

PLANNING DOCUMENTS - FINAL

DRAWING STATUS

WK DICKSON
community infrastructure consultants
Transportation + Water Resources
Urban Development + Geomatics
720 Corporate Center Drive
Raleigh, NC 27607
919.782.0495 (t)
919.782.9672 (f)
www.wkdickson.com
NC LICENSE NO. F-0374

WKD PROJ.: 20150003.00.RA
PROJ. ORIGIN DATE: MARCH 2017
P.M.: JPK
DRAWN BY: RAB/MRM

PROFESSIONAL SEAL

REV. RECORD:

BY	DATE	DESCRIPTION

PROJECT NAME:
ACZ AIRPORT LAYOUT PLAN UPDATE

OWNER OR CLIENT:
TOWN OF WALLACE

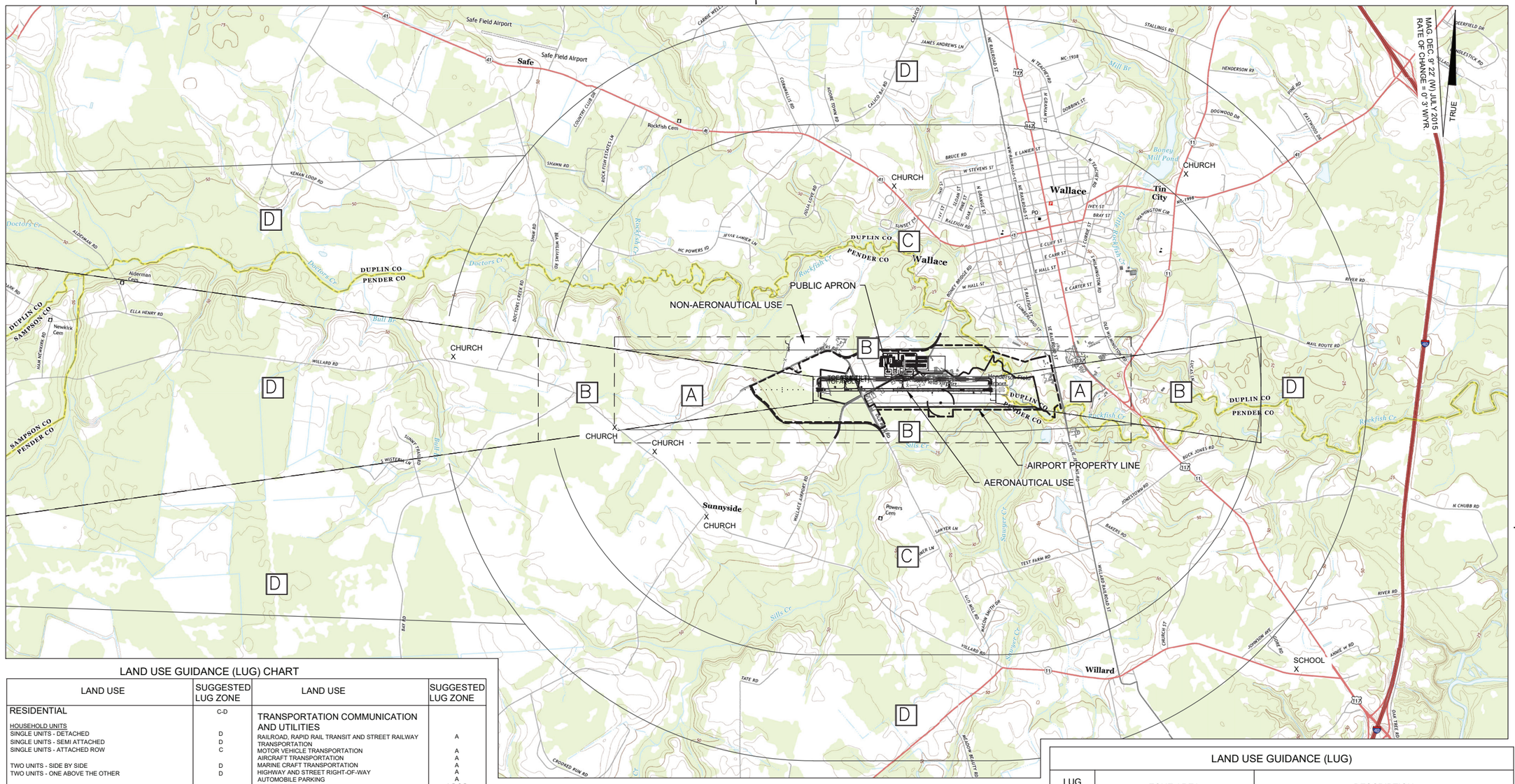
PLAN KEY:

