RP023-25
REQUEST FOR PROPOSALS (RFP)
2.046 Acre Site with Existing Improvements at Gwinnett County Airport- Briscoe Field (LZU)
520 Briscoe Boulevard

SECTION I – INSTRUCTIONS

1. **DESCRIPTION – STATEMENT OF NEED:**
   - **1.1** Gwinnett County ("County") and the Gwinnett County Airport Authority ("Authority") invite responses to this Request for Proposals (RFP) from qualified firms ("Respondents") desiring to finance, build, manage, and operate a commercial general aviation business or aircraft hangar facility at Gwinnett County Airport – Briscoe Field ("Airport" or "LZU"). The airport is offering a 2.046-acre parcel of land that contains an existing hangar building and ramp space. The property can be leased and developed in accordance with the Proposed Airport Lease Agreement ("Lease") appearing in Exhibit A – Sample Lease, and all other provisions of this RFP.

   - **1.2** In addition to the Lease and the provisions of the RFP, proposers will also need to meet the responsibilities described below which include but are not limited to:
     A. Adherence to the Airport's Minimum Standards (Exhibit B)
     B. Adherence to the Airport's Master Plan (Exhibit C)
     C. Adherence to the Airport's Architectural Standards (Exhibit D)
     D. Adherence to the Federal Aviation Administration's (FAA's) standards for aviation use (e.g., residential, and non-aviation related retail development is prohibited), and the FAA's Policy on Non-Aeronautical Use of Airport Hangars https://www.govinfo.gov/content/pkg/FR-2016-06-15/pdf/2016-14133.pdf

   - **1.3** The County and Authority will not pay for the preparation of any information submitted by a Respondent or for the County's and/or Authority's use of that information.

2. **SCHEDULE OF EVENTS:**

   Public Posting of RFP ***August 27, 2025***

   Pre-Proposal Conference

In person at 600 Briscoe Blvd., Lawrenceville, GA 30046

10:00 a.m. (EDT) September 12, 2025

Site Tour ***Immediately Following the Pre-Proposal Conference.***

Site Tour Address: 520 Briscoe Blvd. Lawrenceville, GA 30046

Written Questions Due Date ***September 15, 2025 at 4:00 p.m.***

RFP Due Date ***September 23, 2025 at 2:50 p.m.***

The County and/or Authority reserves the right to change dates and/or locations as necessary.

3. PRE-PROPOSAL MEETING:

A Pre-Proposal Meeting will be held in person at 600 Briscoe Blvd., Lawrenceville, GA 30046 on the date and time listed above in Section 2 – Schedule of Events.

To request a reasonable accommodation or an alternative format for the pre-proposal meeting or the site tour (see below), please contact the County's ADA coordinator, Mr. Matthew Eason, 75 Langley Drive, Lawrenceville, GA 30046 at 770.822.8165 or at Matthew.Eason@GwinnettCounty.com no later than seven (7) working days prior to the meeting and/or site tour.

Attendance at the pre-proposal meeting or site tour (see below) is not required to submit a proposal.

4. SITE TOUR:

In addition to the Pre-Proposal Meeting, a site tour of the area will be offered immediately following the Pre-Proposal Meeting.

Questions will not be taken during the site tour. The site tour is an opportunity for Respondents to see the site in person, and to develop any questions that can then be submitted in writing to the Purchasing Representative. The site tour will be limited to the exterior of the building only. In lieu of having access to the interior of the building the County has provided a comprehensive report of the building conditions. This can be found in Exhibit E and if you need more information on a specific item please submit it as a question.

5. INQUIRIES:

All questions that arise relating to this RFP should be directed in writing via e-mail or U.S. Mail to the Purchasing Representative:

Mr. Michael Milstein, Purchasing Associate II

75 Langley Drive, 2nd Floor.
Lawrenceville, GA 30046
Michael.Milstein@GwinnettCounty.com

All questions must be received by the due date indicated in Section 2.

No informal contact initiated by Respondents on the proposed service will be allowed with members of the County or Airport Authority from the distribution of this RFP until after the closing date and time for the submission of responses. All questions concerning the RFP, or issues related to this RFP must be presented in **writing** to the Purchasing Representative.

The Purchasing Representative will answer written inquiries in an addendum and publish any addendums on the Purchasing Webpage to ensure all parties have the same information available to them.

6. PUBLIC RECORD:

All responses submitted in response to this RFP will become the property of Gwinnett County. All information submitted in response to this RFP will be kept confidential until final award or other public action by the Gwinnett County Board of Commissioners in accordance with the Georgia Open Records Act. By submitting a proposal, Respondent acknowledges that all hard copy and electronic documents, correspondence, and audio recordings will become part of the files subject to open records requests in accordance with the Georgia Open Records Act.

7. RESPONDENT EXPERIENCE:

The County and Authority encourages interested parties with a record of accomplishment in operating a commercial general aviation business or aircraft hangar facility to respond to this RFP.

8. GENERAL INFORMATION:

A. Disclaimer: There is no warranty or representation as to the accuracy of the information included in this RFP. Any site plans depicted herein are illustrative and include approximations which are subject to change. It is the responsibility of the Respondent to visit the site during the timeframe specified in the notice for information.

B. This RFP, submissions from Respondents to this RFP, and any relationship between the County/Authority and Respondent arising from or connected or related to this RFP, are subject to the specific limitations and representations expressed below, as well as the terms contained elsewhere in this RFP. By participating in the selection process, Respondents are deemed to accept and agree to these conditions. By submitting a response to this RFP, the entity acknowledges and accepts Gwinnett County's rights as set forth in the RFP.

C. County/Authority reserves the right, in its sole discretion, without liability, to qualify or reject any or all the RFP responses. This RFP shall not be construed in any manner to create an obligation on the part of the County/Authority to enter into any agreement, nor to implement any of the actions contemplated herein, nor to serve as a basis for any claim whatsoever for reimbursement of costs for efforts expended in preparing a response to the RFP or participating in the selection process.

D. County/Authority reserves the right in its sole discretion to hold discussions with, to obtain information from, to request presentations from, and to conduct negotiations with, any or all Respondents that County/Authority deems appropriate. County/Authority reserves the right, as it deems its interests may require in its sole discretion, to accept or reject any or all submissions, to waive any informality, informalities or nonconformity in the submissions received, and to accept or reject any or all items in a submission.

E. Failure to respond to any of the items required by the RFP could result in a Respondent's RFP response being rejected. In all events, the County/Authority shall not be liable for any costs associated with the preparation, clarification, or negotiation of responses submitted to this RFP.

F. A response to this RFP is not an offer to enter into an agreement with any party and cannot be accepted to form a binding contract. This document is not an offer to enter into an agreement with any party. No agreements or understandings between County/Authority and the selected Respondent(s) shall be binding until after Gwinnett's Board of Commissioners, in a public meeting, has authorized binding documents that will be executed by all appropriate parties. County/Authority reserves the right to reject any and all submittals and to waive any immaterial defects and irregularities in proposals at any time in its sole discretion.

G. County/Authority will not reimburse any party for costs incurred in responding to this RFP, including the development of architectural or planning documents or drawings.

SECTION II – SCOPE OF PROPOSALS

1. **INTRODUCTION:**
   Gwinnett County owns and operates LZU and is requesting proposals from qualified Respondents to operate a commercial general aviation business or private aircraft hangar facility.

2. **BACKGROUND:**
   Gwinnett County is a cosmopolitan community in the northeast metropolitan Atlanta area that is home to a vibrant, diverse blend of people and places. It is the second most populous county in Georgia and has been one of the fastest growing counties in the United States for several decades.

   LZU is a general aviation reliever airport for Hartsfield-Jackson International Airport (ATL). It is categorized by the FAA as an airport of national significance and is the third busiest airport in Georgia based on number of operations, trailing only DeKalb Peachtree (PDK) airport and Atlanta Hartsfield Jackson International Airport (ATL).

