Airport Layout Plan
Narrative Report

Bessemer Airport

Bessemer, Alabama

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Table of Contents

List of Figures

List of Tables

List of Appendices

1.0 Executive Summary

Bessemer Airport (EKY) is a public-use general aviation airport located in central Alabama and is owned by the City of Bessemer and operated by the Bessemer Airport Authority. Runway 5-23 has a Runway Design Code (RDC) of B-II-4000. The FAA Terminal Area Forecast for EKY is flat, indicating 108 based aircraft and 102,600 annual operations. In general, the airfield design at EKY meets or exceeds the design standards for the stated RDC. The development plan proposed in this report depicted in the Airport Layout Plan.

2.0 Facilities Inventory

2.1 Data Collection

As the initial step in the Airport Layout Plan (ALP) development process, the inventory is a systematic data collection effort that provides an understanding of past and present aviation factors associated with the Bessemer Municipal Airport (EKY). A comprehensive inventory, including the following major inventory tasks, was completed to form the basis for recommendations throughout the remainder of this Narrative Report project.

- Discussions with the Airport staff regarding recent airport trends, operations, and services.
- The collection of airport activity data and aeronautical background information including a review of historical airport information, previous airport layout plans, maps, charts, and photographs of airport facilities.
- Review of current and planned on- and off-airport developments.
- The collection of environmental information related to the Airport and future development.

2.2 Airport Role

EKY is a public-use general aviation reliever airport located in central Alabama and is owned by the City of Bessemer and operated by the Bessemer Airport Authority. EKY's role is well documented in the FAA's National Plan of Integrated Airport Systems (NPIAS), the FAA's General Aviation Airports: A National Asset Report, and the Alabama State Aviation System Plan (ASASP). EKY is classified as follows in each of the aforementioned documents:

- Designated as one of 250 "Reliever" airports in the NPIAS. The airport is further subcategorized as one of 482 "Regional" general aviation airports in the NPIAS.
- Identified by the FAA's Asset study as both a "Reliever" and "Regional" general aviation airport.
- Identified as a "National" airport in the ASASP. National airports are intended to accommodate the highest level of general aviation activity and serve major population centers in the State of Alabama.

These designations indicate that EKY is a general aviation airport that supports both local and national economic activity.

Beyond the NPIAS and FAA Asset study designations, the FAA identifies design standards for airports and their operating pavements based on FAA Advisory Circular (AC) 150/5300-13 (current edition), *Airport Design*. Pavement categorization is provided for runways through the Runway Design Code (RDC) classification system while taxiway pavements are designated separately through the Taxiway Design Group (TDG) classification system.

A runway's RDC is defined by two variables related to the designated critical design aircraft for the runway and the lowest approach visibility minimums for the runway. The critical design aircraft is the largest single aircraft or classification of aircraft the runway is expected to serve on a regular basis (500 operations per year or more).

The critical design aircraft variables used to establish a runway's RDC are:

- Aircraft Approach Category (AAC)
- Airplane Design Group (ADG)

The tables shown below define the variables utilized to establish the RDC for a runway. **Table 2-1** defines the AAC categories. **Table 2-2** documents the ADG categories. **Table 2-3** describes the visibility minimum categories.

Table 2-1 - AIRCRAFT APPROACH CATEGORY (AAC)

AAC	V_{REF}/Approach Speed [1]
A	Approach speed less than 91 knots
B	Approach speed 91 knots or more but less than 121 knots
C	Approach speed 121 knots or more but less than 141 knots
D	Approach speed 141 knots or more but less than 166 knots
E	Approach speed 166 knots or more

Source: FAA Advisory Circular 150/5300-13 (current edition), *Airport Design*

[1] V_{REF} = Landing Reference Speed or Threshold Crossing Speed

Table 2-2 - AIRPLANE DESIGN GROUP (ADG)

Group #	Tail Height (ft. [m])	Wingspan (ft. [m])
I	< 20' (< 6 m)	< 49' (< 15 m)
II	20' - < 30' (6 m - < 9 m)	49' - < 79' (15 m - < 24 m)
III	30' - < 45' (9 m - < 13.5 m)	79' - < 118' (24 m - < 36 m)
IV	45' - < 60' (13.5 m - < 18.5 m)	118' - < 171' (36 m - < 52 m)
V	60' - < 66' (18.5 m - < 20 m)	171' - < 214' (52 m - < 65 m)
VI	66' - < 80' (20 m - < 24.5 m)	214' - < 262' (65 m - < 80 m)

Source: FAA Advisory Circular 150/5300-13 (current edition), *Airport Design*

Table 2-3 - VISIBILITY MINIMUMS

RVR (ft.) *	Instrument Flight Visibility Category (statute mile)
5000	Not lower than 1 mile
4000	Lower than 1 mile but not lower than ¾ mile
2400	Lower than 3/4 mile but not lower than 1/2 mile
1600	Lower than 1/2 mile but not lower than 1/4 mile
1200	Lower than 1/4 mile

Source: FAA Advisory Circular 150/5300-13 (current edition), Airport Design
* RVR values are not exact equivalents

The one runway at EKY is Runway 5-23. Based on the application of FAA airport design criteria, a review of the existing runway infrastructure, and a review of EKY's current Airport Layout Plan (ALP), Runway 5-23 has an existing Runway Design Code (RDC) of B-II-4000. This designation is consistent with the types of aircraft using the airfield and the Instrument Approach Procedures (IAP) serving EKY.

An airport's Airport Reference Code (ARC) is based on the highest RDC of a runway at the Airport minus the visibility component. Based on the RDC for Runway 5-23, the ARC for EKY is B-II.

2.3 Airfield Facilities and Characteristics – Overview

EKY was initially commissioned as an airport in the 1973, succeeding the prior Bessemer Municipal Airport which had been built in the early 1950's. Today, EKY currently has a single runway – Runway 5-23 – accompanied by a full-length parallel taxiway system.

Table 2-4 provides a summary of the airfield facilities. The airside facilities consist of the runway, taxiways, airfield lighting, weather reporting system, and other various components. Each will be discussed in-depth in the remainder of this document.

Table 2-4 - AIRFIELD FACILITIES

	Runway 5-23
Length (feet)	6,007
Width (feet)	100
Surface Material/Treatment	Asphalt
Markings	Precision (RWY 5) Non-precision (RWY 23)
Runway Lighting	HIRLs
Approach/Lighting Aids Vertical Guidance Slope Indicators	PAPI – P4L (RWY 5 & RWY 23) REIL (RWY 5 & RWY 23)
Visual Aids	Wind Cone with Segmented Circle Beacon
Runway Design Code (RDC)	B-II-4000
Runway RSA	150 x 6,607 ft
Runway OFA	500 x 6,607 ft
Runway OFZ	400 x 6,407 ft
Instrument Approach Aids	ILS – Runway 5
Weather Reporting Aids	AWOS-3PT

Source: FAA Airport Facility Directory and FAA 5010 Data.

2.3.1 Runway 5-23

EKY is served by a single northeast/southwest asphalt runway that is 100 feet wide and 6,007 feet long. A runway overlay project was recently completed and the pavement is in excellent condition. Runway 5-23 has threshold markings, runway numerals, centerline stripes and aiming point markings that are in excellent condition. Runway 5 also has touchdown zone markings that are in excellent condition. The runway safety area is 150' wide and extends 300' off each runway end. The runway is equipped with High Intensity Runway Lights (HIRL) set in a can and conduit cable system. The lights were recently converted to LED.

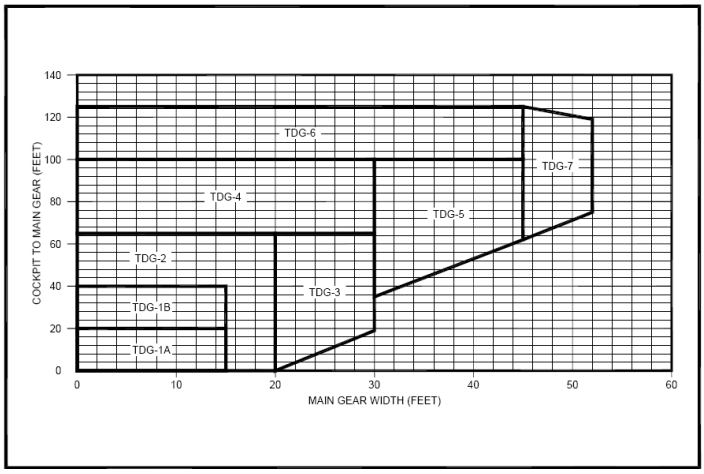
Runway 5-23 is served by LPV GPS approaches with a ¾ mile visibility minimum for Runway 5, and a 1-mile visibility minimum for Runway 23. Runway 5 is also served by an ILS approach with a ¾ mile visibility minimum and an VOR approach with a 1-mile visibility minimum.

A wind coverage analysis was completed for Runway 5-23. The analysis indicates that Runway 5-23 provides better than 96% wind coverage in the 10.5, 13, and 16 knot crosswind component categories, meeting existing wind coverage requirements.

2.3.2 Taxiways/Taxilanes

Aircraft move to/from the runway to the businesses/hangars on the airfield via a system of taxiways and taxilanes. Each taxiway and taxilane is typically designated with a unique alpha (e.g. A, B, C, etc.) or alpha-numeric (e.g. A1, B2, etc.) name and designed to accommodate anticipated aircraft operations based on an established Taxiway Design Group (TDG). The TDG is a classification system for taxiways/taxilanes based on an airplane's landing gear dimensions. Specifically, the outer to outer main gear width and the cockpit to main gear distance. In general, the wider the distance between the outer main gear tires and the greater the distance between the pilot and main gear, the higher the TDG. The TDG for a given aircraft is identified by the use of **Figure 2-1,** and the application of the specific safety parameters outlined in AC 150/5300-13 (current edition).

Figure 2-1 - TAXIWAY DESIGN GROUPS



Source: FAA AC 150/5300-13 (current edition), Airport Design

As previously mentioned, EKY is equipped with a full-length parallel taxiway system. The centerline of the parallel taxiway is spaced 300 feet from the runway centerline. The parallel taxiway is 35 feet wide and is constructed of asphalt. The parallel taxiway system and connectors pavement is in excellent condition due to a taxiway overlay project completed in August 2022.

The taxiway connections from the parallel taxiway to the hangar aprons are 25 feet wide. These taxiways are in satisfactory condition. It should be noted that the pavement between the parallel taxiway and the FBO terminal apron area is continuous. Some taxiways at EKY follow TDG 1A/1B standards, while others follow TDG-2 design standards. However, an important aspect of taxiway design is the pavement layout where one taxiway curves to another taxiway, commonly referred to as a taxiway fillet. The FAA changed the taxiway fillet design standards significantly in 2014. As a result, most taxiway fillets at EKY are not in compliance with current design standards.

Another aspect of taxiway development and design is the establishment and protection of Taxiway Safety Areas (TSA) and Taxiway Object Free Areas (TOFA). The TSA is a defined surface alongside the taxiway that is prepared for reducing the risk of damage to an aircraft deviating from the taxiway. The purpose of the TSA is to protect an aircraft from damage if the aircraft leaves the taxiway for any reason. The TOFA is an area centered on a taxiway or taxilane centerline that must be kept clear of objects except for those objects that need to be located in the TOFA for air navigation or aircraft ground maneuvering purposes. The size of the TSA and TOFA are based on the ADG (described in Table 2-2) of the critical aircraft expected to use the taxiway. Based on EKY's critical design aircraft, The TSA is 79' wide and the TOFA is 131' wide for all the taxiways at EKY. All taxiways at EKY have taxiway centerline markings. The hold lines on each taxiway connector are located 250' from the runway centerline. The standard separation from the runway centerline to the hold line is 200'. The taxiways are lit by Medium Intensity Taxiway Edge Lights (MITL) that are in excellent condition as a result of a taxiway overlay project completed in August 2022.

2.3.3 Airfield Lighting

Sufficient airfield lighting is an important part of maintaining an airfield's operational status at night and during inclement weather conditions. As previously discussed, EKY has HIRLs for runway 5-23 and MITLs for the taxiways. The MITLs are LED fixtures and are connected by a can and conduit cabling system. The HIRLs were installed in 2020 and are connected by a can and conduit cabling system. There is a four-light PAPI system and REILs at each runway end, REILs help pilots identify the landing threshold of the runway. The REILs were also replaced in 2020 are owned by EKY and are in excellent condition. The PAPI systems will be discussed in the Navigational Aids (NAVAIDs) section.