DRAWING TITLE:
TERMINAL AREA PLAN

DRAWING NUMBER:
C13

PLOT DATE: 4/5/2017

FILE PATH: J:\Projects\Wallace\2015000300RA - ACZ Airport Layout Plan Update TO11\CADD\Plan Set\TERMINAL AREA PLAN.dwg



LAND USE GUIDANCE (LUG) CHART

LAND USE	SUGGESTED LUG ZONE
RESIDENTIAL	C-D
HOUSEHOLD UNITS	
SINGLE UNITS - DETACHED	D
SINGLE UNITS - SEMI ATTACHED	D
SINGLE UNITS - ATTACHED ROW	C
TWO UNITS - SIDE BY SIDE	D
TWO UNITS - ONE ABOVE THE OTHER	D
APARTMENTS - WALK UP	C
APARTMENTS - ELEVATOR	B-C
GROUP QUARTERS	C-D
RESIDENTIAL HOTELS	C
MOBILE HOME PARKS OR COURTS	D
TRANSIENT LODGINGS	B
OTHER RESIDENTIAL	B,C,D
MANUFACTURING	
FOOD AND KINDRED PRODUCTS - MANUFACTURING	A-B
TEXTILE MILL PRODUCTS - MANUFACTURING	A-B
APPAREL AND OTHER FINISHED PRODUCTS MADE FROM FABRICS, LEATHER, AND SIMILAR MATERIALS - MANUFACTURING	A-B
LUMBER AND WOOD PRODUCTS (EXCEPT FURNITURE) - MANUFACTURING	A-B
FURNITURE AND FIXTURES - MANUFACTURING	A-B
PAPER AND ALLIED PRODUCTS - MANUFACTURING	A-B
PRINTING, PUBLISHING, AND ALLIED INDUSTRIES CHEMICALS AND ALLIED PRODUCTS - MANUFACTURING	A-B A-B
PETROLEUM REFINING AND RELATED INDUSTRIES	A-B
RUBBER AND MISCELLANEOUS PLASTIC PRODUCTS - MANUFACTURING	A-B
STONE, CLAY, AND GLASS PRODUCTS - MANUFACTURING	A-B
PRIMARY METAL INDUSTRIES	A
FABRICATED METAL PRODUCTS - MANUFACTURING	A
PROFESSIONAL, SCIENTIFIC, AND CONTROLLING INSTRUMENTS; PHOTOGRAPHIC AND OPTICAL GOODS; WATCHES & CLOCKS - MANUFACTURING MISCELLANEOUS MANUFACTURING	C A-B

LAND USE	SUGGESTED LUG ZONE
TRANSPORTATION COMMUNICATION AND UTILITIES	
RAILROAD, RAPID RAIL TRANSIT AND STREET RAILWAY TRANSPORTATION	A
MOTOR VEHICLE TRANSPORTATION	A
AIRCRAFT TRANSPORTATION	A
MARINE CRAFT TRANSPORTATION	A
HIGHWAY AND STREET RIGHT-OF-WAY	A
AUTOMOBILE PARKING	A
COMMUNICATIONS	A,B,C,D
UTILITIES	A
OTHER TRANSPORTATION, COMMUNICATION AND UTILITIES.	A,B,C,D
TRADE	
WHOLESALE TRADE	A-B
RETAIL TRADE - BUILDING MATERIALS, HARDWARE AND FARM EQUIPMENT	B
RETAIL TRADE - GENERAL MERCHANDISE	B
RETAIL TRADE - FOOD	B
RETAIL TRADE - AUTOMOTIVE, MARINE CRAFT, AIRCRAFT, AND ACCESSORIES	B
RETAIL TRADE - APPAREL AND ACCESSORIES	B
RETAIL TRADE - FURNITURE, HOME FURNISHINGS, AND EQUIPMENT	B
RETAIL TRADE - EATING AND DRINKING	A-B
OTHER RETAIL TRADE	
SERVICES	
FINANCE, INSURANCE, AND REAL ESTATE SERVICES	C
PERSONAL SERVICES	C
BUSINESS SERVICES	C
REPAIR SERVICES	B
PROFESSIONAL SERVICES	B-C
CONTRACT CONSTRUCTION SERVICES	B
GOVERNMENTAL SERVICES	C
EDUCATIONAL SERVICES	C-D
MISCELLANEOUS SERVICES	B,C,D
CULTURAL, ENTERTAINMENT, AND RECREATIONAL	
CULTURAL ACTIVITIES AND NATURE EXHIBITS	D
PUBLIC ASSEMBLY	D
AMUSEMENTS	B
RECREATIONAL ACTIVITIES	B-C
RESORTS AND GROUP CAMPS	D
PARKS	B,C,D
OTHER CULTURAL, ENTERTAINMENT, AND RECREATIONAL	C-D