   The airport is located on approximately 500 acres northeast of the city of Lawrenceville adjacent to Georgia State Route 316. The airport has a single 6,000-foot long by 100-foot-wide grooved asphalt runway with a dual wheel landing capacity of 120,000 lbs. Runway 25 has a full Instrument Landing System (ILS). The airport has an Air Traffic Control Tower that is in operation from 7:00 a.m. to 9:00 p.m. year-round.

3. **SITE DESCRIPTION:**
   The area available for lease is a 2.046-acre parcel of land that contains an existing hangar building, ramp space, and taxi lane. The site is located on the South side of the airfield and has access to the runways via Taxiway Whiskey. Electric, water, phone/internet, and sewer are located at the building (Respondent is responsible to verify location of required utilities).

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FIGURE 1

FIGURE 2

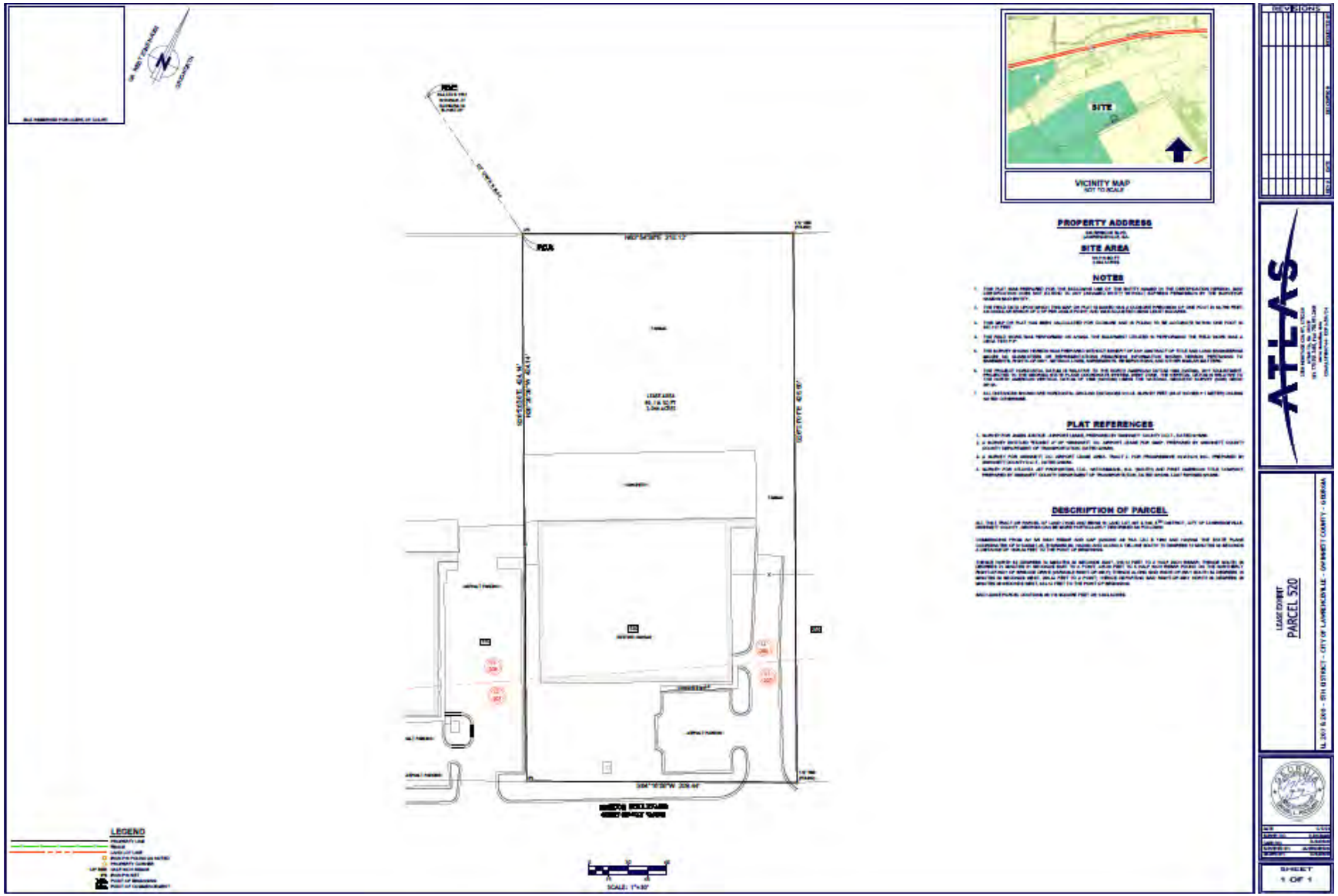
SITE
VICINITY MAP
PROPERTY ADDRESS
SITE AREA
NOTES
PLAT REFERENCES
DESCRIPTION OF PARCEL
LEGEND
LEASE EXHIBIT
PARCEL 520
ATLAS
SHEET
1 OF 1

FIGURE 3

The height of any proposed developments on the leased area will be restricted by Federal Aviation Administration (FAA) airspace-related restrictions. It is up to the Respondent to do their due diligence on the requirements. The development area is offered "as is" and in its present condition. The County and Authority make no warrants regarding the condition of the parcel(s) including, but not limited to, its soil condition or existing utilities.

The successful Respondent must submit a Federal Aviation Administration (FAA) Form 7460 and receive a Determination of No Hazard from the FAA **PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITIES**. This requirement is to ensure the construction does not create an obstruction to air navigation, operationally impact the airport, or cause interference with any radio navigation aids.

4. PERMITTED USES

The lease shall permit the successful Respondent to use the leased premises for the operation of a commercial aviation related business in accordance with the airport's Minimum Standards, or to operate an aircraft storage hangar. Any stored aircraft shall be airworthy and comply with the FAA's Policy on Non-Aeronautical Use of Airport Hangars. The successful Respondent may use the facility for general office purposes related to aircraft operations.

The successful Respondent may sublease use of the hangar(s) to third parties for aviation related purposes. Any sublease, sale, or transfer of the Lease **will require written approval by the County and Authority.**

The successful Respondent shall be responsible for and shall pay for maintenance and repair of land, structure, utilities, and facilities located upon the premises during the term of the subject Lease. The successful Respondent shall be responsible for all grass cutting, landscaping, and routine cleaning of the lease premises.

5. IMPROVEMENTS TO BE CONSTRUCTED BY SELECTED RESPONDENT:

The Airport Authority has selected the following colors for all hangar construction:
Body Color (main building color) – Sherwin Williams Monorail Silver (SW 7663)
Accent Color (hangar doors, eaves above doors or entrance ways, etc.) – Sherwin Williams Salty Dog (SW 9177)
Trim Color (window trim, flashings, etc.) – Sherwin Williams Gauntlet Grey (SW 7019)

Proposals electing to keep existing structures will be required to be painted in these colors. Any new hangar construction will be required to be painted in these colors. Hangar color selection is not negotiable.

A fuel farm or other permanent fueling facility will NOT be considered on this site.

If additional utilities are required at the site, the selected Respondent will finance, design, and construct all required additional utilities including, but not limited to, water, sanitary sewer, telephone, internet, and electric power at no cost to the County/Authority.

A facility condition assessment report (report) has been conducted by a professional building inspection firm. A copy of the report is attached (Exhibit E). It is the desire of the County and Airport Authority to have the facility brought into good repair (if the proposer elects to keep the existing structures). To

ensure the facility is brought into good repair, the County/Airport Authority desires to have ALL the repairs or improvements identified in the report accomplished.

An appraisal of the property in an "as-is" condition has been prepared (Exhibit F), and a triple-net fair market value monthly rent of $20,041.67 was determined. In lieu of charging the appraised monthly rent, the County is proposing to charge a rental rate of $3,950/month (a difference of $16,091.67) in exchange for proposers accomplishing all the repairs/improvements identified in the report **PRIOR to taking occupancy of the hangar.** Responses that propose making improvements after occupying the hangar will be deemed non-responsive.