At night or in poor conditions, pilots identify an airport by locating the rotating beacon, a lighting feature designed to provide alternating flashes of white and green light that can be seen for up to 10 miles from the airfield. EKY's beacon is located south of the FBO terminal adjacent to the fuel farm and is in good condition.

Additionally, to help direct pilots to the apron and the runway along the taxiway system, guidance signs should be located at various locations across the airfield. EKY currently has an airfield signage system, however the signage does not fully comply with current standards. Future replacement of signage should be considered.

2.3.4 Navigational Aids (NAVAIDs)

NAVAIDs, located on the field or at other locations in the region, are specialized equipment that provide pilots with electronic guidance and visual references to execute approaches for landing and point-to-point navigation.

Table 2-5 - INSTRUMENT APPROACH PROCEDURES

Runway End	Approach Type	Visibility Minimums	Ceiling Minimum
Runway 5	ILS or LOC	S-ILS 5:3/4-mile S-LOC 5: Categories A & B – 1-mile S-LOC 5: Categories C – 1-1/4-mile S-LOC 5: Categories D – 1-1/2-mile Circling: Category A & B – 1–mile Category C – 1 1/2–mile Category D – 2–mile	900'MSL/200'AGL 1200' MSL/500' AGL 1200' MSL/500' AGL 1200' MSL/500' AGL 1200' MSL/500' AGL 1220' MSL/520' AGL 1260' MSL/560' AGL
		JURAM FIX MINIMUMS	
		S-LOC 5: Categories A, B & C – 1-mile S-LOC 5: Categories D – 1-1/4-mile Circling: Category A & B – 1–mile Category C – 1 1/2–mile Category D – 2–mile	1100' MSL/400' AGL 1100' MSL/400' AGL 1200' MSL/500' AGL 1220' MSL/520' AGL 1260' MSL/560' AGL
Runway 5	RNAV (GPS)	LPV DA:3/4-mile LNAV/VNAV DA: 2-mile LNAV MDA: Categories A & B – 1-mile LNAV MDA: Categories C – 1-1/4-mile LNAV MDA: Categories D – 1-1/2-mile Circling: Category A & B – 1–mile Category C – 1 1/2–mile Category D – 2–mile	900'MSL/200'AGL 1244'MSL/544'AGL 1160' MSL/460' AGL 1160' MSL/460' AGL 1160' MSL/460' AGL 1200' MSL/500' AGL 1220' MSL/520' AGL 1260' MSL/560' AGL
Runway 23	RNAV (GPS)	LPV DA:1-mile LNAV/VNAV DA: 1 3/4-mile LNAV MDA: Categories A & B – 1-mile LNAV MDA: Categories C – 1-1/4-mile LNAV MDA: Categories D – 1-1/2-mile Circling: Category A & B – 1–mile Category C – 1 1/2–mile Category D – 2–mile	972'MSL/272'AGL 1170'MSL/470'AGL 1160' MSL/460' AGL 1160' MSL/460' AGL 1160' MSL/460' AGL 1200' MSL/500' AGL 1220' MSL/520' AGL 1260' MSL/560' AGL

Source: FAA Digital – Terminal Procedures Publication (d-TPP) Website

As mentioned previously, EKY has Precision Approach Path Indicator (PAPI) systems at both runway ends. These systems provide pilots with a visual indication of whether they are above or below the established 3-degree glide path when landing on a runway. The PAPI systems are in fair condition and are owned by the airport.

2.3.5 Weather Reporting

EKY has an Airport Surface Weather Observation Station (AWOS) that is the primary source of wind direction, velocity, and altimeter data at the airport. The AWOS-3PT is located on the southeast side of the airfield, just southwest of the apron located in the midfield area. The AWOS is an automated sensor suite that reports weather conditions over a discrete radio frequency so pilots can receive real-time weather information. The EKY weather information can be received by tuning to 118.825 MHZ or by calling (205-424-3127).

2.4 Landside/Terminal Area Facilities

The landside/terminal area facilities at an airport are critical to an airport's operation and development. These facilities support the transition from the airfield to landside businesses and then into community infrastructure. Landside facilities typically include a terminal/FBO building, aircraft storage facilities of various types (e.g. T-hangars and box hangars), aircraft parking aprons, and other support facilities like fuel storage and delivery.

2.4.1 General Aviation Terminal

EKY has a two-story General Aviation (GA) terminal building located near the midpoint of the runway on the southeast side of the airfield. Access to the terminal is via Aviation Road SE. The facility was built in 1996 and is 6,130 square feet and is considered to be in fair condition.

2.4.2 Aircraft Storage/Hangar Facilities

EKY has several different storage options for based aircraft. A mix of T-hangars, small box hangars, business owned hangars, and large airport owned hangars are used to serve based aircraft customers.

Table 2-6 - AIRCRAFT STORAGE HANGARS

Building #	Hangar Type	Area (SF)
1	Corporate Hangar	7,097
2	Corporate Hangar	5,041
3	Corporate Hangar	5,678
4	Corporate Hangar	3,282
5	Corporate Hangar	3,100
6	Corporate Hangar	8,120
7	Corporate Hangar	4,478
8	Corporate Hangar	6,848
9	Corporate Hangar	3,762
10	Maintenance Hangar	19,523
11	FBO/Terminal Facility	4,246
12	Maintenance Facility	1,643
13	Restaurant/Hangar	7,073
14	Civil Air Patrol	2,388
15	Corporate Hangar	22,127
16	Corporate Hangar	20,109
17	6-Unit T-Hangar	6,943
18	4-Unit T-Hangar	7,851
19	11-Unit T-Hangar	11,690
20	10-Unit Nested T-Hangar	11,973
21	Corporate Hangar	5,066
22	Corporate Hangar	3,935
23	Corporate Hangar	11,771
24	16-Unit T-Hangar	18,493
25	16-Unit T-Hangar	18,507

Source: Garver, 2022.

2.4.3 Aircraft Parking Areas

EKY has approximately 634,200 square feet of apron space used for both parking and maneuvering of aircraft. The aircraft parking apron runs parallel to the runway and parallel taxiway and the majority of the apron is continuous pavement along the taxiway. The ramp is constructed of asphalt. According to a July 2020 Alabama Statewide Pavement Management Program Update, various sections of apron pavement range from good condition to very poor condition.

2.4.4 Aircraft Circulation

As the airport has a single runway and single parallel taxiway, aircraft circulation on the airfield is relatively straightforward. There are a total of five connector taxiways from the parallel taxiway to the runway.

2.4.5 Terminal Parking and Roadway Access

Two primary vehicle parking areas serve the various aviation activity areas at EKY. Adjacent to the FBO terminal building is a paved area providing parking spaces for 32 vehicles. There is a second paved parking lot across Aviation Road SE with parking spaces for 26 vehicles. Access to both of these lots is provided by Aviation Road SE, and there is also a vehicle gate providing access to the airfield between these two vehicle parking areas.

2.4.6 Security

Currently, EKY has security fencing around the airport property. The fence is 6 feet tall and topped with barbed wire. It is in poor condition and has several washed-out areas throughout its length except the fencing in and around the terminal area which was recently replaced. Vehicular access to the airfield is controlled by three automated gates secured by electronic gates with keypad and remote controls. There are 2 additional manual vehicular gates that always remain locked except when utilized by airport personnel. Further, there are four pedestrian gates of which all always remain locked with the exception of a single gate near the terminal that is accessed via keypad.

2.4.7 Fuel Farm

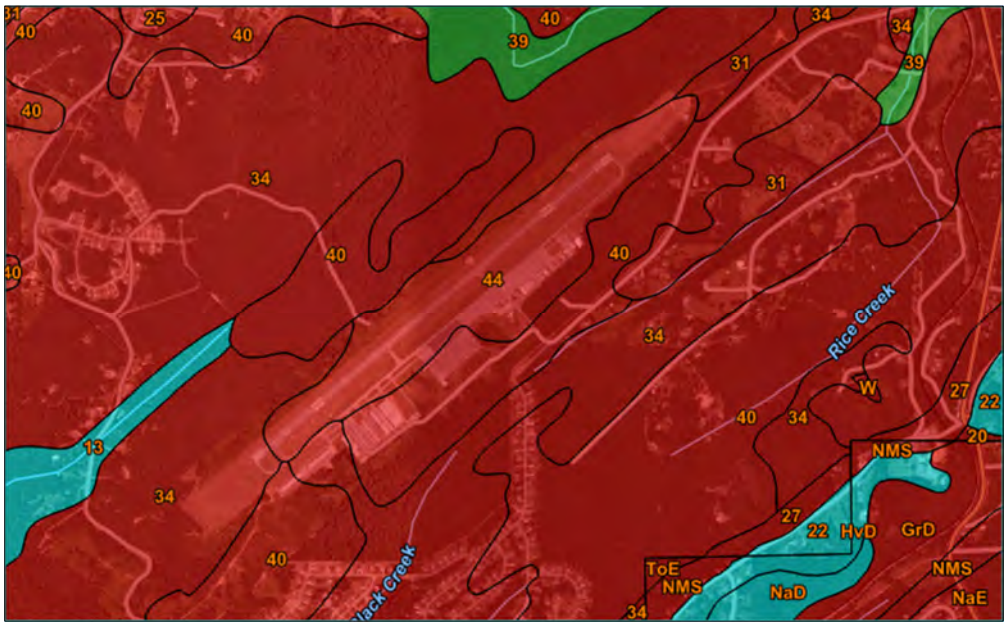
The fuel storage facility is located southwest of the GA terminal area ramp and consists of one 12,000 gallon avgas tank and one 12,000 gallon Jet-A tank. EKY has several fuel trucks and currently does not have self-serve fueling capabilities. The fuel farm was constructed in 2007 and is fair condition.

2.5 Environmental Overview and Land Use

2.5.1 Environmental Overview

A review of environmental conditions at EKY was completed as part of this ALP process. The FEMA Flood Map was reviewed and indicated no documented floodplains in the immediate area of EKY. The U.S. Department of Agriculture Web Soil Survey was reviewed to identify any farmland classifications, see **Figure 2-2**. As indicated in red**,** the majority of EKY property is considered to be not suitable for farmland. The U.S. Fish and Wildlife Service National Wetlands Inventory was reviewed and indicated that there is currently a freshwater forested/shrub wetland on the north side of Runway 23, see **Figure 2-3**. These conclusions are the result of a simple public record search, and as a result provide only limited analysis.

Figure 2-2 - USDA FARMLAND CLASSIFICATIONS



Source: USDA Web Soil Survey

Figure 2-3 - WETLANDS INVENTORY MAP

Source: USFWS National Wetlands Inventory

3.0 Activity Forecasts

Forecasting aviation activity helps the local airport sponsor determine future airport facility and equipment needs. The preferred demand forecasts are used to identify the type, extent, and timing of aviation development. In addition, the forecasts are instrumental in identifying airport-related infrastructure and capacity needs and guiding the timing and financial feasibility of airport development alternatives.

Airport activity is often influenced by the types of aviation services offered to transient and based aircraft and by the general business environment at an airport and in the local community. In addition, factors such as vigorous local airport marketing, gains in sales and services, increased industrialization, changes in transportation preferences, and fluctuations in the national or local economy all influence aviation demand.

Aviation activity forecasts are developed in accordance with national trends and regional/local influences and, in context with the inventory findings, are developed as a guide with the expectation that facilities needed to support the forecast will be available as demand dictates. This section examines aviation trends and the numerous factors that have influenced those trends in the United States, Alabama, and the region the Bessemer Municipal Airport serves.

3.1 Local Conditions

Data was collected for EKY from the FAA Terminal Area Forecasts (TAF) for both EKY and Alabama statewide, FAA Aerospace Forecast 2020-2040, the Alabama State Airport System Plan (ASASP), and the Airport Master Record 5010 form. Bessemer is located in Jefferson County, Alabama approximately 16 miles south-southwest of Birmingham and has approximately 26,472 residents, according to the 2019 Census estimate. Bessemer Municipal Airport is located south of the city, near the Shelby County line. According to the TAF, EKY had 102,600 aircraft operations and 108 based aircraft in 2019. According to the most recent airport records, there are currently 126 based aircraft at EKY.