LEGEND	
AIRPORT PROPERTY LINE	
ULT. AIRPORT PROPERTY LINE	
EXST. EASEMENT LINE	

GRAPHIC SCALE

2000 0 1000 2000 4000 8000

(IN FEET)

1 inch = 2000ft.

NOTES:

1. LAND USE GUIDANCE CHART AND ZONE DESCRIPTIONS FROM AIRPORT LAND USE COMPATIBILITY PLANNING, AC-150/5020-1, PAGES 1, 2, 3, AND 4 OF APPENDIX 1 AND FAR PART 150, AUGUST 5, 1983.
2. LAND USES RECOMMENDED ON THIS PLAN ARE BASED ON AIRPORT OPERATIONAL DATA, AIRCRAFT TRAFFIC PATTERNS, AND EXPECTED NOISE LEVELS AT AND AROUND THE AIRPORT. HEIGHT RESTRICTIONS ARE BASED ON FAR PART 77 AND ARE INCLUDED ON SHEET 3 & 4, "AIRPORT AIRSPACE PLAN."
3. PENDER COUNTY CURRENTLY HAS A ZONING ORDINANCE WITH HEIGHT AND HAZARD ZONING IN PLACE.
4. THERE ARE NO EXISTING LAND USE RESTRICTIONS IN THE VICINITY OF THE AIRPORT. THE PREDOMINANT LAND USE ZONING IN THE VICINITY OF THE AIRPORT IS "RURAL AGRICULTURAL" AND DUPLIN COUNTY TO THE NORTH OF THE AIRPORT DOES NOT HAVE COUNTY-WIDE ZONING/ORDINANCES FOR LAND USE.

LAND USE GUIDANCE (LUG)

LUG ZONE	ZONE AREA	DESCRIPTION
A	ZONE A INCLUDES THE RUNWAY PROTECTION ZONE, AS DEFINED IN FAA AC 150/5300-13A, SECTION 310 (LATEST CHANGE), AND THE PORTION OF THE APPROACH SURFACE FROM THE EDGE OF THE RUNWAY PROTECTION ZONE TO WHERE EACH APPROACH SURFACE IS 150 FEET OF HEIGHT ABOVE ITS RESPECTIVE RUNWAY END ELEVATION.	LAND SHOULD BE RESERVED FOR ACTIVITIES THAT CAN TOLERATE A HIGH LEVEL OF SOUND EXPOSURE SUCH AS SOME AGRICULTURAL, INDUSTRIAL, AND COMMERCIAL USES. NO RESIDENTIAL DEVELOPMENTS OF ANY TYPE ARE RECOMMENDED. SOUND SENSITIVE ACTIVITIES SUCH AS SCHOOLS, OFFICES, HOSPITALS, CHURCHES, AND LIKE ACTIVITIES SHOULD NOT BE CONSTRUCTED IN THIS AREA UNLESS NO ALTERNATIVE LOCATION IS POSSIBLE. ALL REGULARLY OCCUPIED STRUCTURES SHOULD CONSIDER SOUND CONTROL IN DESIGN.
B	ZONE B INCLUDES THE PORTION OF THE APPROACH SURFACE FROM THE EDGE OF ZONE A TO 10,000 FEET FROM THE INNER EDGE OF THE APPROACH SURFACE, AND THE AREA FORMED BY OFFSETTING THE PRIMARY SURFACE EDGE OUTWARD BY 1,500 FEET AND EXTENDING ITS ENDS AND SQUARING THEM OFF AT THE EDGE OF ZONE A.	ACTIVITIES WHERE UNINTERRUPTED COMMUNICATION IS ESSENTIAL SHOULD CONSIDER SOUND EXPOSURE IN DESIGN. GENERALLY, RESIDENTIAL DEVELOPMENT IS NOT CONSIDERED A SUITABLE USE ALTHOUGH MULTIFAMILY DEVELOPMENTS WHERE SOUND CONTROL FEATURES HAVE BEEN INCORPORATED IN BUILDING DESIGN MIGHT BE CONSIDERED. OPEN-AIR ACTIVITIES AND OUTDOOR LIVING WILL BE AFFECTED BY AIRCRAFT SOUND. THE CONSTRUCTION OF AUDITORIUMS, SCHOOLS, CHURCHES, HOSPITALS, THEATERS, AND LIKE ACTIVITIES SHOULD BE AVOIDED WITHIN THIS ZONE WHERE POSSIBLE.
C	ZONE C INCLUDES THE AREAS OF THE TRANSITIONAL AND HORIZONTAL SURFACES NOT PART OF ZONES A OR B.	FEW ACTIVITIES WILL BE AFFECTED BY AIRCRAFT SOUNDS, ALTHOUGH BUILDING DESIGNS FOR ESPECIALLY SOUND SENSITIVE ACTIVITIES SUCH AS AUDITORIUMS, CHURCHES, SCHOOLS, HOSPITALS, AND THEATERS SHOULD CONSIDER SOUND CONTROL IN AREAS CLOSEST TO THE AIRPORT. DETAILED STUDIES BY QUALIFIED PERSONNEL ARE RECOMMENDED FOR OUTDOOR AMPHITHEATERS AND LIKE PLACES OF PUBLIC ASSEMBLY IN THE GENERAL VICINITY OF THE AIRPORT.
D	ZONE D IS IDENTICAL IN AREA TO THE CONICAL ZONE.	NO SPECIAL CONSIDERATIONS