6. LEASE TERMS:

The Lease is offered as a 25-year term. Up to three (3) additional 5-year renewals may be added to the lease term for a maximum term of 40 years. Any additional 5-year renewal, above the initial 25-year term, must be justified based on the improvements being made to the site or other investments being made that will benefit the airport and County/Authority to justify the additional term. For comparison/reference recent leases have required multi-million-dollar improvements to justify additional terms beyond 25 years.

Accomplishing the repairs identified in the facility condition assessment report WILL NOT be considered a justification for 5-year renewals, as a rental offset is being given to compensate Respondents for those repairs.

40 years is the maximum lease term, and no further extensions will be provided beyond 40 years. At the conclusion of the lease term, the leasehold and ALL improvements shall revert to County ownership.

The minimum rent offer that will be accepted is $3,950 per month. Proposals offering a rate less than $3,950 per month will be deemed non-responsive. The lease rate will include a Consumer Price Index increase every three (3) years, and every ten (10) years there will be a provision to have the rent set by a Market Rent Analysis. Respondents are advised that at the end of the initial ten (10) year term the rent will increase to fair market value during the Market Rent Analysis (as an example, an increase from $3,950 per month to $20,041.67 per month or a 407% increase).

The rental amount above is a "triple-net" rent with the tenant responsible for all expenses to include utilities, insurance, taxes, and all repairs and maintenance.

Therefore, the successful Respondent shall be responsible for and shall pay for all maintenance and repair of the land, structures, utilities, and facilities located upon the leasehold during the term of the Lease. The successful Respondent shall be responsible for all grass cutting, landscaping, trash removal, and routine cleaning of the lease premises. The Respondent shall be responsible for all taxes and assessments to the site.

Respondent must meet the insurance requirements set forth in the Lease document. Insurance requirements may vary depending on the type of activity proposed/value of aircraft being stored.

The successful Respondent will be required to certify that the hangar will serve as the Primary Home Base (as that term is defined by O.C.G.A. Section 48-5-16(e)) for all aircraft parked in the hangar or provide an explanation as to any aircraft for which such a certification cannot be made. The County shall solely decide whether such certification is acceptable.

7. EVALUATION CRITERIA

The selection committee will consist of four evaluators from Gwinnett County, and the Gwinnett Airport Authority, with one (1) independent evaluator designated by the County's Purchasing Division. The "independent evaluator" will be a Gwinnett County staff member outside of the Department of Transportation. All information pertaining to this RFP will be subject to Open Records after award. The proposals will be evaluated to select the Respondent that rates highest according to the criteria listed in this document. The County will evaluate all proposals based on the first six criteria; then, if necessary, may invite several of the highest scoring firms for interviews and presentations.

If interviews/presentations are necessary, the number of firms invited will be at the discretion of the selection committee. If interviews are necessary, the dates and nature of the interview requirements will then be relayed to the invited firms. The interviews and presentations will be conducted, and the selection committee will tabulate the results of the interviews with the previous scoring. The highest scoring company/companies will be determined, and the selection committee will make a recommendation of award to the Purchasing Division.

Gwinnett County reserves the right to negotiate price, scope, and schedule with the highest scoring firm(s). If for any reason a recommended firm cannot execute the contract, the County may select a firm with the next highest scoring proposal, etc. until an agreement is reached, and a contract is executed.

Upon the County's award of the contract, the County will present an agreement for execution to the selected Company. If execution of this agreement with the selected Company is unsuccessful, the County will negotiate with the next highest ranked Company and so on until a satisfactory agreement has been reached.

Proposal Evaluation Criteria

Proposals will be evaluated based on the following criteria:

Criteria	**Points**
Terms of Lease	15
Qualifications of the Company and business approach	20
Rent and Financial Benefits to the County	15
Site improvements	20
Intangible Benefits	10
References	20
PROPOSAL TOTAL POINTS	**100 Points**
Interview (If applicable)	15
Maximum Total Points	115

8. CONTRACT AWARD INFORMATION

If the selected Proposer(s) refuses or fails to enter contract negotiations within five (5) days after notification, then Gwinnett County may award the contract to the next highest scoring individual or company.

The period specified above, within which award of contract may be made, is subject to extension by agreement between Gwinnett County, the concerned Proposer, and the Proposer's surety, if applicable.

Gwinnett County will make no guarantees to any Proposer until such time as the Gwinnett County Board of Commissioners approves the negotiated contract.

10. EVALUATION CRITERIA

1) Terms of Lease:

The term of the lease will be for twenty-five (25) years. Options to extend the lease beyond 25 years may be considered if site improvements and other investments justify them. If a proposal requests a term greater than 25 years, Proposers should specifically identify the site improvements, investments, and reasons the term should be extended. This justification should be provided in a narrative or other format to clearly indicate the reasons for an extended term.

As stated previously, accomplishing the repairs identified in the facility condition assessment report WILL NOT be considered a justification for a lease term greater than 25 years, as a rental offset is being given to compensate Respondents for those repairs.

Proposals asking for a term longer than 25 years but not providing justification for the additional term will be scored lower than proposals providing justification.

Examples of items that could be considered justification for additional lease term include, but are not limited to, new construction, presenting a plan to make repairs or rehabilitation of the facilities in the outlying years beyond the scope of the facility condition assessment report, etc.

Forty (40) years is the maximum lease term. No term greater than 40 years will be considered.

All improvements made during the term of the lease will revert to County ownership upon termination of the lease. Therefore, proposals with shorter proposed terms will be scored higher than proposals with longer terms.

2) Qualifications of Company and Business Approach:

The County is seeking a qualified individual or company to finance, build, manage, and operate a commercial general aviation business or aircraft hangar facility at Gwinnett County Airport – Briscoe Field. Each proposer must be able to prove their ability to finance, build, manage and operate a commercial general aviation business or aircraft hangar facility.

Financial ability, previous experience managing a general aviation business and/or aircraft hangar facility will be considered during the proposal evaluation.

Each proposal must contain adequate financial information to assure the County that any proposed aviation business will be successful and that any proposed site improvements/construction can be completed. This should include sources of funding.

Each proposer should also provide a narrative or other sources of information to demonstrate that they understand the Gwinnett County Standard and provide an explanation as to how their facility will meet that Standard.

3) Rent and Financial Benefits to the County:

Rent payments are expected to begin at the start of the lease. The minimum rent offer accepted is $3,950.00 per month. This minimum rent is contingent on the respondent agreeing to complete ALL repairs identified in the facility condition assessment report conducted for the building (Exhibit E). Proposals offering less than $3,950 per month in rent will be deemed non-responsive.

The lease rate will include a Consumer Price Index increase every three (3) years, and every ten (10) years there will be a provision to have the rent set by a Market Rent Analysis. The airport has an appraisal of the property done using an MAI certified appraiser that specializes in aviation property appraisals. Respondents are advised that at the end of the initial ten (10) year term the rent will increase to fair market value during the Market Rent Analysis.

As stated previously, the intent of the County is to have the repairs identified in the assessment report completed. Respondents are strongly encouraged to submit proposals that provide for ALL repairs identified in the report. To aid respondents in accomplishing this, the County is offering a rental rate that is less than the current appraised value. To qualify for the reduced rental rate of $3,950.00 per month, respondents must agree to accomplish all the repairs/improvements identified in the facility condition assessment report **PRIOR to taking occupancy of the hangar.**

Proposals offering to do less than all the repairs/improvements identified in the facility condition assessment report will be considered. However, the rental amount offered by respondents should increase towards the appraised value as the number of repairs/improvements decreases. As an example, a proposal offering to do 100% of the repairs/improvements would be justified to offer $3,950.00 per month in rent, and a proposal to do 0% of the repairs/improvements would be justified to offer $20,041.67 per month in rent. Responses proposing to do repairs/improvements after taking occupancy of the hangar will be deemed non-responsive.

Respondents are reminded that any repairs/improvements identified in the assessment report that they propose to accomplish are expected to be completed PRIOR to taking occupancy of the hangar building.

Proposals offering more repairs will be scored higher than proposals offering more rent. If two proposals offer to do the same number of repairs, then the proposal offering more rent will be scored higher than the one offering less rent but the same number of repairs.