Table 3-1 - HISTORICAL AVIATION ACTIVITY - TERMINAL AREA FORECASTS (TAF)

Year	Itinerant Operations	Local Operations	Total Annual Operations	Based Aircraft
2000	57619	42749	100368	210
2001	56467	41894	98361	210
2002	56467	41894	98361	210
2003	56467	41894	98361	210
2004	56467	41894	98361	210
2005	56467	41894	98361	210
2006	56467	41894	98361	210
2007	56467	41894	98361	167
2008	58900	43700	102600	91
2009	58900	43700	102600	99
2010	58900	43700	102600	99
2011	58900	43700	102600	76
2012	58900	43700	102600	107
2013	58900	43700	102600	96
2014	58900	43700	102600	92
2015	58900	43700	102600	100
2016	58900	43700	102600	117
2017	58900	43700	102600	108
2018	58900	43700	102600	108
2019	58900	43700	102600	108
2020	58900	43700	102600	108

Source: 2020 FAA Terminal Area Forecasts, issued January 2020

3.2 Based Aircraft

A based aircraft is defined as an actively registered airplane stationed at a specific airport that regularly uses the Airport as the primary “home base” for filing flight plans, frequently uses available airport amenities, and/or maintains a formal commitment for long-term aircraft parking/storage. An aircraft operation is one takeoff or landing of an aircraft. Aircraft operations are identified as either local or itinerant. Local operations consist of those within a 20-mile radius of the Airport, while itinerant operations include all operations other than local, having a terminus of flight or origination of flight at another airport at least 20 miles away.

Determining the number and type of aircraft anticipated to be based at an airport is a vital component in creating a development plan for the Airport. Depending on the potential market and forecast, the Airport should tailor the development plan to the unique characteristics of the anticipated demand. The number and type of GA aircraft that can be expected to base at an airport is dependent on several factors, such as available facilities, airport operator services, airport proximity and accessibility, and the local economy. GA operators are particularly sensitive to both the quality and location of their basing facilities, with

proximity of home and work often identified as the primary consideration in the selection of an aircraft-basing location.

The TAF for EKY is flat. The ASASP based aircraft projection for EKY, last completed in 2005, show a based aircraft average annual growth rate of 1.2%. The Alabama statewide TAF predicts a based aircraft growth rate of 0.34% annually over the next 20 years. Collectively, these data suggest a slow, steady based aircraft growth for EKY through the planning horizon.

3.3 Total Annual Operations

Determining the projected number and mix of future aircraft operations at an airport is a vital component in developing future infrastructure plans. Aeronautical activity at an airport is typically closely linked to the number of aircraft based at the Airport and the aeronautical needs of businesses, organizations, and individuals within the surrounding area.

According to the 2020 FAA Aerospace Forecast, general aviation operations are expected to grow very modestly at a rate of 0.7% annually. Turbine aircraft, helicopter, and experimental and light sport aircraft activity will grow, while single and multi-engine piston operations will decline.

Table 3-2 - FORECAST AVIATION ACTIVITY - TERMINAL AREA FORECASTS

Year	Itinerant Operations	Local Operations	Total Annual Operations	Based Aircraft
2020	58900	43700	102600	108
2021	58900	43700	102600	108
2022	58900	43700	102600	108
2023	58900	43700	102600	108
2024	58900	43700	102600	108
2025	58900	43700	102600	108
2026	58900	43700	102600	108
2027	58900	43700	102600	108
2028	58900	43700	102600	108
2029	58900	43700	102600	108
2030	58900	43700	102600	108
2031	58900	43700	102600	108
2032	58900	43700	102600	108
2033	58900	43700	102600	108
2034	58900	43700	102600	108
2035	58900	43700	102600	108
2036	58900	43700	102600	108
2037	58900	43700	102600	108
2038	58900	43700	102600	108
2039	58900	43700	102600	108
2040	58900	43700	102600	108

Source: 2020 FAA Terminal Area Forecasts, issued January 2020

3.4 Local/Itinerant Operations Split

From the Alabama State Airport System Plan, the types of operations occurring at EKY include the following:

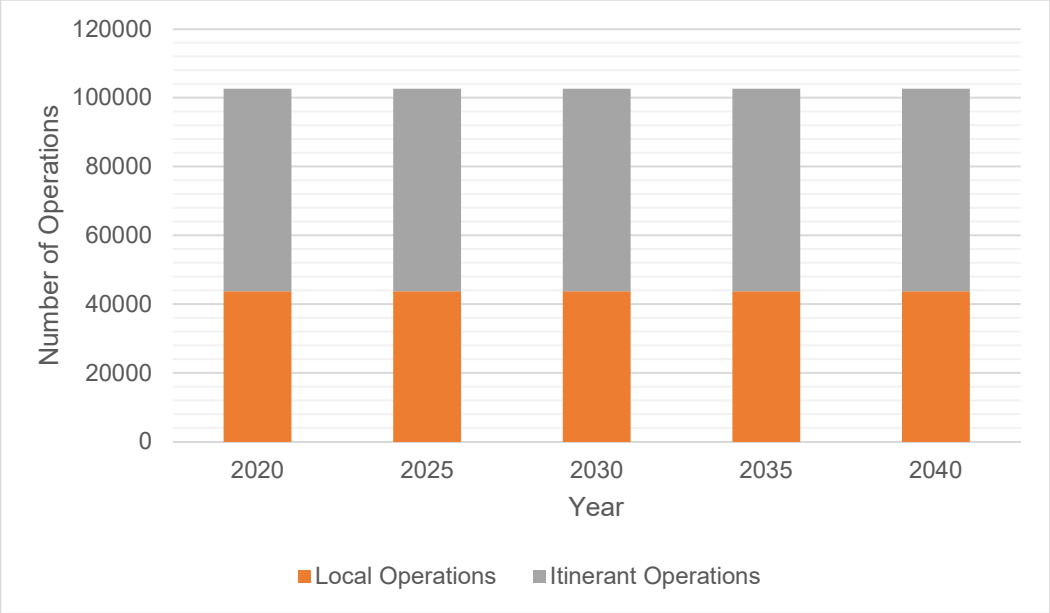
- Recreational flying
- Corporate or business activity
- Aerial inspection
- Police/law enforcement
- Prisoner transport
- Flight instruction
- Civil Air Patrol
- Emergency medical evacuations
- Medical shipments/patients
- Aerial photography survey
- Real estate tours
- Banner towing

- Traffic news
- Air freight

Aircraft operations are identified as either local or itinerant. Local operations consist of those within a 20-mile radius of the Airport, while itinerant operations include all operations other than local, having a terminus of flight or origination of flight at another airport at least 20 miles away.

According to the TAF, approximately 57% of the annual operations at EKY are itinerant (58,900) and 43% are local (43,700).

Figure 3-1 - LOCAL/ITINERANT OPERATIONS SPLIT - TERMINAL AREA FORECASTS (TAF)



Source: FAA TAF

3.5 Critical Aircraft

3.5.1 Fleet Mix

In the absence of on-site ATCT tower data, the mix of aircraft using the airport on a regular basis can be estimated by gathering FAA Traffic Flow Management System Count (TFMSC) for the most recent five-year period, and local records for the most recent one-year period. Data from these two sources was compared and synthesized in order to best capture airport operations. Based on the data collected, this count is believed to be more accurate than the TAF and therefore was used as the baseline for critical aircraft and operations count determinations. **Table 3-2** depicts this data.

Figure 3-2 - ESTIMATED ANNUAL OPERATIONS

AAC/ADG	I	II	III
A	27,688		
B	1,623	1,201	
C	188		12
D		24	
Helicopter	1,188		
Total	31,924		

Source: FAA TFMSC database, EKY records

Critical aircraft is determined from the fleet mix and is generally defined as the most demanding aircraft (size and speed) with at least 500 operations at the airport in question. TFMSC data includes regular use by King Air 200, King Air 90, Cessna Citation CJ1, and Cessna Citation II, and occasional use by Hawker 800, Lear 31, Lear 45 and Dassault Falcon 50. Based on discussions with the airport and planned developments to be discussed in this report, it is expected that the ultimate critical aircraft classification for EKY will be a C-II RDC.

4.0 Facility Requirements

Facility requirements analysis evaluates the existing airport facilities and identifies improvements needed to effectively meet the forecasted demand discussed in the Forecast Section in a manner that complies with FAA standards and best practices. Identification of a needed facility or infrastructure improvement does not necessarily constitute a "requirement," but is an "option" for facility development to accommodate future aviation activity. Market demand will ultimately drive the facility development requirements at EKY and the operational statistics discussed in the forecast (e.g., aircraft operations, based aircraft, etc.) should be used to help guide the discussion.

Airport facilities can be divided into two areas: airside and terminal/landside. The airside facilities include the runways, taxiways, protected surfaces, airspace, navigational aids (NAVAIDs), airfield markings, signage, and lighting. Terminal/landside facilities include the hangars, terminal building, FBO facilities, apron, fuel storage and delivery, vehicular parking, and airport access roads.

Each of these facilities, including their current condition and forecasted demand, will be discussed. The results will be utilized to drive the alternatives that are developed.

4.1 Airside Facility Requirements

4.1.1 Runway Length

FAA AC 150/5325-4B, *Runway Length Requirements for Airport Design*, provides guidance to help determine the most appropriate recommended runway lengths for an airport, which is predicated upon the category of aircraft using or forecasted to use the Airport. By design, the primary runway is typically the longest runway, that has the most favorable wind conditions, the highest pavement strength, and the lowest straight-in instrument approach minimums.

A significant factor to consider when analyzing the generalized runway length requirements for an airport is that the actual length necessary for an aircraft operation is a function of airport field elevation, temperature, and aircraft stage length (e.g., non-stop flight distance). As temperatures, altitude, and aircraft stage length change, the runway length requirements change accordingly. Consequently, if a runway is designed to accommodate 75% of the fleet at 60% useful load, this does not prevent larger aircraft at certain times and during specific conditions from utilizing the runway. However, the amount of time such operations can safely occur is restricted.

As **Table 4-1** indicates, Runway 5/23 meets the runway length requirements for 100% of the small aircraft fleet (under 12,500 lbs.) and 100% of large aircraft (between 12,500 lbs. and 60,000 lbs.) at 60% useful load.

Table 4-1 - RUNWAY LENGTH REQUIREMENTS

Aircraft Category	Length (Dry Pavement)	Add'l Length Runway Gradient	Total	Current RW Length (FT)	Difference
Small Aircraft: 12,500 pounds or less					
95% GA Fleet	3,275	0	3,275	6,007	2,732
100% GA Fleet	3,910	0	3,910		2,097
100% GA Fleet with 10 or More Passenger Seats	4,300	0	4,300		1,707
Large Aircraft: 12,500 to 60,000 pounds					
75% of Fleet at 60% Useful Load	4,777	2	4,779	6,007	1,228
75% of Fleet at 90% Useful Load	6,762	2	6,764		-757
100% of Fleet at 60% Useful Load	5,577	2	5,579		428
100% of Fleet at 90% Useful Load	8,602	2	8,604		-2,597

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

4.1.2 Runway Strength

Runway 5/23 has a published runway strength of 60,000 pounds single wheel. The runway strength is sufficient to support existing and future operations at EKY.

4.1.3 Runway Alignment

The evaluation of runway alignment is based on crosswind coverage and velocity. FAA Advisory Circular 150/5300-13 (current series), *Airport Design*, states that the allowable crosswind component for a runway with a C-II-4,000 Runway Design Code (RDC) is 16 knots at 95% wind coverage. Based on the ultimate C-II-4,000 RDC for EKY, Runway 5/23 has adequate wind coverage. **Table 4-2** shows the crosswind coverage percentages for Runway 5/23.

Table 4-2 - CROSSWIND COVERAGE

	All Weather Wind Coverage %			IFR Wind Coverage %			VFR Wind Coverage %		
Runway	10.5 Knots	13 Knots	16 Knots	10.5 Knots	13 Knots	16 Knots	10.5 Knots	13 Knots	16 Knots
5/23	96.93%	98.47%	99.84%	96.13%	98.02%	99.82%	97.04%	98.54%	99.85%

4.1.4 Taxiways

As discussed earlier in this report, taxiways at EKY generally conform to TDG-2 standards, however some fillets may not be in compliance with the current FAA standard. Improvements to these fillets should be considered when taxiway projects take place.

4.1.5 Airfield Lighting and NAVAIDs

As discussed earlier in this report, EKY has runway and taxiway lighting systems, as well as PAPI systems for each runway end. These systems are considered sufficient to support operations at EKY.

4.1.6 Airspace/Approaches

EKY has a ILS approach to Runway 5 with a 3/4 visibility minimum and a GPS approach to Runway 23 with a 1 mile minimum. These approaches are considered sufficient for the fleet mix utilizing the airport.