WK DICKSON
community infrastructure consultants
Transportation + Water Resources
Urban Development + Geomatics
720 Corporate Center Drive
Raleigh, NC 27607
919.782.0495 (t)
919.782.9672 (f)
www.wkdickson.com
NC LICENSE NO. F-0374

WKD PROJ.: 20150003.00.RA
PROJ. ORIGIN DATE: MARCH 2017
P.M.: JPK
DRAWN BY: RAB/MRM

PROFESSIONAL SEAL

REV. RECORD:

BY	DATE	DESCRIPTION

PROJECT NAME:
ACZ AIRPORT LAYOUT PLAN UPDATE

OWNER OR CLIENT:
TOWN OF WALLACE

PLAN KEY:

DRAWING TITLE:
LAND USE PLAN

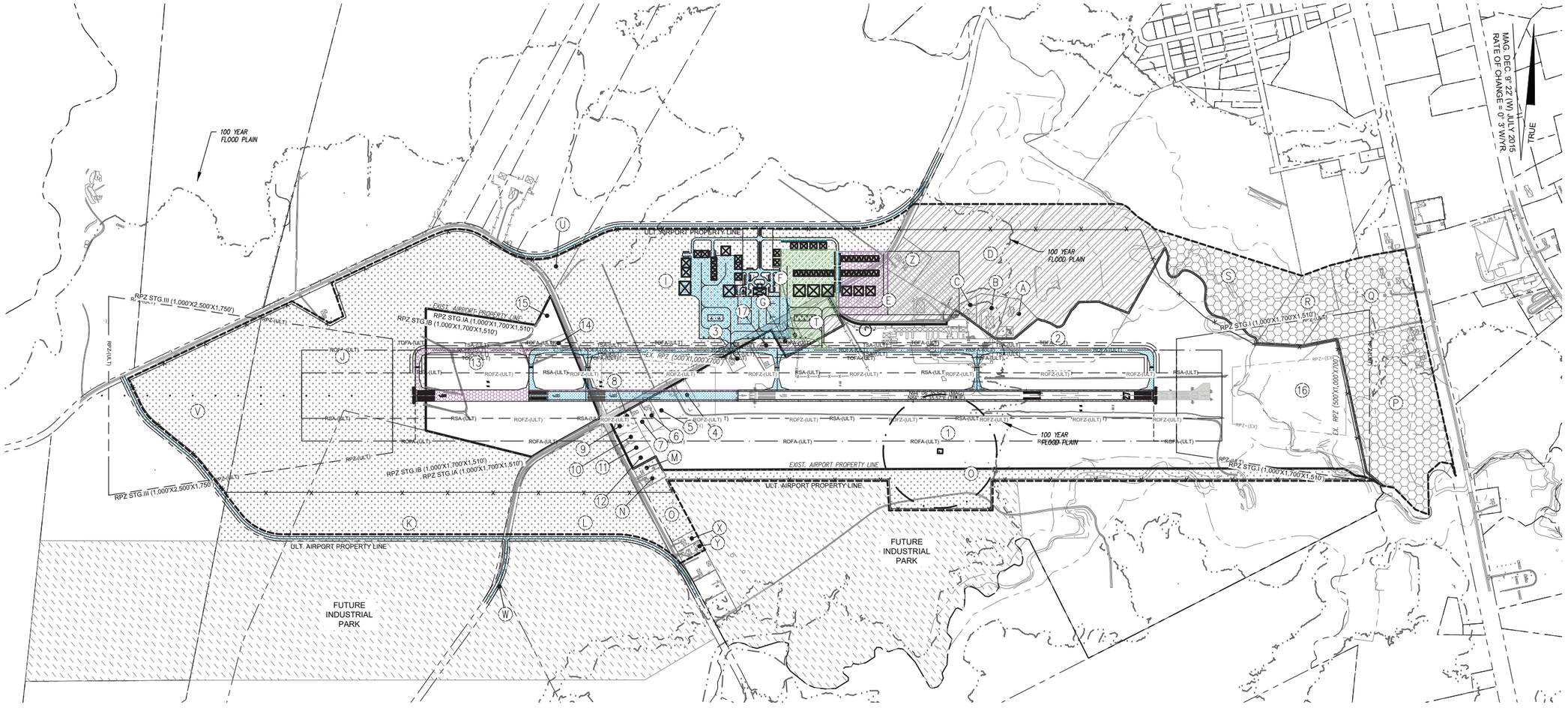
DRAWING NUMBER:
C14

PLOT DATE: 4/5/2017

PLANNING DOCUMENTS - FINAL

DRAWING STATUS

FILE PATH: J:\Projects\Wallace\2015000300RA - ACZ Airport Layout Plan Update TO11\CADD\Plan Set\LAND USE PLAN.dwg



GRAPHIC SCALE

(IN FEET)
1 inch = 500 ft.

TOWN OF WALLACE OWNED PROPERTY

TRACT NO.	ACQUIRED FROM	DATE	INTEREST	ACREAGE	DEED BOOK/ PAGE	PIN NUMBER	DOA PROJECT NO.
1	SANDERSON, E.C., MADELYN, PHILIP, PEARCY	1/25/1962	FEE SIMPLE	144.4	377/107	2395-83-7713-000L	
2	HENDERSON, DAVID, MARY, & RICH, WAYNE, JANE	7/15/1992	FEE SIMPLE	8.3	848/110	3305-04-3415-0000	
3	SPRINGLEAF FINANCIAL SERVICES OF NORTH CAROLINA, INC.	9/20/2011	FEE SIMPLE	0.5	3969/298	2395-73-2806-0000	36244.11.5.1