Respondents can also offer to limit the timeframe of the reduced rental payment to less than the 10-year reappraisal period to differentiate their proposals.

In addition to rent, the successful Respondent will be required to certify that the hangar will serve as the Primary Home Base (as that term is defined by O.C.G.A. Section 48-5-16(e)) for all aircraft parked in the hangar and to provide an explanation as to any aircraft for which such a certification cannot be made. Proposals to park higher value aircraft in the hangar(s), or a larger number of aircraft, will be scored higher than proposals with lower value aircraft or less aircraft. An estimated value of aircraft to be parked in the hangar(s) should be provided in the proposal.

4) Site Improvements:

Respondent acknowledges that they are leasing the area in a “as-is” condition. Proposals must meet the airport’s Design and Development Guide, including, but not limited to, painting the exterior to match the following colors:

Body Color (main building color) – Sherwin Williams Monorail Silver (SW 7663)
Accent Color (hangar doors, eaves above doors or entrance ways, etc.) – Sherwin Williams Salty Dog (SW 9177)
Trim Color (window trim, flashings, etc.) – Sherwin Williams Gauntlet Grey (SW 7019)

This color palette was selected by the Gwinnett County Airport Authority with the intent that all airport buildings will eventually be painted this color. Any proposed exterior building colors that do not match this palette WILL NOT BE CONSIDERED.

Respondent is also required to provide landscaping, maintaining the building and other improvements and providing maintenance to the pavements.

A facility condition assessment report (report) has been conducted by a professional building inspection firm. It is the desire of the County and Airport Authority to have the facility brought into good repair (if the proposer elects to keep the existing structures). To ensure the facility is brought into good repair, the County/Airport Authority desires to have ALL the repairs or improvements identified in the report accomplished.

An appraisal of the property in an "as-is" condition has been prepared (Exhibit F), and a triple-net fair market value monthly rent of $20,041.67 was determined. In lieu of charging the appraised monthly rent, the County is proposing to charge a rental rate of $3,950/month (a difference of $16,091.67) in exchange for proposers accomplishing all the repairs/improvements identified in the report **PRIOR to taking occupancy of the hangar.**

Respondents should provide a narrative or other explanation of how they intend to address maintenance items called out in the Facility Condition Assessment Report for the existing hangars. Any maintenance items NOT being addressed should be specifically listed on a list titled Repairs Omitted from Proposal. This list should be included as a separate page within the proposal and should address ALL 13 repair items identified in the assessment (Site Systems Item 3 does not need to be addressed as it is intended as outer-year maintenance and is redundant). In addition to providing the Repairs Omitted from Proposal list, respondents must also provide a detailed explanation as to why a specific repair is being omitted.

A fuel farm will **NOT** be considered on the site.

5) Intangible Benefits

The County/Authority recognizes that tenants may provide benefits to the airport beyond tangible rental and fee payments. To try and foster a positive community relationship with the airport, to try and integrate the airport more completely with the community we serve, and to garner these intangible benefits for the community, proposals providing intangible benefits will be scored higher than proposals that do not provide this type of opportunity.

Provide a description of all programs, services, amenities, commitments, or other community participation projects Respondent participates in or provides. Provide an explanation of how the community, airport, or flying public benefits from the listed programs, services, etc.

As a part of this list please provide a brief narrative that explains the program, service, etc., and why it would be a benefit to the County, Authority, and airport. When writing the narrative assume your audience has no knowledge of aviation, your organization, the program you participate in, etc.

Examples of intangible benefits could include, but are not limited to providing STEM educational opportunities, providing career opportunities to groups that are currently underrepresented, using aircraft to provide Angel Flights, providing employment opportunities to the community, etc.

6) References:

Both personal and professional references may be provided. References should be able to provide information on the financial ability of the proposer to complete proposed site improvements, information on ability of proposer to successfully manage an aviation commercial business (if applicable), and information on proposer's previous experience in aviation and operating a business and/or hangar on an airport.

If Respondent has leased a hangar facility previously, the references in the proposal should indicate what airport the hangar was located at, the address or common name of the facility, and provide a contact name, phone number, and e-mail address for a reference that can answer questions about the Respondent's hangar facility (preferably someone involved in the management of the airport where hangar facility is located).

A total of 3 references should be provided, one of which must be the contact for the leased hangar facility, if applicable.

PROFESSIONAL SERVICES INSURANCE REQUIREMENTS (FOR PROJECTS LESS THAN $5,000,000)

Insurance:
Contractor shall provide evidence of insurance for at least the coverage and amounts set forth below. All insurance shall be maintained in the form and with a company (or companies) satisfactory to the Gwinnett County Board of Commissioners. The Contractor and their Subcontractor's/Vendor's Certificate of Insurance shall require that the County be notified in writing thirty (30) days prior to cancellation, modification or non-renewal of any insurance policy listed on Certificate. Upon request, Contractor shall provide the County with certified copies of all required insurance policies.

A. **Minimum Coverage**

Commercial General Liability (Occurrence Form):	
General Aggregate (other than Prod/Comp Ops Liability)	$2,000,000
Products/Completed Operations Aggregate	$2,000,000
Personal & Advertising Injury Liability	$1,000,000
Each Occurrence	$1,000,000

- Gwinnett County Board of Commissioners to be named as Additional Insured
- Additional Insured Endorsement CG 20 10 (edition dates of 07/04, 04/13, 12/19 or a substitute endorsement providing equivalent coverage) and CG 2037 (edition dates of 07/04, 04/13, 12/19 or a substitute endorsement providing equivalent coverage) must be provided with your Certificate of Insurance.)
- Primary and Non-Contributory Endorsement to be specified in writing
- Dedicated Limits per Project Site or Location (CG 25 03 or CG 25 04)
- Contractual Liability
- Broad Form Property Damage
- Severability of Interest
- Underground, explosion, and collapse coverage
- Personal Injury (deleting both contractual and employee exclusions)
- Incidental Medical Malpractice
- Hostile Fire Pollution Wording
- Include Waiver of Subrogation in favor of Gwinnett County Board of Commissioners
- If project or operations are within 50 ft of a railroad, Contractor is required to name the specific Railroad as an Additional Insured and provide a copy of the Additional Insured Endorsement CG2417 or its equivalent.
- In the event the General Liability insurance required by this Contract is written on a claims-made basis, Contractor warrants that any retroactive date under the policy shall precede the effective date of this Contract; and that either continuous coverage will be maintained or an extended discovery period will be exercised for a period of five (5) years or applicable statute of limitation period following completion of the work.

Automobile Liability to include:
Combined Single Limit – Each Accident $1,000,000

- Comprehensive form providing coverage for bodily injury, death of any person, and property damage arising out of the ownership, maintenance, and use of all owned, non-owned, leased, hired, borrowed vehicles, and any other statutorily required automobile coverage.
- Gwinnett County Board of Commissioners to be named as Additional Insured
- Additional Insured Endorsements must be provided with the Certificate of Insurance
- Coverage to include loading and unloading
- Contractual Liability

Worker's Compensation & Employer's Liability Coverage to include:

Workers Compensation	Georgia State Statutory Limits
Employers Liability	
Bodily Injury by Accident – Each Accident	$ 500,000
Bodily Injury by Disease – Policy Limit	$ 500,000
Bodily Injury by Disease – Each Employee	$ 500,000

- Waiver of Subrogation in favor of Gwinnett County Board of Commissioners

Umbrella/Excess Liability Insurance with policy limits as determined by Contract Sums (higher limits may be required depending on the extent of contract):
Each Occurrence and Aggregate Limit $1,000,000

- Gwinnett County Board of Commissioners to be named as Additional Insured
- Additional Insured Endorsements must be provided with the Certificate of Insurance
- Concurrency of Effective Dates with Primary
- Blanket Contractual Liability
- Drop Down Feature
- Umbrella Policy must be as broad as the primary policy.
- Coverage excess over General Liability, Business Auto Liability, and Employers Liability
- In the event the Umbrella/Excess Liability insurance required by this Contract is written on a claims-made basis, Contractor warrants that any retroactive date under the policy shall precede the effective date of this Contract; and that either continuous coverage will be maintained or an extended discovery period will be exercised for a period of five (5) years or applicable statute of limitation period following completion of the work.