4.1.7 Airport Design Considerations

Compliance with airport design standards is vitally important because it aids an airport in maintaining a minimum level of operational safety. The major airport design elements are established by FAA AC 150/5300-13 (current series), *Airport Design.* In general, the design of an airport should conform with FAA airport design criteria without requiring a modification to standards.

However, some facilities at EKY were constructed before the current airport design standards were created. Consequently, the existing facilities developed to an older standard are "grandfathered" and are not required to comply with current FAA design standards until the facility is improved or reconstructed. Any new facilities constructed at EKY will be required to comply with the FAA's current airport design standards. The Runway Protection Zones (RPZ) for Runway 5 and Runway 23 are currently within the extents of airport property as is the ultimate RPZs with the exception of a small portion that overlies the current right of way for Aviation Road.

Table 4-3 provides an overview of the FAA design standards for a C-II runway and their application to Runway 5/23 at EKY. All design standards are currently met, except for runway centerline to aircraft parking area which is deficient by 25'.

Table 4-3 - RUNWAY DESIGN

Item	FAA Design Standard: C-II	Runway 5/23
Runway Design:		
Width (ft)	100	100
RSA Width (ft)	500	500
RSA Length beyond R/W end (ft)	1,000	1,000
OFA Width (ft)	800	800
OFA Length beyond R/W end (ft)	1,000	1,000
ROFZ Width (ft)	400	400
ROFZ Length beyond R/W end (ft)	200	200
Runway Setbacks -Runway Centerline to:		
Parallel Taxiway Centerline (ft)	300	300
Holdline (ft)	250	250
Aircraft Parking Area (ft)	400	375

Source: FAA Advisory Circular 150/5300-13 (current series).

4.2 Terminal/Landside Facility Requirements

Terminal area and landside area facilities play an important role in enabling the transition of pilots, passengers, and goods to and from the airside facilities at the Airport. Terminal and landside area facilities include FBO/Terminal building facilities, hangars, apron space, vehicle parking areas, and roadway access. The term "PAL" shown in the tables in this section refers to Planning Activity Level, which is generally assumed to be five-year increments, starting after PAL 1.

4.2.1 Aircraft Apron

Aircraft apron areas are provided for aircraft maneuvering and parking. To determine apron space requirements, a weighted average for the number of square feet of pavement needed to park an aircraft was calculated. Considerations are also made for the fleet mix at EKY, as well as peaking characteristics of the annual operations, the movement of the aircraft into and out of the parking area, and the movement of other aircraft around the parked aircraft. Required clearances on all sides of the aircraft were also taken into the consideration. **Table 4-4** provides a weighted average apron space requirement per aircraft. Although a surplus of existing apron space is shown here, several anticipated developments to be discussed later in this report will require significant additional apron space.

Table 4-4 - APRON AREA REQUIREMENTS

Year	Peak Hour Operations	Forecasted % of Itinerant Operations Parking on Apron	Estimated Percentage of Itinerant Ops on Apron at Same Time	Weighted Average Aircraft Parking Area (ft^2)	Estimated Parking Apron Required	Aircraft Circulation Factor	Total Apron Area Required (ft^2)	Current Apron Area (ft^2)	Surplus/ Deficiency Based on Current Apron Size (ft^2)
2020	13	80%	75%	6,239	49,790	497,895	547,685	634,200	86,515
PAL 1	13	80%	75%	6,239	50,138	501,381	551,519	634,200	82,681
PAL 2	14	80%	75%	6,239	51,557	515,567	567,124	634,200	67,076
PAL 3	14	80%	75%	6,239	53,387	533,867	587,253	634,200	46,947
PAL 4	15	80%	75%	6,239	55,282	552,815	608,097	634,200	26,103
PAL 5	15	80%	75%	6,239	57,244	572,437	629,680	634,200	4,520

Source: Garver, 2022.

4.2.2 Aircraft Storage

Future hangar areas should achieve a balance between maintaining an unobstructed expansion area, minimizing pavement development, and allowing convenient airside and landside access. Different types of aircraft have different storage requirements, so consideration should be given to the types and numbers of aircraft to be stored. This analysis uses the based aircraft fleet mix at EKY to determine hangar space requirements. The results of this analysis indicate a deficiency in hangar space as shown in **Table 4-5**, which will be addressed as part of the development plan.

4.2.3 Fuel Storage

As discussed earlier in this report, EKY has existing Avgas and Jet-A fuel storage facilities. Currently they are collocated and are impediments to future terminal area development due to their current locations. Additionally, the airport does not have adequate fuel capacity to meet current demands. As a result, relocation and additional fuel capacity will be addressed as part of the development plan.

Table 4-5 - HANGAR SPACE REQUIREMENTS

Facility	2020	PAL 1	PAL 2	PAL 3	PAL 4	PAL 5
Based Aircraft - Single Engine Piston	76	76	76	76	77	77
% of Based SE Aircraft Utilizing Hangar Space	85%	85%	85%	85%	85%	85%
Total Based SE Aircraft Placed in Hangar	65	65	65	65	65	65
Estimated Hangar Space per Aircraft	1,250	1,250	1,250	1,250	1,250	1,250
Total Hangar Space Required (sq. ft.)	80,750	80,750	80,750	80,750	81,813	81,813
Based Aircraft - Multi-Engine/Turboprop	10	10	11	12	12	13
% of Based ME/TP Aircraft Utilizing Hangar Space	100%	100%	100%	100%	100%	100%
Total Based ME/TP Aircraft Placed in Hangar	10	10	11	12	12	13
Estimated Hangar Space per Aircraft	3,000	3,000	3,000	3,000	3,000	3,000
Total Hangar Space Required (sq. ft.)	30,000	30,000	33,000	36,000	36,000	39,000
Based Aircraft - Turbo-Jet	9	9	10	10	11	12
% of Based Jet Aircraft Utilizing Hangar Space	100%	100%	100%	100%	100%	100%
Total Based Jet Aircraft Placed in Hangar	9	9	10	10	11	12
Estimated Hangar Space per Aircraft	3,500	3,500	3,500	3,500	3,500	3,500
Total Hangar Space Required (sq. ft.)	31,500	31,500	35,000	35,000	38,500	42,000
Based Aircraft - Helicopters	4	4	4	4	4	4
Estimated Hangar Space per Aircraft	1,500	1,500	1,500	1,500	1,500	1,500
Total Hangar Space Required (sq. ft.)	6,000	6,000	6,000	6,000	6,000	6,000
Annual Itinerant Aircraft Operations	58,900	58,900	58,900	58,900	58,900	58,900
Maintenance/Transient Hangar Area Demand (ft^2)	58,900	58,900	58,900	58,900	58,900	58,900
Total Based Aircraft	99	99	101	102	104	106
Total Hangar Space Required (sq. ft.)	207,150	207,150	213,650	216,650	221,213	227,713
Hangar Space Lost to Exclusive Use/Office Space (estimated at 15%) (sq. ft.)	31,073	31,073	32,048	32,498	33,182	34,157
Hangar Space Required + Space Lost to Exclusive Use/Office Space (sq. ft.)	238,223	238,223	245,698	249,148	254,394	261,869
Current Total Hangar Space (sq. ft.)	216,000	216,000	216,000	216,000	216,000	216,000
Surplus/Deficiency (sq. ft.)	**-22,223**	**-22,223**	**-29,698**	**-33,148**	**-38,394**	**-45,869**

Source: Garver, 2022.

4.2.4 Auto Parking, Circulation, and Access Requirements

General aviation terminals are unique facilities with regard to parking requirements, because they are used by a number of aeronautical and non-aeronautical users and for a variety of purposes. While **Table 4-6** shows a surplus of parking, EKY currently does not have adequate parking to serve its existing facilities. Based on information provided by the airport, the flight school uses most of the current parking. As a result, more parking space will need to be considered.

Table 4-6 - VEHICLE PARKING REQUIREMENTS

Facility	2020	PAL 1	PAL 2	PAL 3	PAL 4	PAL 5
FBO Terminal Parking						
- Peak Hour Operations	13	13	14	14	15	15
- % of Aircraft Using FBO Terminal Facilities	65%	65%	65%	65%	65%	65%
- Peak Hour Multiplier	3.5	3.5	3.5	3.5	3.5	3.5
Parking Space Need for Passenger/Pilot	30	30	31	32	34	35
Hangar Space Parking						
- Hangar Space Requirement	207,150	207,150	213,650	216,650	221,213	227,713
- Parking Alottment Based on Hangar Space (1 space per 1,000 sf)	207	207	214	217	221	228
- Reduction for Parking Inside Hangar	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Total Parking Needed for Hangar Space	10	10	11	11	11	11
Tie-Down Space Parking						
- Tie-Down Space Requirements	11	11	11	11	12	12
- % of A/C in Use at One-Time	15%	15%	15%	15%	15%	15%
Total Parking Needed for Tie-Down Space	2	2	2	2	2	2
Total # of Spaces Currently	58	58	58	58	58	58
Total Number of Parking Spaces Needed	**42**	**43**	**44**	**45**	**46**	**48**
Total Deficiency/Surplus	**16**	**15**	**14**	**13**	**12**	**10**

Source: Garver, 2022.

4.2.5 Terminal Building/FBO Requirements

The terminal building serves both a functional and social capacity central to the operation, promotion, and visible identity of any airport. While **Table 4-7** shows sufficient terminal space, discussions with the airport have indicated that additional space is required to support their operations.

Table 4-7 - TERMINAL BUILDING SPACE REQUIREMENTS

Facility	2020	PAL 1	PAL 2	PAL 3	PAL 4	PAL 5
Formula Factors						
- Peak Hour Operations	13	13	14	14	15	15
- % of Aircraft Using FBO Terminal Facilities	75%	75%	75%	75%	75%	75%
- Peak Hour Multiplier	3.5	3.5	3.5	3.5	3.5	3.5
- Sq. Ft. Per Person	150	150	150	150	150	150
Total Terminal Sq. Ft. Requirement	5,238	5,274	5,423	5,616	5,815	6,022
Current Terminal Sq. Ft.	6,130	6,130	6,130	6,130	6,130	6,130
Surplus/Deficiency (Sq. Ft.)	**892**	**856**	**707**	**514**	**315**	**108**

Source: Garver, 2022.

5.0 Capital Improvement Plan

After the facility requirements process was completed, an ultimate layout was developed and evaluated to determine what projects and costs would be required to achieve the ultimate development for EKY. Comprehensive lists of projects and planning level costs estimates were developed and prioritized. The costs of projects are estimated using current bid item prices and adjusted using a 3% inflation rate per year. These estimates do not include any major infrastructure adjustment costs, such as sewer trunk lines, sewer force mains, water mains, or high voltage electrical transmission lines. All projects required to complete the ultimate development were included, regardless of funding source. The planned development is phased according to the current priorities of the airport and airport users. It is important to note that projects considered regular or routine maintenance are not included in the CIP. **Figure 5-1** and **Figure 5-2** show the planned phasing and cost estimates for the ultimate development for EKY. Standard unit prices for various recurring items in both the short- and long-term estimates were calculated. These standard unit prices help simplify the individual project summaries and include all subitems associated with the standard prices cost (e.g., The "Airfield Pavement" standard unit price includes asphalt, base course, subgrade, excavation, tack coat, prime coat, and marking costs). The standard unit prices can be viewed in **Table 5-1**.

Table 5-1 STANDARD UNIT PRICES

STANDARD UNIT PRICES		
TITLE	UNIT	COST
LAND ACQUISITION	ACRE	$ 10,000.00
CLEARING & GRUBBING	ACRE	$ 10,000.00
SEEDING & MULCHING	ACRE	$ 3,000.00
EARTHWORK - FILL	CY	$ 20.00
EARTHWORK - CUT	CY	$ 10.00
AIRFIELD PAVEMENT	SY	$ 120.00
ROADWAY PAVEMENT	LF	$ 285.00
ROADWAY PAVEMENT WITH SINGLE SIDED PARKING	LF	$ 350.00
ROADWAY PAVEMENT WITH DOUBLE SIDED PARKING	LF	$ 450.00
HANGAR	SF	$ 100.00
MRO FACILITY	SF	$ 500.00
TERMINAL & ARFF	SF	$ 1,000.00

5.1 Short Term Development

Short term development at EKY will focus on improving current capabilities and expanding based aircraft inventory. The short-term development will include the following: AWOS relocation, Apron Rehabilitation & Expansion, North Apron & Access Road Phase 1, and South T-Hangar Farm Phase 1. The short term development plan and estimate can be viewed in Figure 5-1 and Table 5-2 below. A detailed short term development estimate can be viewed in Appendix A of this report.