4	NORRIS, BENJAMIN, EVELYN	4/24/1981	FEE SIMPLE	0.6	592/52	2395-63-8513-0000	
5	HENDERSON, DAVID, MARY	2/23/1976	FEE SIMPLE	0.6	496/23	2395-63-5398-0000	
6	JOHNSON, EMMA	5/29/2012	FEE SIMPLE	0.7	4080/105	2395-63-5321-0000	36237.56.7.1
7	BRYAN HEIRS	7/5/2012	FEE SIMPLE	0.6	4116/171	2395-63-4247-0000	36244.11.5.1
8	BRYAN, MARK	9/25/2012	FEE SIMPLE	0.3	4138/44	2395-63-3218-0000	36244.11.5.1
9	MCGEE CARLTON, SHEILA	12/31/2012	FEE SIMPLE	0.5	4185/178	2395-63-2189-0000	36237.56.7.1
10	GIDDENS, RUBY LEE	5/29/2012	FEE SIMPLE	0.5	4080/107	2395-63-3150-0000	36237.56.7.1
11	HENDERSON, DAVID, MARY	12/15/1971	FEE SIMPLE	0.5	442/159	2395-63-4022-0000	
12	HENDERSON, DAVID, MARY	6/21/1984	FEE SIMPLE	0.5	635/49	2395-62-4984-0000	
13	CNX5 TREE, LLC	9/14/2009	FEE SIMPLE	32.2	3682/075	2395-53-1463-0000	36244.11.5.1
14	RIVENBARK HEIRS	11/19/2012	FEE SIMPLE	1.2	4164/178	2395-53-5681-0000	36237.56.7.1
15	RIVENBARK HEIRS	11/19/2012	FEE SIMPLE	1.8	4161/174	2395-54-5030-0000	36244.11.5.1
16	BROWN, GEORGE, ANNIE	12/30/1971	FEE SIMPLE	18.1	713/274	330500148255	
17	RIVENBARK, PEACHIE	12/30/2014	FEE SIMPLE	1.3	4516/059	2395-74-5046-0000	36237.56.7.1