Builder's Risk Insurance or Installation Floater Insurance (with the exception for work where the County secures project Builders Risk):
On all new structures, bridges, overpasses, culverts, and railroad crossings, the Contractor shall purchase and maintain insurance in an amount sufficient to cover the full contract amount, from a company licensed, and authorized to do business by the Office of the Insurance and Safety Fire Commissioner of Georgia ("Insurance Commissioner"), with the exception of non-admitted carriers, in which case the broker placing coverage should be licensed by the Insurance Commissioner. All agents placing coverage should be licensed by the Insurance Commissioner, either as a resident or non-resident.

Property Insurance:
The Contractor is fully and solely responsible for any physical loss or damage to all tools, equipment, construction office trailers and their contents, vehicles or any other personal property utilized in the

performance of the Contractor's work. Contractor agrees to waive its rights of recovery and cause its insurers, if any, to waive their rights of subrogation against Owner and Company for any such damage or loss, however caused.

Professional Liability (Errors and Omissions): Claim/Wrongful Act:
$1,000,000 limit of insurance General Aggregate: $2,000,000 limit of insurance

- In the event that any professional liability insurance required by this Contract is written on a claims-made basis, Contractor warrants that any retroactive date under the policy shall precede the effective date of this Contract; and that either continuous coverage will be maintained, or an extended discovery period will be exercised for a period of five (5) years or applicable statute of limitation period following completion of the work, unless such coverage becomes unavailable in the market on a commercially reasonable basis, in which case the Contractor shall notify the Insurance Manager. If the Director of the Department for which the Contractor is doing the work and the Insurance Manager both agree that such coverage is not commercially reasonably available (such agreement not to be unreasonably withheld), the Contractor may for the period such coverage is not commercially reasonably available, elect not to provide such coverage.

Pollution Liability Insurance: Applies if scope of work requires the handling and/or transportation of hazardous materials including, but not limited to, asbestos, lead, silica, contaminated soil, or any other hazardous material as defined by applicable law. Could add "or scope of work involves grading, concrete, de-watering, underground utilities, exterior insulation and finish systems (EIFS); fire protection; HVAC; plumbing; roofing; exterior siding, stucco, or skin of any type, flashing, installation of skylights, windows, storefronts, or exterior doors; waterproofing, exterior sheet metal; rough carpentry; or any other trades as The County may designate", then the following Pollution Liability Insurance shall meet or exceed the following minimum requirements: Per

Incident Limit	$1,000,000
Aggregate Limit	$2,000,000

- Limits for Bodily Injury, Property Damage, Environmental Damage or Clean-Up Costs, including coverage for Non-Owned Disposal Sites.
- For Subcontractors whose scope of work includes transportation of hazardous materials, the insurance must also include coverage for pollution conditions arising from the transportation of hazardous materials.
- Whether written on an "Occurrence" basis or on a "Claims Made" basis, coverage shall either be renewed continuously or shall provide an extended claims reporting period of five (5) years or applicable statute of limitation period following completion of the work.
- Gwinnett County and their respective officers, directors and employees, and any other parties required by The County shall be Additional Insureds during the term of the subcontract agreement and through all applicable statutes of limitation and repose.
- Additional Insured Endorsements must be provided with the Certificate of Insurance
- The policy shall stipulate the insurance afforded to the Additional Insureds applies as primary insurance and that any other insurance carried by the Additional Insureds will be excess only.

Crane Insurance: Applies if any work to be performed involves the use of any owned, leased, chartered, or hired crane of any type:

Occurrence Limit	$5,000,000

- Evidence of coverage in the form of a Certificate of Insurance shall be provided to The County prior to start of work.
- Gwinnett County Board of Commissioners and their respective officers, directors and employees, and any other parties required by the County shall be Additional Insureds.

- Additional Insured Endorsements must be provided with the Certificate of Insurance

Riggers Liability Insurance:
If any work to be performed involves the rigging, lifting. lowering or moving of property or equipment, then those parties performing such work shall carry Rigger's Liability Insurance in an amount adequate to insure against the physical loss or damage to the property or equipment in its care.

Crime or Fidelity Insurance:
Limit of Insurance $1,000,000

- The Contractor shall maintain employee dishonesty and computer fraud coverage including, but not limited to, dishonest acts of Contractor, its employees, agents, subcontractors and anyone under Contractor's supervision or control.
- Contractor shall be liable for money, securities, or other property of County
- Such coverage shall include an owner coverage endorsement for County and County shall be included as a loss payee.

Cyber Liability Insurance: Applies if scope of work includes the storage or transfer of any County data or sensitive data, including but not limited to personally identifiable, health, or payment card data or the related hosting of database(s) or internet site(s):
Limit of Insurance per Claim $1,000,000
Aggregate Limit $1,000,000

- The Contractor shall maintain insurance coverage for network security and privacy risks, including, but not limited to, insurance for data breach or introduction of virus or malicious codes, consumer notification, whether or not required by law, forensic investigation, public relations and crisis management and credit or identity monitoring or similar remediation services, unauthorized access, failure of security information theft, damage to destruction of or alteration of electronic information, breach of privacy perils, wrongful disclosure and release of private information, collection, or other negligence in the handling of confidential information, and including coverage for related regulatory fines, defenses, and penalties allowed by law.

Aviation Insurance: Applies if scope of work requires the use of aircraft, including helicopters, unmanned aircraft systems (e.g., drones) and/or fixed-wing aircraft:
Maintain (or require aircraft owner or operator to maintain), and Contractor shall furnish proof of Aircraft Liability insurance with minimum limits of $10,000,000 per occurrence for bodily injury and property damage of all aircraft.

Unmanned aircraft systems, minimum limits of $2,000,000 for bodily injury, property damage, and personal injury (including invasion of privacy) for unmanned aircraft systems, and guest voluntary settlement bodily injury coverage (for any aircraft except unmanned aircraft systems)

- Such policy shall include contractual liability covering all owned and non-owned aircraft
- If the party providing the Aircraft Liability insurance is not Contractor, then Contractor shall require such party to (a) waive any subrogation rights of recovery they and/or their insurance carriers may have against County and any other indemnified parties and (b) name County and such other parties as Additional Insureds
- The Contractor shall (or shall require aircraft owner or operator) to hire, employ, and utilize pilots certified by the Federal Aviation Administration to operate any such aircraft.

B. Gwinnett County Board of Commissioners (and any applicable Authority) must be specified in writing as an additional insured on General Liability, Auto Liability, Umbrella Liability, Pollution, Crane and Aviation (if applicable) policies.

C. Gwinnett County should be provided with a minimum of 30 days advance written notice of cancellation, material change, or non-renewal of policies required by the contract.

D. Certificate Holder should read:
Gwinnett County Board of Commissioners 75 Langley Drive
Lawrenceville, GA 30046-6935

E. Insurance Company, except Worker' Compensation carrier, must have an A.M. Best Rating of A-10 or higher. Certain Workers' Comp funds may be acceptable by the approval of the Insurance Unit. European markets including those based in London and domestic surplus lines markets that operate on a non-admitted basis are exempt from this requirement provided that the contractor's broker/agent can provide financial data to establish that a market is equal to or exceeds the financial strengths associated with the A.M. Best's rating of A-10 or better.

F. Insurance companies providing coverage should be licensed, and authorized to do business by the Office of the Insurance and Safety Fire Commissioner of Georgia ("Insurance Commissioner"), with the exception of non-admitted carriers, in which case the broker placing coverage should be licensed by the Insurance Commissioner. All agents placing coverage should be licensed by the Insurance Commissioner, either as a resident or non-resident.

*See above note regarding Professional Liability

G. Certificates of Insurance, and any subsequent renewals, must reference each corresponding bid/contract by project name and project/bid number.

H. The Contractor shall agree to provide complete certified copies of current insurance policy(ies) or a certified letter from the insurance company(ies) if requested by the County to verify compliance with these insurance requirements.