Figure 5-1 SHORT TERM DEVELOPMENT

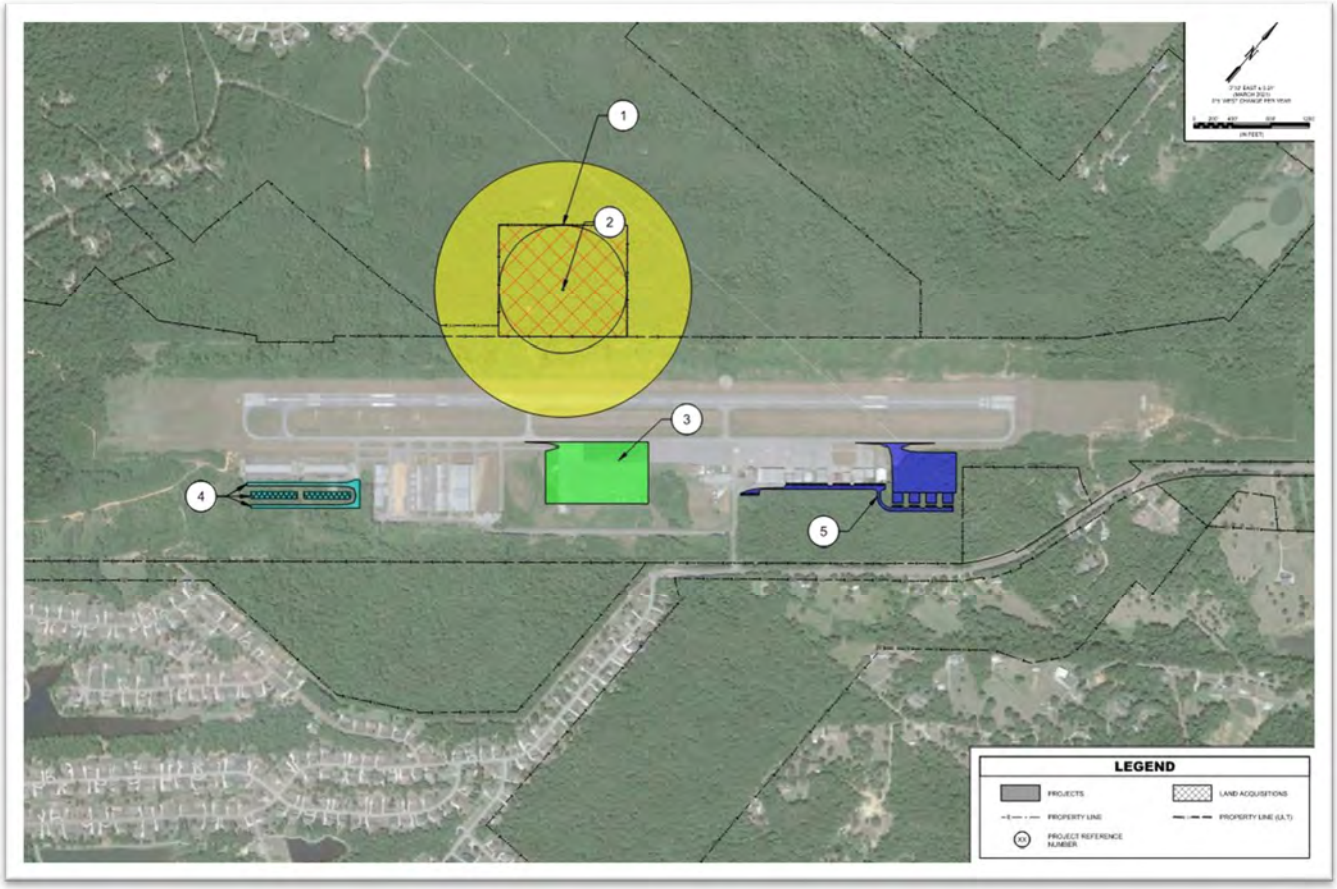


Table 5-2 SHORT TERM DEVEMOPMENT

SHORT TERM DEVELOPMENT			
	CAPITAL PROJECTS 2023		
1	AWOS LAND ACQUISITION	$	248,745
	TOTAL CAPITAL PROJECTS 2023	$	248,745
	CAPITAL PROJECTS 2024		
2	AWOS DESIGN AND CONSTRUCTION	$	838,164
	TOTAL CAPITAL PROJECTS 2024	$	838,164
	CAPITAL PROJECTS 2025		
3	APRON REHABILITATION AND WEST EXPANSION	$	2,724,648
	TOTAL CAPITAL PROJECTS 2025	$	2,724,648
	CAPITAL PROJECTS 2026		
4	SOUTH T-HANGAR FARM PHASE 1 - TAXILANES	$	3,157,660
	SOUTH T-HANGAR FARM PHASE 1 - T-HANGARS	$	6,004,990
	TOTAL CAPITAL PROJECTS 2026	$	9,162,650
	CAPITAL PROJECTS 2027		
5	NORTH APRON AND ACCESS ROAD PHASE 1 - APRON & ACCESS ROAD	$	13,914,021
	NORTH APRON AND ACCESS ROAD PHASE 1 - BOX HANGARS	$	4,178,673
	TOTAL CAPITAL PROJECTS 2027	$	18,092,694
TOTAL SHORT TERM PROJECT COSTS		**$**	**31,066,901**

5.2 Long Term Development

Long term development at EKY will focus on expanding based aircraft inventory and upgrading the Airport Reference Code (ARC) from B-II to C-II. The long term development will include the following: South T-Hangar Farm Phase 2, South Land Acquisition & Access Road, South Box & T-Hangar Group, L-Taxilane & Box Hangar Group, Terminal & Box Hangar Group, ARFF & Box Hangar Group, Northeast Land Acquisition & Road Relocation, North Apron & Access Road Phase 2, Runway & Parallel Taxiway Northeast Extension, Parallel Taxiway Northwest Extension & Northwest Land Acquisition, Northwest Road, Parking, & Apron Development, MRO & Parking, and West Parallel Taxiway. The long term development plan and estimate can be viewed in Figure 5-2 and Table 5-3 below. A detailed long term development estimate can be viewed in Appendix A of this report.

Figure 5-2 LONG TERM DEVELOPMENT

Table 5-3 LONG TERM DEVELOPMENT

LONG TERM DEVELOPMENT			
	CAPITAL PROJECTS 2028		
6	SOUTH LAND ACQUISITION & ACCESS ROAD	$	36,962,725
	TOTAL CAPITAL PROJECTS 2029	$	36,962,725
	CAPITAL PROJECTS 2029		
7	TERMINAL & BOX HANGAR GROUP - ACCESS ROADS	$	11,678,612
	TERMINAL & BOX HANGAR GROUP - TERMINAL BUILDING	$	43,338,664
	TERMINAL & BOX HANGAR GROUP - 200'X150' BOX HANGAR	$	5,591,633
	TERMINAL & BOX HANGAR GROUP - 250'X150' BOX HANGARS	$	13,965,173
	TOTAL CAPITAL PROJECTS 2032	$	74,574,082
	CAPITAL PROJECTS 2030		
8	SOUTH T-HANGAR FARM PHASE 2 - TAXILANES	$	1,686,958
	SOUTH T-HANGAR FARM PHASE 2 - T-HANGARS	$	13,512,094
	TOTAL CAPITAL PROJECTS 2028	$	15,199,052
	CAPITAL PROJECTS 2031		
9	SOUTH BOX & T-HANGAR GROUP - AIRFIELD & ACCESS PAVEMENT	$	2,715,285
	SOUTH BOX & T-HANGAR GROUP - T-HANGARS	$	3,481,615
	SOUTH BOX & T-HANGAR GROUP - FUELING FACILITY	$	477,156
	SOUTH BOX & T-HANGAR GROUP - 45'X45' BOX HANGAR GROUP	$	1,922,127
	SOUTH BOX & T-HANGAR GROUP - 100'X100' BOX HANGAR GROUP	$	3,646,189
	TOTAL CAPITAL PROJECTS 203(	$	12,242,372
	CAPITAL PROJECTS 203:		
10	L-TAXILANE & BOX HANGAR GROUP - L-TAXILANE	$	2,195,852
	L-TAXILANE & BOX HANGAR GROUP - 100'X100' BOX HANGAR GROUP	$	11,266,723
	TOTAL CAPITAL PROJECTS 2031	$	13,462,575
	CAPITAL PROJECTS 2033		
11	ARFF & BOX HANGAR GROUP - ARFF BUILDING	$	6,924,630
	ARFF & BOX HANGAR GROUP - 100'X100' BOX HANGAR GROUP	$	7,237,910
	TOTAL CAPITAL PROJECTS 2033	$	14,162,540
	CAPITAL PROJECTS 2034		
12	NE LAND ACQUISITION & ROAD RELOCATION	$	11,386,868
	TOTAL CAPITAL PROJECTS 2034	$	11,386,868
	CAPITAL PROJECTS 2035		
13	NORTH APRON & ACCESS ROAD PHASE 2 - APRON & ACCESS ROAD	$	49,134,753
	NORTH APRON & ACCESS ROAD PHASE 2 - 80'X80' BOX HANGARS	$	14,514,341
	TOTAL CAPITAL PROJECTS 2035	$	63,649,094
	CAPITAL PROJECTS 2036		
14	RUNWAY & PARALLEL TW NE EXTENSION	$	17,732,241
	TOTAL CAPITAL PROJECTS 2036	$	17,732,241
	CAPITAL PROJECTS 2037		
15	PARALLEL TW NW EXTENSION & NW LAND ACQUISITION	$	39,301,193
	TOTAL CAPITAL PROJECTS 2037	$	39,301,193
	CAPITAL PROJECTS 2038		
16	NW ROAD, NW PARKING, & NW APRON	$	206,832,715
	TOTAL CAPITAL PROJECTS 2038	$	206,832,715
	CAPITAL PROJECTS 2039		
17	MRO & PARKING	$	131,635,934
	TOTAL CAPITAL PROJECTS 2039	$	131,635,934
	CAPITAL PROJECTS 2040		
18	WEST PARALLEL TAXIWAY	$	105,415,677
	TOTAL CAPITAL PROJECTS 2040	$	105,415,677
TOTAL LONG TERM PROJECT COSTS		**$**	**742,557,068**

APPENDIX A

Detailed Cost Estimate

SHORT TERM DEVELOPMENT			
	CAPITAL PROJECTS 2023		
1	AWOS LAND ACQUISITION	$	248,745
	TOTAL CAPITAL PROJECTS 2023	$	248,745
	CAPITAL PROJECTS 2024		
2	AWOS DESIGN AND CONSTRUCTION	$	838,164
	TOTAL CAPITAL PROJECTS 2024	$	838,164
	CAPITAL PROJECTS 2025		
3	APRON REHABILITATION AND WEST EXPANSION	$	2,724,648
	TOTAL CAPITAL PROJECTS 2025	$	2,724,648
	CAPITAL PROJECTS 2026		
4	SOUTH T-HANGAR FARM PHASE 1 - TAXILANES	$	3,157,660
	SOUTH T-HANGAR FARM PHASE 1 - T-HANGARS	$	6,004,990
	TOTAL CAPITAL PROJECTS 2026	$	9,162,650
	CAPITAL PROJECTS 2027		
5	NORTH APRON AND ACCESS ROAD PHASE 1 - APRON & ACCESS ROAD	$	13,914,021
	NORTH APRON AND ACCESS ROAD PHASE 1 - BOX HANGARS	$	4,178,673
	TOTAL CAPITAL PROJECTS 2027	$	18,092,694
TOTAL SHORT TERM PROJECT COSTS		**$**	**31,066,901**

EKY - BESSEMER AIRPORT
ENGINEER'S ESTIMATE OF PROBABLE COST

2023 AWOS LAND ACQUISITION

#	DESCRIPTION	UNIT	QUANTITY	PRICE	AMOUNT
1	LAND ACQUISITION	ACRE	21	$10,000.00	$210,000.00
				CONSTRUCTION TOTAL	$210,000.00
				ENGINEERING & ADMIN (15%)	$31,500.00
				TOTAL	**$241,500.00**
				1 YEAR - INFLATION (3%)	$7,245.00
				TOTAL	**$248,745.00**