TOTAL FEE SIMPLE ACREAGE = 212.6 TOTAL EASEMENT ACREAGE = 0.0

PROPOSED ACQUISITIONS

TRACT ID	LAND OWNER	INTEREST	ACREAG E TOTAL	ACREAGE TAKE	DEED BOOK/ PAGE	PIN NUMBER
A	DM FARMS OF ROSE HILL LLC	FEE SIMPLE	1.8	1.8	2371/122	2395-94-6425-0000
B	BRYANT, JOSEPH	FEE SIMPLE	1.79	1.79	731/182	2395-94-3552-0000
C	RICH, WAYNE	FEE SIMPLE	0.59	0.59	1402/80	2395-94-1591-0000
D	MURPHY, WENDELL	FEE SIMPLE	75.9	46.9	1843/46	2395-95-6474-0000
E	WALLACE MOOSE LODGE	FEE SIMPLE	9.69	9.69	-1/2776	2395-84-5506-0000
F	LASSETER, JOANNE, ET AL	FEE SIMPLE	0.6	0.6	532/120	2395-74-7105-0000
G	PARKER, JAMES	FEE SIMPLE	0.6	0.6	585/65	2395-74-6019-0000
I	MILLER, HERBERT	FEE SIMPLE	196	67.6	1305/102	2395-76-7249-0000
J	CNX5 TREES, LLC	FEE SIMPLE	98.2	75.1	1891/142	2395-32-6888-0000
K	BONEY HEIRS	FEE SIMPLE	129	39.8	401/687	2395-41-1589-0000
L	CARROLL, SARA LOUISE BONEY	FEE SIMPLE	95	21.1	1376/9	2395-61-5326-0000
M	PARKER, THURMAN ET AL	FEE SIMPLE	0.5	0.5	676/85	2395-62-5825-0000
N	PARKER, THURMAN, ELEANO	FEE SIMPLE	0.5	0.5	1477/278	2395-62-5787-0000
O	BARROW, LINDA ET AL	FEE SIMPLE	162.26	22.4	1142/273	2395-92-5453-0000
P	TWO-TEN INVESTORS INC	FEE SIMPLE	25.89	25.89	1109/53	330500330988
Q	BLANKINSHIP, C. LYNN D. & JUDY DEMPSEY JACKSON	FEE SIMPLE	11.67	11.67	1544/554	330500247915
R	MOORE, JACK	FEE SIMPLE	18.22	5.7	1346/456	330509252361
S	MOORE, JACK	FEE SIMPLE	50.8	8.8	1048/375	330509153504
T	LASSETER, JOANNE, ET AL	FEE SIMPLE	2.3	2.3	1935/340	2395-74-9207-0000
U	BONEY, CAREY CARTER	FEE SIMPLE	49	2.2	412/208	2395-66-4789-0000
V	MOTE, DENNIS E	FEE SIMPLE	231.5	22.0	2794/224	2395-25-6791-0000
W	CARROLL, SARA LOUISE BONEY	FEE SIMPLE	61	0.02	1376/9	2395-50-5445-0000
X	J S WHITNEY LLC	FEE SIMPLE	0.57	0.57	2449/288	2395-62-9223-0000
Y	PARKER, ERNEST RAY	FEE SIMPLE	0.57	0.57	430/425	2395-62-9195-0000
Z	SULLIVAN, LENA M et al	FEE SIMPLE	2.05	2.05	4138/157	2395-84-6828-0000

NOTE:

NPE FUNDING OR STATE FUNDING WILL BE USED AS IT BECOMES AVAILABLE FOR THESE PLANNED ACQUISITIONS.