I. All insurance coverage required to be provided by the Contractor will state that it is primary over any insurance program carried by the County.

J. Contractor shall incorporate a copy of the insurance requirements as herein provided in each and every subcontract with each and every Subcontractor in any tier and shall require each and every Subcontractor of any tier to comply with all such requirements. Contractor agrees that if for any reason Subcontractor fails to procure and maintain insurance as required, all such required Insurance shall be procured and maintained by Contractor at Contractor's expense.

K. No Contractor or Subcontractor shall commence any work of any kind under this Contract until all insurance requirements contained in this Contract have been complied with and until evidence of such compliance satisfactory to Gwinnett County as to form and content has been filed with Gwinnett County. The ACORD Certificate of Insurance or a preapproved substitute is the required form in all cases where reference is made to a Certificate of Insurance or an approved substitute.

L. The Contractor and its insurer(s) shall agree to waive all rights of subrogation against the County, the Board of Commissioners, its officers, officials, employees, and volunteers from losses arising from work performed by the contractor for the County.

M. Special Form Contractors' Equipment and Contents Insurance covering owned, used, and leased equipment, tools, supplies, and contents is required to perform the services called for in the Contract. The coverage must be on a replacement cost basis. The County will be included as a Loss Payee in this coverage for County owned equipment, tools, supplies, and contents.

N. The Contractor shall make available to the County, through its records or records of its insurer, information regarding any claim related to a County project. Any loss run information available from the contractor or their insurer relating to a County project shall be made available to the County upon its request.

O. Compliance by the Contractor and all Subcontractors with the foregoing insurance requirements shall not relieve the Contractor and Subcontractors of liability under the Contract and any applicable law.

P. The Contractor and all Subcontractors are to comply with the Occupational Safety and Health Act of 1970, Public Law 91-956, and any other laws that may apply to this Contract.

Q. The Contractor shall at a minimum apply risk management practices accepted by the Contractor's industry.

R. The Contractor shall advise the County if required limits of insurance become eroded or impaired.

Surety Bonds (if required)

All of the surety requirements will stay the same except the Surety Company must have the same rating as set forth in item E above.

EXHIBIT A - SAMPLE LEASE

LEASE AGREEMENT

WITH

GWINNETT COUNTY AIRPORT

AND

_____

SAMPLE

TABLE OF CONTENTS

LEASE AGREEMENT 1
SECTION 1 TERM 2
SECTION 2 LEASED PREMISES 2
SECTION 3 USE OF LEASED PREMISES 2
SECTION 4 RENTS AND FEES 3
SECTION 5 ACCEPTANCE, CARE, MAINTENANCE, IMPROVEMENTS AND REPAIR 6
SECTION 6 TITLE TO IMPROVEMENTS AND REPAIRS 13
SECTION 7 ADDITIONAL OBLIGATIONS OF LESSEE 13
SECTION 8 INGRESS AND EGRESS 15
SECTION 9 INSURANCE, DAMAGE OR DESTRUCTION 16
SECTION 10 LIABILITIES AND INDEMNITIES 18
SECTION 11 RULES AND REGULATIONS 20
SECTION 12 SIGNS 20
SECTION 13 ASSIGNMENT AND SUBLEASE 20
SECTION 14 CONDEMNATION 21
SECTION 15 CIVIL RIGHTS 22
SECTION 16 GOVERNMENTAL REQUIREMENTS 26
SECTION 17 RIGHTS OF ENTRY RESERVED 27
SECTION 18 ADDITIONAL RENTS AND CHARGES 28
SECTION 19 TERMINATION BY LESSOR 29
SECTION 20 TERMINATION BY LESSEE 32

SAMPLE

SECTION 21 SURRENDER AND RIGHT OF RE-ENTRY 32
SECTION 22 SERVICES TO LESSEE 33
SECTION 23 SURVIVAL OF THE OBLIGATIONS OF THE LESSEE 33
SECTION 24 USE SUBSEQUENT TO CANCELLATION OR TERMINATION 34
SECTION 25 LIMITATION OF RIGHTS AND PRIVILEGES GRANTED 35
SECTION 26 NOTICES 36
SECTION 27 HOLDING OVER.....36
SECTION 28 INVALID PROVISIONS 37
SECTION 29 MISCELLANEOUS PROVISIONS.....37
SECTION 30 SUBORDINATION CLAUSES.....38
SECTION 31 ENTIRE AGREEMENT.....39

SAMPLE

COUNTY OF GWINNETT

STATE OF GEORGIA

LEASE AGREEMENT

THIS AGREEMENT made and entered into this ____ day of _____, 202_, by and among the GWINNETT COUNTY AIRPORT AUTHORITY (the "Authority"), a body corporate and politic and a political subdivision and public corporation of the State of Georgia, GWINNETT COUNTY (the "County"), a political subdivision of the State of Georgia (collectively, and/or individually, "Lessor"), and _____, hereinafter referred to as "Lessee."

W I T N E S S E T H:

WHEREAS, the County and the Authority did enter into a Management Agreement dated January 19, 2021, for the operation and maintenance of Gwinnett County Airport- Briscoe Field (the "Airport"), and wherever "Lessor" is used herein it shall be construed to mean the County and/or the Authority; and

WHEREAS, Lessor and Lessee are mutually desirous of entering into a lease for the use and occupancy by Lessee of certain areas at the Airport;

NOW, THEREFORE, for and in consideration of the respective promises and mutual agreements made by the parties hereto hereinafter set forth, Lessor hereby grants to Lessee the right to use and occupy the land area at the Airport shown on Exhibit A together with all buildings, structures, improvements, additions and permanent installations now existing or hereinafter constructed and installed therein or thereon (hereinafter called the "Leased Premises") during the term of this Agreement upon the following terms and conditions, and it is hereby mutually agreed as follows:

SAMPLE

SECTION 1

TERM

1.1 The base term of this Agreement shall be for a twenty-five (25) year period commencing on _____, and expiring on _____ ("Base Term"), unless extended or sooner terminated in accordance with the provisions hereof.

1.2 At the expiration of the Base Term, Lessee shall have the option to extend the term of this Agreement, upon the same provisions contained herein, for up to three (3) additional five (5) year renewal terms ("Renewal Terms") upon written notice provided at least 90 days prior to the expiration of the then current term. ***[Note: This section may not be applicable as options to extend the term beyond 25 years may be considered if site improvements/repairs and other investments justify them. Any eligibility requirements for renewal terms will be included in this section.]***

SECTION 2

LEASED PREMISES

2.1 The Leased Premises, identified as shown on Exhibit A, attached hereto and incorporated herein by reference, consists of the following:

2.1.1 Lease Area consisting of approximately _____ square feet, together with all buildings, structures, improvements, additions, and permanent installations ("Improvements") constructed and installed thereon.

SECTION 3

USE OF LEASED PREMISES

3.1 Lessee shall continuously occupy and use the Leased Premises for the following purposes and for no other purpose whatsoever:

3.1.1 for _____;

3.1.2 for _____;

3.1.3 for _____;

3.1.4 for the parking of automobiles and other vehicles operated by officers, employees, invitees and business visitors of Lessee;

3.1.5 for operations offices in connection with all of the purposes authorized herein; and

3.1.6 for any other activities authorized in writing by Lessor.

SAMPLE

3.2 All other uses of the Leased Premises are prohibited. Specifically prohibited uses include but are not limited to, a fuel farm or other permanent fueling facility such as fuel trucks parked on the Leased Premises.

3.3 Unauthorized use by Lessee of the Leased Premises or abandonment by Lessee of its authorized aviation-related use of the Leased Premises shall be grounds for termination in accordance with Section 19.

SECTION 4
RENTS AND FEES

4.1 Rent.

4.1.1 Base Rent. For Use and Occupancy of the Leased Premises herein granted, Lessee agrees to pay to Lessor annual rent in the amount of _____ ("Base Rent"), to be paid in equal monthly installments as provided herein.