EKY - BESSEMER AIRPORT
ENGINEER'S ESTIMATE OF PROBABLE COST

2024 AWOS DESIGN AND CONSTRUCTION

#	DESCRIPTION	UNIT	QUANTITY	PRICE	AMOUNT
1	SITE PREPARATION & MOBILIZATION (20%)	LS	1	$114,500.00	$114,500.00
2	CONSTRUCTION SAFETY AND SECURITY	LS	1	$7,500.00	$7,500.00
3	EXISTING AWOS REMOVED	LS	1	$15,000.00	$15,000.00
4	AWOS INSTALLED	LS	1	$250,000.00	$250,000.00
5	CLEARING & GRUBBING	ACRE	21	$10,000.00	$210,000.00
6	EARTHWORK - FILL	CY	4,500	$20.00	$90,000.00
				CONSTRUCTION TOTAL	$687,000.00
				ENGINEERING & ADMIN (15%)	$103,050.00
				TOTAL	**$790,050.00**
				2 YEAR - INFLATION (3%)	$48,114.00
				TOTAL	**$838,164.00**

EKY - BESSEMER AIRPORT
ENGINEER'S ESTIMATE OF PROBABLE COST

2025 APRON REHABILITATION AND WEST EXPANSION

#	DESCRIPTION	UNIT	QUANTITY	PRICE	AMOUNT
1	SITE PREP AND MOBILIZATION (20%)	LS	1	$361,368.00	$361,368.00
2	AIRFIELD PAVEMENT	SY	5,525	$120.00	$663,000.00
3	ELECTRICAL MODIFICATION & INSTALLATION	LS	1	$25,000.00	$25,000.00
4	DRAINAGE STRUCTURES	LS	1	$25,000.00	$25,000.00
5	COLD MILLING	SY	36,780	$3.00	$110,340.00
6	ASPHALT	TON	4,400	$150.00	$660,000.00
7	AIRCRAFT TIEDOWNS	EA	50	$1,000.00	$50,000.00
8	KEYED JOINT	SY	700	$15.00	$10,500.00
9	SEEDING & MULCHING	ACRE	1	$3,000.00	$3,000.00
10	EARTHWORK - FILL	CY	13000	$20.00	$260,000.00
				CONSTRUCTION TOTAL	$2,168,208.00
				ENGINEERING & ADMIN (15%)	$325,231.00
				TOTAL	**$2,493,439.00**
				3 YEAR - INFLATION (3%)	$231,209.00
				TOTAL	**$2,724,648.00**

EKY - BESSEMER AIRPORT
ENGINEER'S ESTIMATE OF PROBABLE COST

2026 SOUTH T-HANGAR FARM PHASE 1

TAXILANES

#	DESCRIPTION	UNIT	QUANTITY	PRICE	AMOUNT
1	SITE PREP AND MOBILIZATION (20%)	LS	1	$406,600.00	$406,600.00
2	AIRFIELD PAVEMENT	SY	5,900	$120.00	$708,000.00
3	EARTHWORK - FILL	CY	60,000	$20.00	$1,200,000.00
4	CLEARING AND GRUBBING	ACRE	7	$10,000.00	$70,000.00
5	SEEDING AND MULCHING	ACRE	5	$5,000.00	$25,000.00
6	DRAINAGE STRUCTURES	LS	1	$30,000.00	$30,000.00
				CONSTRUCTION TOTAL	$2,439,600.00
				ENGINEERING & ADMIN (15%)	$365,940.00
				TOTAL	**$2,805,540.00**
				4 YEAR - INFLATION (3%)	$352,120.00
				TOTAL	**$3,157,660.00**

T-HANGARS

#	DESCRIPTION	UNIT	QUANTITY	PRICE	AMOUNT
1	SITE PREP AND MOBILIZATION (20%)	LS	1	$773,240.00	$773,240.00
2	(53X362) 16-UNIT NESTED T-HANGAR	SF	19,186	$100.00	$1,918,600.00
3	(53X362) 16-UNIT NESTED T-HANGAR	SF	19,186	$100.00	$1,918,600.00
4	SEEDING AND MULCHING	ACRE	3	$3,000.00	$9,000.00
5	UTILITIES CONNECTION	EA	2	$10,000.00	$20,000.00
				CONSTRUCTION TOTAL	$4,639,440.00
				ENGINEERING & ADMIN (15%)	$695,916.00
				TOTAL	**$5,335,356.00**
				4 YEAR - INFLATION (3%)	$669,634.00
				TOTAL	**$6,004,990.00**

EKY - BESSEMER AIRPORT
ENGINEER'S ESTIMATE OF PROBABLE COST

2027 NORTH APRON & ACCESS ROAD PHASE 1

APRON & ACCESS ROAD

#	DESCRIPTION	UNIT	QUANTITY	PRICE	AMOUNT
1	SITE PREP AND MOBILIZATION (20%)	LS	1	$1,739,472.00	$1,739,472.00
2	AIRFIELD PAVEMENT	SY	18,853	$120.00	$2,262,360.00
3	ELECTRICAL MODIFICATION & INSTALLATION	LS	1	$100,000.00	$100,000.00
4	EARTHWORK - FILL	CY	275,000	$20.00	$5,500,000.00
5	ROADWAY PAVEMENT	LF	2000	$350.00	$700,000.00
6	CLEARING AND GRUBBING	ACRE	9	$10,000.00	$90,000.00
7	SEEDING AND MULCHING	ACRE	4	$5,000.00	$20,000.00
8	DRAINAGE STRUCTURES	LS	1	$25,000.00	$25,000.00
				CONSTRUCTION TOTAL	$10,436,832.00
				ENGINEERING & ADMIN (15%)	$1,565,525.00
				TOTAL	**$12,002,357.00**
				5 YEAR - INFLATION (3%)	$1,911,664.00
				TOTAL	**$13,914,021.00**

BOX HANGARS

#	DESCRIPTION	UNIT	QUANTITY	PRICE	AMOUNT
1	SITE PREP AND MOBILIZATION (20%)	LS	1	$522,400.00	$522,400.00
2	(80X80) BOX HANGAR	SF	6,400	$100.00	$640,000.00
3	(80X80) BOX HANGAR	SF	6,400	$100.00	$640,000.00
4	(80X80) BOX HANGAR	SF	6,400	$100.00	$640,000.00
5	(80X80) BOX HANGAR	SF	6,400	$100.00	$640,000.00
6	SEEDING AND MULCHING	ACRE	4	$3,000.00	$12,000.00
7	UTILITIES CONNECTION	EA	4	$10,000.00	$40,000.00
				CONSTRUCTION TOTAL	$3,134,400.00
				ENGINEERING & ADMIN (15%)	$470,160.00
				TOTAL	**$3,604,560.00**
				5 YEAR - INFLATION (3%)	$574,113.00
				TOTAL	**$4,178,673.00**

LONG TERM DEVELOPMENT			
	CAPITAL PROJECTS 2028		
6	SOUTH LAND ACQUISITION & ACCESS ROAD	$	36,962,725
	TOTAL CAPITAL PROJECTS 2029	$	36,962,725
	CAPITAL PROJECTS 2029		
7	TERMINAL & BOX HANGAR GROUP - ACCESS ROADS	$	11,678,612
	TERMINAL & BOX HANGAR GROUP - TERMINAL BUILDING	$	43,338,664
	TERMINAL & BOX HANGAR GROUP - 200'X150' BOX HANGAR	$	5,591,633
	TERMINAL & BOX HANGAR GROUP - 250'X150' BOX HANGARS	$	13,965,173
	TOTAL CAPITAL PROJECTS 2032	$	74,574,082
	CAPITAL PROJECTS 2030		
8	SOUTH T-HANGAR FARM PHASE 2 - TAXILANES	$	1,686,958
	SOUTH T-HANGAR FARM PHASE 2 - T-HANGARS	$	13,512,094
	TOTAL CAPITAL PROJECTS 2028	$	15,199,052
	CAPITAL PROJECTS 2031		
9	SOUTH BOX & T-HANGAR GROUP - AIRFIELD & ACCESS PAVEMENT	$	2,715,285
	SOUTH BOX & T-HANGAR GROUP - T-HANGARS	$	3,481,615
	SOUTH BOX & T-HANGAR GROUP - FUELING FACILITY	$	477,156
	SOUTH BOX & T-HANGAR GROUP - 45'X45' BOX HANGAR GROUP	$	1,922,127
	SOUTH BOX & T-HANGAR GROUP - 100'X100' BOX HANGAR GROUP	$	3,646,189
	TOTAL CAPITAL PROJECTS 203(	$	12,242,372
	CAPITAL PROJECTS 2032		
10	L-TAXILANE & BOX HANGAR GROUP - L-TAXILANE	$	2,195,852
	L-TAXILANE & BOX HANGAR GROUP - 100'X100' BOX HANGAR GROUP	$	11,266,723
	TOTAL CAPITAL PROJECTS 2031	$	13,462,575
	CAPITAL PROJECTS 2033		
11	ARFF & BOX HANGAR GROUP - ARFF BUILDING	$	6,924,630
	ARFF & BOX HANGAR GROUP - 100'X100' BOX HANGAR GROUP	$	7,237,910
	TOTAL CAPITAL PROJECTS 2033	$	14,162,540
	CAPITAL PROJECTS 2034		
12	NE LAND ACQUISITION & ROAD RELOCATION	$	11,386,868
	TOTAL CAPITAL PROJECTS 2034	$	11,386,868
	CAPITAL PROJECTS 2035		
13	NORTH APRON & ACCESS ROAD PHASE 2 - APRON & ACCESS ROAD	$	49,134,753
	NORTH APRON & ACCESS ROAD PHASE 2 - 80'X80' BOX HANGARS	$	14,514,341
	TOTAL CAPITAL PROJECTS 2035	$	63,649,094
	CAPITAL PROJECTS 2036		
14	RUNWAY & PARALLEL TW NE EXTENSION	$	17,732,241
	TOTAL CAPITAL PROJECTS 2036	$	17,732,241
	CAPITAL PROJECTS 2037		
15	PARALLEL TW NW EXTENSION & NW LAND ACQUISITION	$	39,301,193
	TOTAL CAPITAL PROJECTS 2037	$	39,301,193
	CAPITAL PROJECTS 2038		
16	NW ROAD, NW PARKING, & NW APRON	$	206,832,715
	TOTAL CAPITAL PROJECTS 2038	$	206,832,715
	CAPITAL PROJECTS 2039		
17	MRO & PARKING	$	131,635,934
	TOTAL CAPITAL PROJECTS 2039	$	131,635,934
	CAPITAL PROJECTS 2040		
18	WEST PARALLEL TAXIWAY	$	105,415,677
	TOTAL CAPITAL PROJECTS 2040	$	105,415,677
TOTAL LONG TERM PROJECT COSTS		**$**	**742,557,068**

EKY - BESSEMER AIRPORT
ENGINEER'S ESTIMATE OF PROBABLE COST

2028 SOUTH LAND ACQUISITION & ACCESS ROAD

#	DESCRIPTION	UNIT	QUANTITY	PRICE	AMOUNT
1	PROPERTY ACQUISITION	ACRE	20	$10,000.00	$200,000.00
2	SITE PREP AND MOBILIZATION (20%)	LS	1	$4,453,000.00	$4,453,000.00
3	ROADWAY PAVEMENT	LF	6,000	$285.00	$1,710,000.00
4	EARTHWORK - FILL	CY	1,000,000	$20.00	$20,000,000.00
5	CLEARING AND GRUBBING	ACRE	35	$10,000.00	$350,000.00
6	DRAINAGE STRUCTURES	LS	1	$100,000.00	$100,000.00
7	SEEDING AND MULCHING	ACRE	35	$3,000.00	$105,000.00
				CONSTRUCTION TOTAL	$26,918,000.00
				ENGINEERING & ADMIN (15%)	$4,037,700.00
				TOTAL	**$30,955,700.00**
				6 YEAR - INFLATION (3%)	$6,007,025.00
				TOTAL	**$36,962,725.00**