LEGEND

EXISTING	DESCRIPTION	ULTIMATE
	RUNWAY MARKING	
	AIRPORT PAVEMENT	
	AIRPORT REFERENCE POINT	
	AIRPORT BUILDINGS	
	OTHER BUILDINGS	N/A
	AIRPORT PROPERTY LINE	
	AIRPORT EASEMENT LINE	
	OTHER PROPERTY LINES	N/A
	FENCE	
	ROADS	
	TREE LINE	N/A
	100 YEAR FLOODPLAIN	N/A
	GROUND ELEVATION CONTOURS	N/A
	DITCH/CREEK	N/A
	THRESHOLD LIGHTS	
N/A	PAVEMENT TO BE REMOVED	
N/A	FUTURE INDUSTRIAL PARK	

STAGE I (0-5 YEARS) | STAGE II (6-10 YEARS) | STAGE III (11-20 YEARS)

NOTE:

1: THE 100 YEAR FLOOD PLAIN SHOWN WAS OBTAINED BY FEMA MAP# 3720239500K DATED FEBRUARY 16, 2007.
2: MAGNETIC VARIATION CITED ON NORTH ARROW WAS CALCULATED ON THE NOAA WEBSITE: http://www.ngdc.noaa.gov/geomag-web
3: PARCELS A, B, AND C HAVE THROUGH THE FENCE OPERATIONS.
4: SEE LAND USE PLAN FROM 2017 ALP PLAN SET FOR RECOMMENDED COMPATIBLE LAND USES.

DRAWING STATUS - PLANNING DOCUMENTS - FINAL

WK DICKSON
community infrastructure consultants
Transportation + Water Resources
Urban Development + Geomatics
720 Corporate Center Drive
Raleigh, NC 27607
919.782.0495 (t)
919.782.9672 (f)
www.wkdickson.com
NC LICENSE NO. F-0374

WKD PROJ.: 20150003.00.RA
PROJ. ORIGIN DATE: MARCH 2017
P.M.: JPK
DRAWN BY: RAB/MRM

PROFESSIONAL SEAL

REV. RECORD:

BY	DATE	DESCRIPTION

PROJECT NAME:

ACZ AIRPORT LAYOUT PLAN UPDATE

OWNER OR CLIENT:

TOWN OF WALLACE

PLAN KEY:

DRAWING TITLE:

AIRPORT PROPERTY MAP

DRAWING NUMBER:

C15

PLOT DATE: 4/5/2017

FILE PATH: J:\Projects\Wallace\2015000300RA - ACZ Airport Layout Plan Update TO11\CADD\Plan Set\AIRPORT PROPERTY MAP REV 1-25-17.dwg

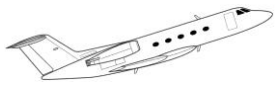
The preceding Chapters have identified and established schedules of development for the Henderson Field Airport. The financial plan is intended to provide the Town of Wallace with the information necessary to formulate an approach for obtaining the funding for the recommended development. As is the case with all financial plans, demand, activity levels, construction costs, inflation, and federal, state and local programs can change, thereby altering the costs and participation levels contained in this plan. Therefore, it is extremely important to re-examine and modify the financial plan as these changes occur.

This financial plan includes an estimation of order of magnitude costs and the recommended contribution to each capital improvement in this plan by each anticipated participating agency. This plan also outlines the order of projects for the proposed development of the facility by stage in **Table H-1**. Each project serves as an action item in order for the proposed development that will follow to ultimately achieve the goals that were developed within this Study.

The costs presented in **Table H-1** were prepared for those items potentially eligible for federal/state funding, as well as those items that are not eligible for funding by those agencies and are likely to be constructed with local (and/or private) funding only.

The current level of FAA/NCDOT Division of Aviation funding through the Airport Improvement Program (AIP)/Transportation Improvement Program (TIP) provides 90% financial support for qualifying projects. Ten percent local participation will supplement the remaining project funds. It should be noted that projects identified as AIP/TIP eligible may not be qualifying projects over the entire planning period, as funding eligibility changes, and furthermore, are subject to funding priority by the State as outlined in the *North Carolina Airports System Plan* of 2015. Additionally, funding percentages are subject to change throughout the planning period. FAA entitlements, state discretionary, and non-traditional funding options may be available for projects listed as limited AIP/TIP eligible. The remaining costs would be serviced by the local sponsor. Since each project could be funded with a funding mix, no specific percentage split is given for the recommended projects.

Furthermore, limited AIP/TIP eligible projects such as hangars could be funded through a public/private partnership, NCDOT Division of Aviation limited AIP/TIP funding or a 'revert-lease' scenario where the Airport Sponsor retains ownership of a privately funded hangar from the private party after a contractually determined timeframe. ACZ's Terminal Area Plan displays a significant amount of hangars that could utilize this scenario if the Town's financial support could not keep pace with the market demand.