4.1.2 Rent Discount. To allow for repairs to be completed prior to Lessee taking occupancy of the Improvements, for the first ten (10) years of the Base Term, the Base Rent shall be reduced to $_____ per month. ***[Note: This section does not apply to 510 Briscoe.]***

4.2 Adjustments to Rent.

4.2.1 CPI Adjustment. Effective on _____, and on _____ of every three years thereafter during the remaining Base Term and any Renewal Terms, except for any year in which a Market Rent Analysis is conducted pursuant to Section 4.2.2, the annual rent payable hereunder shall be adjusted as provided herein based on the Consumer Price Index for all Urban Consumers, all items, selected large cities, for Atlanta, Georgia, as published by the Bureau of Labor Statistics of the United States Department for Labor, 1982-84 base=100 (the "CPI"). In the event the base year of such index is changed, the CPI shall be converted to the equivalent of the base year 1982-84 =100.

4.2.1.1 The CPI adjustment shall be determined by multiplying the Base Rent set forth in 4.1.1 above or, if applicable, the then current Adjusted Base Rent established pursuant to Section 4.2.2, by a fraction, the numerator of which shall be the CPI published for the year most recently preceding said _____ date, and the denominator of which shall be the annual CPI published for the latter of _____ or the year the most recent Market

SAMPLE

Rent Analysis was conducted, hereinafter referred to as Lessee's base year.

4.2.1.2 In no event shall the annual rent payable under this Section 4.2.1 be less than the Base Rent set forth in Section 4.1.1 above or, if applicable, the then current Adjusted Base Rent established pursuant to Section 4.2.2.

4.2.2 Market Rent Adjustment. Effective on _____, and on _____ of every ten years thereafter during the remaining Base Term or any Renewal Terms, the Adjusted Base Rent shall be determined pursuant to a Market Rent Analysis as follows.

4.2.2.1 The parties hereby authorize the Airport Manager, the employee designated by Lessor to perform airport management functions, to seek a Market Rent Analysis. The Market Rent Analysis shall be prepared by an MAI certified appraiser selected by the Airport Manager by _____ of the year prior to the effective date of this adjustment, and the costs of the Market Rent Analysis shall be paid from Airport funds. The Market Rent Analysis shall be based on the number of square feet of land area in the Leased Premises and shall not include the value of any improvements constructed by Lessee.

4.2.2.2 Once the Airport Manager receives the Market Rent Analysis, the Airport Manager shall forward a copy of the Market Rent Analysis to Lessee within five (5) business days of receipt. Provided Lessee is in agreement with the Market Rent Analysis, it shall establish the Adjusted Base Rent. Should Lessee disagree with the Market Rent Analysis, Lessee may hire, at its own cost, a certified MAI appraiser to perform its own Market Rent Analysis. Lessee shall have twenty (20) days from the date of receipt of Lessor's Market Rent Analysis to engage an MAI certified appraiser and provide written notice to the Airport Manager of such engagement. Any Market Rent Analysis performed at the request of Lessee, shall be forwarded to the Airport Manager within five (5) business days of the receipt of the Market Rent Analysis by Lessee. Upon receipt of Lessee's Market Rent Analysis, the parties may engage in negotiations to determine the Adjusted Base Rent considering the Market Rent Analysis received by each party.

4.2.2.3 If the parties are unable to reach an agreement within thirty (30) days after

SAMPLE

receipt of Lessee's Market Rent Analysis, the parties may mutually choose a third MAI certified appraiser to perform a final Market Rent Analysis, the costs of which shall be split equally between the parties. This third Market Rent Analysis will establish the adjusted base rent (which shall be no higher than the Marlet Analysis obtained by the Airport Manager and no lower than the Market Analysis obtained by Lessee) unless the parties have reached an agreement as to the Adjusted Base Rent prior to the completion of third Market Rent Analysis.

4.2.2.4 In no event shall the Adjusted Base Rent established under this Section 4.2.2 be less than the base rent set forth in 4.1.1 or the then current adjusted base rent established pursuant to this Section 4.2.2.

4.3 One twelfth of the current Base Rent, or the then current Adjusted Base Rent, shall be paid monthly ("Monthly Rent") on the first day of each month in advance at the office of the Airport Manager, at the address specified in Section 26 hereof, or at such other office as may be directed in writing by Lessor in accordance with the requirements of Section 26.

4.4 In addition to all other rent and fees set forth in this Section, and commencing upon the effective date of the Agreement, Lessee shall pay to Lessor the following fees:

4.4.1 an annual stormwater utility fee calculated by applying the stormwater service fee rate established by the County to the square footage of impervious surface within the Leased Premises.

4.4.2 any other standard fees or charges that may be imposed at any time by Lessor on operations at the Airport, in a reasonable and nondiscriminatory fashion consistent with the Federal Aviation Administration grant assurances. For any fee or charge to be imposed by Lessor, there must be reasonable justification, Lessee must be given written notice of not less than ninety (90) days and Lessee must be given an opportunity to inquire as to any proposed fee or charge and provide input; provided, however, that Lessor shall have final decision-making authority with respect to any such fees and charges.

4.5 The fees specified in Section 4.4 shall be paid by Lessee to Lessor pursuant to a schedule established by Lessor.

4.6 Nothing contained in the foregoing shall affect the survival of the obligations of Lessee as set forth in the Sections of this Agreement covering the survival of Lessee's obligations.

4.7 The fees specified above shall be payable at the office of the Airport Manager at the

SAMPLE

address provided in Section 26 or at such other office as may be directed in writing by Lessor in accordance with the requirements of Section 26.

SECTION 5
ACCEPTANCE, CARE, MAINTENANCE, IMPROVEMENTS AND REPAIR

5.1 Lessee warrants that it has inspected the Leased Premises and accepts possession of the Leased Premises, as defined in Section 2, and the improvements thereon "as is" in its present condition, and subject to all limitations imposed upon the use thereof by the rules and regulations of the Federal Aviation Administration and by ordinances of Lessor and admits its suitableness and sufficiency for the uses permitted hereunder. Except as may otherwise be provided for herein, Lessor shall not be required to maintain nor to make any improvements, repairs or restorations upon or to the Leased Premises or to any of the improvements presently located thereon. Unless caused by the sole negligence or willful misconduct of Lessor, Lessor shall never have any obligation to repair, maintain or restore, during the term of this Agreement, including any renewals thereof, any improvements placed upon the Leased Premises by Lessee, its successors and assigns, provided however that Lessor assumes no obligation under this agreement to repair damage caused by public utilities under its control, including but not limited to, water and sewage service.

5.2.4 In addition to the remedies set forth in Section 5.3 herein, failure to meet any of the deadlines imposed by this Section 5.2 shall be a breach of this Agreement and grounds for termination in accordance with Section 19 unless said deadlines are extended by the Authority in its sole discretion.

5.2 Except as otherwise provided in Section 5.1 of this Agreement, Lessee shall throughout the term of this Agreement, including any renewals thereof, assume the entire responsibility, cost and expense, for all repair and maintenance whatsoever of the Leased Premises and all improvements thereon in a good workmanlike manner, using new and first-quality materials, strictly in accordance with approved plans and in accordance with all requisite certificates and permits from governmental authorities having jurisdiction, whether such repair or maintenance be ordinary or extraordinary, structural or otherwise. All such repairs, maintenance and improvements shall be performed by qualified, responsible, and reputable contractors, subcontractors, and suppliers. Such contractors,

SAMPLE

subcontractors, and suppliers at all times shall operate in compliance with the rules and regulations of the Airport, and in a manner compatible with the operation and other users of the Airport. Lessee shall be solely responsible for any required modifications, repairs, or renovations to the existing and newly constructed improvements that may be required by federal, state, and/or local laws and regulations in order for Lessee to conduct operations on the Leased Premises. Additionally, Lessee, without limiting the generality hereof, shall:

5.2.1 keep at all times, in a clean and orderly condition and appearance, the Leased Premises, all improvements thereon and all of Lessee's fixtures, equipment and personal property which are located on any part of the Leased Premises.

5.2.2 provide and maintain on the Leased Premises all obstruction lights and similar devices, and safety equipment required by law.