EKY - BESSEMER AIRPORT
ENGINEER'S ESTIMATE OF PROBABLE COST

2029 TERMINAL & BOX HANGAR GROUP

ACCESS ROAD

#	DESCRIPTION	UNIT	QUANTITY	PRICE	AMOUNT
1	SITE PREP AND MOBILIZATION (20%)	LS	1	$1,376,200.00	$1,376,200.00
2	EARTHWORK - FILL	CY	300,000	$20.00	$6,000,000.00
3	SEEDING AND MULCHING	ACRE	2	$3,000.00	$6,000.00
4	DRAINAGE STRUCTURES	LS	1	$65,000.00	$65,000.00
5	ROADWAY PAVEMENT WITH DOUBLE SIDED PARKING	LF	1800	$450.00	$810,000.00
				CONSTRUCTION TOTAL	$8,257,200.00
				ENGINEERING & ADMIN (15%)	$1,238,580.00
				TOTAL	**$9,495,780.00**
				7 YEAR - INFLATION (3%)	$2,182,832.00
				TOTAL	**$11,678,612.00**

TERMINAL BUILDING

#	DESCRIPTION	UNIT	QUANTITY	PRICE	AMOUNT
1	SITE PREP AND MOBILIZATION (20%)	LS	1	$5,107,000.00	$5,107,000.00
2	(150X170) TERMINAL BUILDING	SF	25,500	$1,000.00	$25,500,000.00
3	SEEDING AND MULCHING	ACRE	1	$5,000.00	$5,000.00
4	UTILITIES CONNECTION	LS	1	$30,000.00	$30,000.00
				CONSTRUCTION TOTAL	$30,642,000.00
				ENGINEERING & ADMIN (15%)	$4,596,300.00
				TOTAL	**$35,238,300.00**
				7 YEAR - INFLATION (3%)	$8,100,364.00
				TOTAL	**$43,338,664.00**

200'X150' BOX HANGAR

#	DESCRIPTION	UNIT	QUANTITY	PRICE	AMOUNT
1	SITE PREP AND MOBILIZATION (20%)	LS	1	$603,000.00	$603,000.00
2	(200X150) BOX HANGAR	SF	30,000	$100.00	$3,000,000.00
3	SEEDING AND MULCHING	ACRE	1	$5,000.00	$5,000.00
4	UTILITIES CONNECTION	EA	1	$10,000.00	$10,000.00
				CONSTRUCTION TOTAL	$3,618,000.00
				ENGINEERING & ADMIN (15%)	$542,700.00
				TOTAL	**$4,160,700.00**
				10 YEAR - INFLATION (3%)	$1,430,933.00
				TOTAL	**$5,591,633.00**

250'X150' BOX HANGARS

#	DESCRIPTION	UNIT	QUANTITY	PRICE	AMOUNT
1	SITE PREP AND MOBILIZATION (20%)	LS	1	$1,506,000.00	$1,506,000.00
2	(250X150) BOX HANGAR	SF	37,500	$100.00	$3,750,000.00
3	(250X150) BOX HANGAR	SF	37,500	$100.00	$3,750,000.00
4	SEEDING AND MULCHING	ACRE	2	$5,000.00	$10,000.00
5	UTILITIES CONNECTION	EA	2	$10,000.00	$20,000.00
				CONSTRUCTION TOTAL	$9,036,000.00
				ENGINEERING & ADMIN (15%)	$1,355,400.00
				TOTAL	**$10,391,400.00**
				10 YEAR - INFLATION (3%)	$3,573,773.00
				TOTAL	**$13,965,173.00**

EKY - BESSEMER AIRPORT
ENGINEER'S ESTIMATE OF PROBABLE COST

2030 SOUTH T-HANGAR FARM PHASE 2

TAXILANES

#	DESCRIPTION	UNIT	QUANTITY	PRICE	AMOUNT
1	SITE PREP AND MOBILIZATION (20%)	LS	1	$193,000.00	$193,000.00
2	AIRFIELD PAVEMENT	SY	6,500	$120.00	$780,000.00
3	EARTHWORK - FILL	CY	2,000	$20.00	$40,000.00
4	CLEARING AND GRUBBING	ACRE	8	$10,000.00	$80,000.00
5	SEEDING AND MULCHING	ACRE	5	$3,000.00	$15,000.00
6	DRAINAGE STRUCTURES	LS	1	$50,000.00	$50,000.00
				CONSTRUCTION TOTAL	$1,158,000.00
				ENGINEERING & ADMIN (15%)	$173,700.00
				TOTAL	**$1,331,700.00**
				8 YEAR - INFLATION (3%)	$355,258.00
				TOTAL	**$1,686,958.00**

T-HANGARS

#	DESCRIPTION	UNIT	QUANTITY	PRICE	AMOUNT
1	SITE PREP AND MOBILIZATION (20%)	LS	1	$1,545,880.00	$1,545,880.00
3	(53X362) 16-UNIT NESTED T-HANGAR	SF	19,186	$100.00	$1,918,600.00
4	(53X362) 16-UNIT NESTED T-HANGAR	SF	19,186	$100.00	$1,918,600.00
5	(53X362) 16-UNIT NESTED T-HANGAR	SF	19,186	$100.00	$1,918,600.00
6	(53X362) 16-UNIT NESTED T-HANGAR	SF	19,186	$100.00	$1,918,600.00
7	SEEDING AND MULCHING	ACRE	3	$5,000.00	$15,000.00
8	UTILITIES CONNECTION	EA	4	$10,000.00	$40,000.00
				CONSTRUCTION TOTAL	$9,275,280.00
				ENGINEERING & ADMIN (15%)	$1,391,292.00
				TOTAL	**$10,666,572.00**
				8 YEAR - INFLATION (3%)	$2,845,522.00
				TOTAL	**$13,512,094.00**

EKY - BESSEMER AIRPORT
ENGINEER'S ESTIMATE OF PROBABLE COST

2031 SOUTH BOX & T-HANGAR GROUP

AIRFIELD & ACCESS PAVEMENT

#	DESCRIPTION	UNIT	QUANTITY	PRICE	AMOUNT
1	SITE PREP AND MOBILIZATION (20%)	LS	1	$301,600.00	$301,600.00
2	AIRFIELD PAVEMENT	SY	3,800	$120.00	$456,000.00
3	EARTHWORK - FILL	CY	22,000	$20.00	$440,000.00
4	SEEDING AND MULCHING	ACRE	4	$3,000.00	$12,000.00
5	DRAINAGE STRUCTURES	LS	1	$75,000.00	$75,000.00
6	ROADWAY PAVEMENT WITH SINGLE SIDED PARKING	LF	1500	$350.00	$525,000.00
				CONSTRUCTION TOTAL	$1,809,600.00
				ENGINEERING & ADMIN (15%)	$271,440.00
				TOTAL	**$2,081,040.00**
				9 YEAR - INFLATION (3%)	$634,245.00
				TOTAL	**$2,715,285.00**

T-HANGARS

#	DESCRIPTION	UNIT	QUANTITY	PRICE	AMOUNT
1	SITE PREP AND MOBILIZATION (20%)	LS	1	$386,720.00	$386,720.00
2	(53X362) 16-UNIT NESTED T-HANGARS	SF	19,186	$100.00	$1,918,600.00
3	SEEDING AND MULCHING	ACRE	1	$5,000.00	$5,000.00
4	UTILITIES CONNECTION	EA	1	$10,000.00	$10,000.00
				CONSTRUCTION TOTAL	$2,320,320.00
				ENGINEERING & ADMIN (15%)	$348,048.00
				TOTAL	**$2,668,368.00**
				9 YEAR - INFLATION (3%)	$813,247.00
				TOTAL	**$3,481,615.00**

FUELING FACILITY

#	DESCRIPTION	UNIT	QUANTITY	PRICE	AMOUNT
1	SITE PREP AND MOBILIZATION (20%)	LS	1	$53,000.00	$53,000.00
2	FUEL TANKS & STATION	LS	1	$250,000.00	$250,000.00
3	SEEDING AND MULCHING	ACRE	1	$5,000.00	$5,000.00
4	UTILITIES CONNECTION	EA	1	$10,000.00	$10,000.00
				CONSTRUCTION TOTAL	$318,000.00
				ENGINEERING & ADMIN (15%)	$47,700.00
				TOTAL	**$365,700.00**
				9 YEAR - INFLATION (3%)	$111,456.00
				TOTAL	**$477,156.00**

45'X45' BOX HANGAR GROUP

#	DESCRIPTION	UNIT	QUANTITY	PRICE	AMOUNT
1	SITE PREP AND MOBILIZATION (20%)	LS	1	$213,500.00	$213,500.00
2	(45X45) BOX HANGAR	SF	2,025	$100.00	$202,500.00
3	(45X45) BOX HANGAR	SF	2,025	$100.00	$202,500.00
4	(45X45) BOX HANGAR	SF	2,025	$100.00	$202,500.00
5	(45X45) BOX HANGAR	SF	2,025	$100.00	$202,500.00
6	(45X45) BOX HANGAR	SF	2,025	$100.00	$202,500.00
7	SEEDING AND MULCHING	ACRE	1	$5,000.00	$5,000.00
8	UTILITIES CONNECTION	EA	5	$10,000.00	$50,000.00
				CONSTRUCTION TOTAL	$1,281,000.00
				ENGINEERING & ADMIN (15%)	$192,150.00
				TOTAL	**$1,473,150.00**
				9 YEAR - INFLATION (3%)	$448,977.00
				TOTAL	**$1,922,127.00**

100'X100' BOX HANGAR GROUP

#	DESCRIPTION	UNIT	QUANTITY	PRICE	AMOUNT
1	SITE PREP AND MOBILIZATION (20%)	LS	1	$405,000.00	$405,000.00
2	(100X100) BOX HANGAR	SF	10,000	$100.00	$1,000,000.00
3	(100X100) BOX HANGAR	SF	10,000	$100.00	$1,000,000.00
4	SEEDING AND MULCHING	ACRE	1	$5,000.00	$5,000.00
5	UTILITIES CONNECTION	EA	2	$10,000.00	$20,000.00
				CONSTRUCTION TOTAL	$2,430,000.00
				ENGINEERING & ADMIN (15%)	$364,500.00
				TOTAL	**$2,794,500.00**
				9 YEAR - INFLATION (3%)	$851,689.00
				TOTAL	**$3,646,189.00**

EKY - BESSEMER AIRPORT
ENGINEER'S ESTIMATE OF PROBABLE COST

2032 L-TAXILANE & BOX HANGAR GROUP

L-TAXILANE

#	DESCRIPTION	UNIT	QUANTITY	PRICE	AMOUNT
1	SITE PREP AND MOBILIZATION (20%)	LS	1	$236,800.00	$236,800.00
2	AIRFIELD PAVEMENT	SY	8,200	$120.00	$984,000.00
3	EARTHWORK - FILL	CY	3,000	$20.00	$60,000.00
4	SEEDING AND MULCHING	ACRE	5	$3,000.00	$15,000.00
5	DRAINAGE STRUCTURES	LS	1	$50,000.00	$50,000.00
6	ELECTRICAL	LS	1	$75,000.00	$75,000.00

CONSTRUCTION TOTAL	$1,420,800.00
ENGINEERING & ADMIN (15%)	$213,120.00
TOTAL	**$1,633,920.00**
10 YEAR - INFLATION (3%)	$561,932.00
TOTAL	**$2,195,852.00**

100'X100' BOX HANGAR GROUP

#	DESCRIPTION	UNIT	QUANTITY	PRICE	AMOUNT
1	SITE PREP AND MOBILIZATION (20%)	LS	1	$1,215,000.00	$1,215,000.00
2	(100X100) BOX HANGAR	SF	10,000	$100.00	$1,000,000.00
3	(100X100) BOX HANGAR	SF	10,000	$100.00	$1,000,000.00
4	(100X100) BOX HANGAR	SF	10,000	$100.00	$1,000,000.00
5	(100X100) BOX HANGAR	SF	10,000	$100.00	$1,000,000.00
6	(100X100) BOX HANGAR	SF	10,000	$100.00	$1,000,000.00
7	(100X100) BOX HANGAR	SF	10,000	$100.00	$1,000,000.00
8	SEEDING AND MULCHING	ACRE	3	$5,000.00	$15,000.00
9	UTILITIES CONNECTION	EA	6	$10,000.00	$60,000.00

CONSTRUCTION TOTAL	$7,290,000.00
ENGINEERING & ADMIN (15%)	$1,093,500.00
TOTAL	**$8,383,500.00**
10 YEAR - INFLATION (3%)	$2,883,223.00
TOTAL	**$11,266,723.00**