Estimated costs of development include a 15% contingency and are presented for the short-range (Stage I – 0-5 years), intermediate (Stage II – 6-10 years), and long-range (Stage III – 11-20 years) development stages.

Table H-1
Cost Estimates (Stages I, II, and III)
Henderson Field Airport (ACZ)

STAGE I	FAA/STATE	LOCAL	TOTAL
A. AIP/TIP ELIGIBLE			
Roadway Relocation & Runway Ext. (to 5,500') EA *	108,000	12,000	120,000
Roadway Relocation & Runway Ext Land Acquistion *	360,000	40,000	400,000
Roadway Relocation (Design + Construction) *	2,700,000	300,000	3,000,000
Runway Ext. Phase I to 5,000' (Design + Construction) *	1,800,000	200,000	2,000,000
Runway Ext. Phase II to 5,500' (Design + Construction) *	1,350,000	150,000	1,500,000
Parallel Taxiway & New Main Apron Phase I (Design + Construction) *	1,352,970	150,330	1,503,300
Parallel Taxiway & New Main Apron Phase II (Design + Construction) *	3,600,000	400,000	4,000,000
Runway Safety Area (RSA) Expansion for C-II	1,350,000	150,000	1,500,000
Runway Rehabilitation & Strengthening	2,250,000	250,000	2,500,000
Install Perimeter Security Fencing (20,000 LF)	630,000	70,000	700,000
Auto Parking and Interior Access Road	900,000	100,000	1,000,000
New AWOS (100% State Funded)	350,000	0	350,000
SUBTOTAL	16,750,970	1,822,330	18,573,300
B. LIMITED AIP/TIP ELIGIBLE			
New Terminal Building			1,500,000
Add Box Hangars 60'x60' (5)	FAA entitlements, state		1,500,000
Add Corporate Hangars 80'x80' (3)	discretionary, and non-traditional		2,100,000
Add Corporate Hangar 100'x100'	funding options may be available for		800,000
Add Maintenance Hangar 120'x100'	these projects. The remaining costs		1,000,000
Add 8-Unit T-Hangar Building	would be serviced by the local sponsor.		400,000
SUBTOTAL			7,300,000
TOTAL STAGE I			$25,873,300

* Funding identified or in process

Table H-1 (continued)
Cost Estimates (Stages I, II, and III)
Henderson Field Airport (ACZ)

STAGE II	FAA/STATE	LOCAL	TOTAL
A. AIP/TIP ELIGIBLE			
Terminal Area Land Acquisition (Approx. 65 Acres)	675,000	75,000	750,000
Expand Main Apron (Design/Construction)	2,250,000	250,000	2,500,000
Add Auto Parking and Extend Interior Access Road	450,000	50,000	500,000
SUBTOTAL	3,375,000	375,000	3,750,000
B. LIMITED AIP/TIP ELIGIBLE			
Add Box Hangars 60'x60' (6)	FAA entitlements, state		3,000,000
Add Corporate Hangars 100'x100' (3)	discretionary, and non-traditional		2,400,000
Add 16-Unit T-Hangar Building	funding options may be available for these projects. The remaining costs would be serviced by the local		800,000
SUBTOTAL	sponsor.		6,200,000
TOTAL STAGE II			$9,950,000

STAGE III	FAA/STATE	LOCAL	TOTAL
A. AIP/TIP ELIGIBLE			
Runway / Taxway Ext. and widening to 6,500' x 100' Environmental Assessment	157,500	17,500	175,000
Runway / Taxway Ext. and widening to 6,500' x 100' (Design + Construction)	2,475,000	275,000	2,750,000
Runway 27 Approach Land Acquisition (Approx. 55 Acres)	585,000	65,000	650,000
Expand Main Apron (Design/Construction)	1,620,000	180,000	1,800,000
Add Auto Parking	90,000	10,000	100,000
SUBTOTAL	4,927,500	547,500	5,475,000
B. LIMITED AIP/TIP ELIGIBLE			
Add Box Hangars 60'x60' (3)	FAA entitlements, state		1,500,000
Add 14-Unit T-Hangar Buildings (2)	discretionary, and non-traditional		1,200,000
SUBTOTAL	funding options may be available for these projects. The remaining costs would be serviced by the local sponsor.		2,700,000
TOTAL STAGE III			$8,175,000
TOTAL ALL STAGES			**$43,998,300**