EKY - BESSEMER AIRPORT
ENGINEER'S ESTIMATE OF PROBABLE COST

2033 ARFF & BOX HANGAR GROUP

ARFF BUILDING

#	DESCRIPTION	UNIT	QUANTITY	PRICE	AMOUNT
1	SITE PREP AND MOBILIZATION (20%)	LS	1	$725,000.00	$725,000.00
2	(60X60) ARFF BUILDING	SF	3,600	$1,000.00	$3,600,000.00
3	SEEDING AND MULCHING	ACRE	1	$5,000.00	$5,000.00
4	UTILITIES CONNECTION	LS	1	$20,000.00	$20,000.00
				CONSTRUCTION TOTAL	$4,350,000.00
				ENGINEERING & ADMIN (15%)	$652,500.00
				TOTAL	**$5,002,500.00**
				11 YEAR - INFLATION (3%)	$1,922,130.00
				TOTAL	**$6,924,630.00**

100'X100' BOX HANGAR GROUP

#	DESCRIPTION	UNIT	QUANTITY	PRICE	AMOUNT
1	SITE PREP AND MOBILIZATION (20%)	LS	1	$757,800.00	$757,800.00
2	(100X100) BOX HANGAR	SF	10,000	$100.00	$1,000,000.00
3	(100X100) BOX HANGAR	SF	10,000	$100.00	$1,000,000.00
4	(100X100) BOX HANGAR	SF	10,000	$100.00	$1,000,000.00
5	EARTHWORK - FILL	CY	35,000	$20.00	$700,000.00
6	CLEARING AND GRUBBING	ACRE	3	$10,000.00	$30,000.00
7	SEEDING AND MULCHING	ACRE	3	$3,000.00	$9,000.00
8	DRAINAGE STRUCTURES	LS	1	$20,000.00	$20,000.00
9	UTILITIES CONNECTION	EA	3	$10,000.00	$30,000.00
				CONSTRUCTION TOTAL	$4,546,800.00
				ENGINEERING & ADMIN (15%)	$682,020.00
				TOTAL	**$5,228,820.00**
				11 YEAR - INFLATION (3%)	$2,009,090.00
				TOTAL	**$7,237,910.00**

EKY - BESSEMER AIRPORT
ENGINEER'S ESTIMATE OF PROBABLE COST

2034 NE LAND ACQUISITION & ROAD RELOCATION

#	DESCRIPTION	UNIT	QUANTITY	PRICE	AMOUNT
1	PROPERTY ACQUISITION	ACRE	31	$10,000.00	$310,000.00
2	SITE PREP & MOBILIZATION (20%)	LS	1	$1,105,800.00	$1,105,800.00
3	EARTHWORK - FILL	CY	200,000	$20.00	$4,000,000.00
4	ROADWAY PAVEMENT	LF	3,600	$285.00	$1,026,000.00
5	CLEARING AND GRUBBING	ACRE	31	$10,000.00	$310,000.00
6	SEEDING AND MULCHING	ACRE	31	$3,000.00	$93,000.00
7	DRAINAGE STRUCTUES	LS	1	$100,000.00	$100,000.00
				CONSTRUCTION TOTAL	$6,944,800.00
				ENGINEERING & ADMIN (15%)	$1,041,720.00
				TOTAL	**$7,986,520.00**
				12 YEAR - INFLATION (3%)	$3,400,348.00
				TOTAL	**$11,386,868.00**

EKY - BESSEMER AIRPORT
ENGINEER'S ESTIMATE OF PROBABLE COST

2035 NORTH APRON & ACCESS ROAD PHASE 2

APRON AND ACCESS ROAD

#	DESCRIPTION	UNIT	QUANTITY	PRICE	AMOUNT
1	SITE PREP AND MOBILIZATION (20%)	LS	1	$4,849,040.00	$4,849,040.00
2	AIRIFIELD PAVEMENT	SY	50,585	$120.00	$6,070,200.00
3	EARTHWORK - FILL	CY	850,000	$20.00	$17,000,000.00
5	ROADWAY PAVEMENT WITH SINGLE SIDED PARKING	LF	2000	$350.00	$700,000.00
6	CLEARING AND GRUBBING	ACRE	22	$10,000.00	$220,000.00
7	SEEDING AND MULCHING	ACRE	11	$5,000.00	$55,000.00
8	DRAINAGE STRUCTURES	LS	1	$100,000.00	$100,000.00
9	ELECTRICAL	LS	1	$100,000.00	$100,000.00
				CONSTRUCTION TOTAL	$29,094,240.00
				ENGINEERING & ADMIN (15%)	$4,364,136.00
				TOTAL	**$33,458,376.00**
				13 YEAR - INFLATION (3%)	$15,676,377.00
				TOTAL	**$49,134,753.00**

80'X80' BOX HANGARS

#	DESCRIPTION	UNIT	QUANTITY	PRICE	AMOUNT
1	SITE PREP AND MOBILIZATION (20%)	LS	1	$1,432,400.00	$1,432,400.00
2	(80X80) BOX HANGAR	SF	6,400	$100.00	$640,000.00
3	(80X80) BOX HANGAR	SF	6,400	$100.00	$640,000.00
4	(80X80) BOX HANGAR	SF	6,400	$100.00	$640,000.00
5	(80X80) BOX HANGAR	SF	6,400	$100.00	$640,000.00
6	(80X80) BOX HANGAR	SF	6,400	$100.00	$640,000.00
7	(80X80) BOX HANGAR	SF	6,400	$100.00	$640,000.00
8	(80X80) BOX HANGAR	SF	6,400	$100.00	$640,000.00
9	(80X80) BOX HANGAR	SF	6,400	$100.00	$640,000.00
10	(80X80) BOX HANGAR	SF	6,400	$100.00	$640,000.00
11	(80X80) BOX HANGAR	SF	6,400	$100.00	$640,000.00
12	(80X80) BOX HANGAR	SF	6,400	$100.00	$640,000.00
13	SEEDING AND MULCHING	ACRE	4	$3,000.00	$12,000.00
14	UTILITIES CONNECTION	EA	11	$10,000.00	$110,000.00
				CONSTRUCTION TOTAL	$8,594,400.00
				ENGINEERING & ADMIN (15%)	$1,289,160.00
				TOTAL	**$9,883,560.00**
				13 YEAR - INFLATION (3%)	$4,630,781.00
				TOTAL	**$14,514,341.00**

EKY - BESSEMER AIRPORT
ENGINEER'S ESTIMATE OF PROBABLE COST

2036 RUNWAY & PARALLEL TAXIWAY EXTENSION

#	DESCRIPTION	UNIT	QUANTITY	PRICE	AMOUNT
1	SITE PREP AND MOBILIZATION (20%)	LS	1	$1,699,000.00	$1,699,000.00
2	AIRFIELD PAVEMENT	SY	17,000	$120.00	$2,040,000.00
3	EARTHWORK - CUT	CY	446,000	$10.00	$4,460,000.00
4	CLEARING AND GRUBBING	ACRE	15	$10,000.00	$150,000.00
5	SEEDING AND MULCHING	ACRE	15	$3,000.00	$45,000.00
6	DRAINAGE STRUCTURES	LS	1	$100,000.00	$100,000.00
7	NAVAIDS	LS	1	$1,000,000.00	$1,000,000.00
8	PAPI/REIL	LS	1	$500,000.00	$500,000.00
9	ELECTRICAL	LS	1	$200,000.00	$200,000.00
				CONSTRUCTION TOTAL	$10,194,000.00
				ENGINEERING & ADMIN (15%)	$1,529,100.00
				TOTAL	**$11,723,100.00**
				14 YEAR - INFLATION (3%)	$6,009,141.00
				TOTAL	**$17,732,241.00**

EKY - BESSEMER AIRPORT
ENGINEER'S ESTIMATE OF PROBABLE COST

2037 NW LAND ACUISITION & PARALLEL TAXIWAY CONSTRUCTIOI

#	DESCRIPTION	UNIT	QUANTITY	PRICE	AMOUNT
1	LAND ACQUISITION	ACRE	53	$10,000.00	$530,000.00
2	SITE PREP AND MOBILIZATION (20%)	LS	1	$3,567,600.00	$3,567,600.00
3	AIRFIELD PAVEMENT	SY	8,400	$120.00	$1,008,000.00
4	EARTHWORK - FILL	CY	825,000	$20.00	$16,500,000.00
5	CLEARING AND GRUBBING	ACRE	10	$10,000.00	$100,000.00
6	SEEDING AND MULCHING	ACRE	10	$3,000.00	$30,000.00
7	DRAINAGE STRUCTURES	LS	1	$100,000.00	$100,000.00
8	ELECTRICAL	LS	1	$100,000.00	$100,000.00
				CONSTRUCTION TOTAL	$21,935,600.00
				ENGINEERING & ADMIN (15%)	$3,290,340.00
				TOTAL	**$25,225,940.00**
				15 YEAR - INFLATION (3%)	$14,075,253.00
				TOTAL	**$39,301,193.00**

EKY - BESSEMER AIRPORT
ENGINEER'S ESTIMATE OF PROBABLE COST

2038 NW ROAD, PARKING LOT, AND APRON

#	DESCRIPTION	UNIT	QUANTITY	PRICE	AMOUNT
1	SITE PREP AND MOBILIZATION (20%)	LS	1	$18,679,900.00	$18,679,900.00
2	AIRIFIELD PAVEMENT	SY	43,500	$120.00	$5,220,000.00
3	EARTHWORK - FILL	CY	4,250,000	$20.00	$85,000,000.00
4	ROADWAY PAVEMENT WITH DOUBLE SIDED PARKING	LF	1,650	$450.00	$742,500.00
5	ROADWAY PAVEMENT	LF	6400	$285.00	$1,824,000.00
6	CLEARING AND GRUBBING	ACRE	30	$10,000.00	$300,000.00
7	SEEDING AND MULCHING	ACRE	21	$3,000.00	$63,000.00
8	DRAINAGE STRUCTURES	LS	1	$125,000.00	$125,000.00
9	ELECTRICAL	LS	1	$125,000.00	$125,000.00
				CONSTRUCTION TOTAL	$112,079,400.00
				ENGINEERING & ADMIN (15%)	$16,811,910.00
				TOTAL	**$128,891,310.00**
				16 YEAR - INFLATION (3%)	$77,941,405.00
				TOTAL	**$206,832,715.00**

EKY - BESSEMER AIRPORT
ENGINEER'S ESTIMATE OF PROBABLE COST

2039 MRO & PARKING LOT

#	DESCRIPTION	UNIT	QUANTITY	PRICE	AMOUNT
1	SITE PREP AND MOBILIZATION (20%)	LS	1	$11,542,305.00	$11,542,305.00
2	EARTHWORK - FILL	CY	10,000	$20.00	$200,000.00
3	(542.5X300) MRO BUILDING	SF	162,750	$350.00	$56,962,500.00
4	ROADWAY PAVEMENT	LF	565	$285.00	$161,025.00
5	ROADWAY PAVEMENT WITH DOUBLE SIDED PARKING	LF	540	$450.00	$243,000.00
6	SEEDING AND MULCHING	ACRE	5	$3,000.00	$15,000.00
7	DRAINAGE STRUCTURES	LS	1	$30,000.00	$30,000.00
8	UTILITIES	LS	1	$100,000.00	$100,000.00
				CONSTRUCTION TOTAL	$69,253,830.00
				ENGINEERING & ADMIN (15%)	$10,388,075.00
				TOTAL	**$79,641,905.00**
				17 YEAR - INFLATION (3%)	$51,994,029.00
				TOTAL	**$131,635,934.00**

EKY - BESSEMER AIRPORT
ENGINEER'S ESTIMATE OF PROBABLE COST

2040 WEST PARALLEL TAXIWAY

#	DESCRIPTION	UNIT	QUANTITY	PRICE	AMOUNT
1	SITE PREP AND MOBILIZATION (20%)	LS	1	$8,974,000.00	$8,974,000.00
2	AIRFIELD PAVEMENT	SY	27,500	$120.00	$3,300,000.00
3	EARTHWORK - FILL	CY	2,000,000	$20.00	$40,000,000.00
4	CLEARING AND GRUBBING	ACRE	45	$10,000.00	$450,000.00
5	SEEDING AND MULCHING	ACRE	40	$3,000.00	$120,000.00
6	DRAINAGE STRUCTURES	LS	1	$250,000.00	$250,000.00
7	ELECTRICAL	LS	1	$750,000.00	$750,000.00
				CONSTRUCTION TOTAL	$53,844,000.00
				ENGINEERING & ADMIN (15%)	$8,076,600.00
				TOTAL	**$61,920,600.00**
				18 YEAR - INFLATION (3%)	$43,495,077.00
				TOTAL	**$105,415,677.00**