5.2.3 repair any damage caused by Lessee to pavement, soils, water or other surfaces of the Leased Premises caused by any oil, gasoline, grease, lubricants or other flammable liquids and substances having a corrosive or detrimental effect thereon.

5.2.4 take measures to prevent erosion, including but not limited to, the planting and replanting of grasses with respect to all portions of the Leased Premises not paved or built upon, and in particular shall plant, maintain and replant any landscaped areas.

5.2.5 be responsible for the maintenance and repair of all utility service lines placed on the Leased Premises and used by Lessee exclusively, including, but not limited to, water lines, gas lines, electrical power and telephone conduits and lines and sanitary and storm sewers.

5.2.6 provide all necessary utilities to the Leased Premises at Lessee's sole expense.

5.2.7 prior to occupancy of the Improvements and in accordance with the schedule set forth herein, complete all site improvements/maintenance identified in the Report of Facility Condition Assessment, dated _____, attached hereto as Exhibit B and incorporated herein by reference.

5.2.7.1 [***Completion schedule for improvements/maintenance to be inserted.]***

5.2.7.2 In addition to the remedies set forth in Section 5.3 herein, failure to meet the deadlines imposed by this Section 5.2.7 shall be a breach of this

SAMPLE

Agreement and grounds for termination in accordance with Section 19 unless said deadlines are extended by the Authority in its sole discretion.

5.3 In the event Lessee fails: (a) to commence to maintain, clean, repair, replace, rebuild or repaint, within a period of thirty (30) days after written notice from Lessor to do any maintenance or repair work required to be done under the provisions of this Agreement, other than preventive maintenance, (b) or within a period of ninety (90) days if the said notice specifies that the work to be accomplished by Lessee involves preventive maintenance only; (c) or to diligently continue to complete any repairs, replacement, rebuilding, painting or repainting as required under this Agreement; then, Lessor may, at its option, and in addition to any other remedies which may be available to it, enter the Leased Premises, after providing Lessee 24 hours' notice (without such entering causing or constituting a cancellation of this Agreement or an interference with the possession of the Leased Premises by Lessee), and repair, replace, rebuild or paint all or any part of the Leased Premises or the improvements thereon, and do all things reasonably necessary to accomplish the work required, and the cost and expense thereof shall be payable to Lessor by Lessee on demand. Provided, however, if in the reasonable opinion of Lessor, Lessee's failure to perform any such maintenance endangers the safety of the public, the employees or property of Lessor or other tenants at the Airport, and Lessor so states same in its notice to Lessee, Lessor may, at its sole option, in addition to all other remedies which may be available to it, elect to perform such maintenance at any time after the giving of such notice, and Lessee agrees to pay to Lessor the cost and expense of such performance on demand. Furthermore, should Lessor, its officers, employees or agents undertake any work hereunder, Lessee hereby waives any claim for damages, consequential or otherwise, as a result therefrom except for claims for damages arising from Lessor's sole negligence or willful misconduct. The foregoing shall in no way affect or alter the primary obligations of Lessee as set forth in this Agreement and shall not impose or be construed to impose upon Lessor any obligations to maintain the Leased Premises, unless specifically stated otherwise herein.

5.4 All major repairs, constructions, alterations, modifications, additions, or replacements undertaken by Lessee shall adhere to the architectural standards adopted by Lessor for the Airport. Plans, specifications, and specific construction timelines for all major repairs, constructions, alterations, modifications, additions, or replacements undertaken by Lessee shall be submitted to and receive the written approval of the Authority, and no such

SAMPLE

work shall be commenced until such written approvals are obtained from the Authority, which approval shall not be unreasonably withheld or delayed. The Authority shall advise Lessee within thirty (30) days after receipt of the written request, together with copies of the plans and specifications for the proposed major repairs, constructions, alterations, modifications, additions, or replacements in sufficient detail to make a proper review thereof, of its approval or disapproval of the proposed work, and in the event it disapproves, stating its reasons therefor. No changes in the approved plans shall be made without the prior written approval of Lessor, which approval shall not be unreasonably withheld or delayed, and with any notice of disapproval stating its reasons therefor. Lessee acknowledges that major repairs, construction, alterations, modifications, additions, or replacements may require the filing of FAA Form 7460-1 Notice of Proposed Construction or Alteration, or any form subsequently issued by the FAA which is intended to supersede FAA Form 7460-1, and that any requirement by Lessor to file said notice and receive a determination from the FAA and/or State of Georgia shall not entitle Lessee to the extension of any deadline imposed by this Agreement.

5.5 During the time all major repairs, improvements, alterations, modifications, additions, or replacements are being conducted, Lessor and any authorized representative of Lessor may, but shall not be obligated to, inspect the construction and improvements and all construction plans, drawings and documents, change orders, addenda, shop drawings, and samples in the possession of Lessee and its contractors for the purpose of confirming that such construction is being performed in accordance with approved plans, the requirements of all public authorities having jurisdiction, and other requirements of this Agreement. Any such inspection shall be performed solely for the benefit of Lessor and shall not be relied upon in any manner by Lessee or any third party. In the event Lessor notifies Lessee that any work is not being done in accordance with approved plans, the requirements of public authorities having jurisdiction, or any other requirement of this Agreement, Lessee shall promptly take such steps as are necessary to cause such work to conform with the approved plans and such requirements. Nothing contained herein shall be deemed to obligate Lessor to inform Lessee of any problem, deficiency or omission as described above, nor shall Lessor's failure to so notify Lessee be deemed a waiver of any of Lessee's rights or responsibilities hereunder.

5.6 If Lessee makes any major repairs, constructions, alterations, modifications, additions, or replacements without Lessor approval, then, upon notice to do so, Lessee shall remove

SAMPLE

the same or, at the option of Lessor, cause the same to be changed to the satisfaction of Lessor. If Lessee fails to comply with such notice within thirty (30) days or to commence to comply and pursue diligently to completion, Lessor may effect the removal or change and Lessee shall pay the cost thereof to Lessor. Lessee expressly agrees in the making of all major repairs, constructions, alterations, modifications, additions or replacements that, except with the written consent of Lessor, it will neither give nor grant, nor purport to give or grant, any lien upon the Leased Premises or upon any improvements thereupon or which is in the process of construction or repair, nor allow any condition to exist or situation to develop whereby any party would be entitled, as a matter of law, to a lien against said Leased Premises and improvements thereon, and Lessee will discharge any such lien within thirty (30) days after notice of filing thereof. Notice is hereby given by Lessor to all persons that no lien attaches to any such major repairs, constructions, alterations, modifications, additions, or replacements.

5.7 Notwithstanding any other provisions or terms of this Agreement, Lessee acknowledges that the Airport is subject to federal storm water regulations, 40 CFR. Part 122, for "vehicle maintenance shops" (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations and/or deicing operations that occur at the Airport as defined in these regulations and, if applicable, state storm water regulations. Lessee further acknowledges that it is familiar with these storm water regulations; that it conducts or operates "vehicle maintenance" (including vehicle rehabilitation, mechanical repairs, painting, fueling and lubrication), equipment cleaning operations and/or deicing activities as defined in the federal storm water regulations; and that it is aware that there are significant penalties for submitting false information, including fines and imprisonment for knowing violations.

5.7.1 Notwithstanding any other provisions or terms of this Agreement, Lessee shall take steps necessary to apply for or obtain a storm water discharge permit as required by the applicable regulations for the Airport, including the Leased Premises operated by Lessee. Lessee acknowledges that the storm water discharge permit issued to Lessor may name Lessee as co-permittee.

5.7.2 Notwithstanding any other provisions or terms of this Agreement, including Lessee's right to quiet enjoyment, Lessor and Lessee both acknowledge that close cooperation is necessary to ensure compliance with any storm water discharge permit terms and conditions, as well as to ensure safety and to minimize costs.

SAMPLE

Lessee acknowledges that, as discussed more fully below, it may have to undertake to minimize the exposure of storm water (and snow melt) to "significant materials" generated, stored, handled or otherwise used by Lessee, as defined in the federal storm water regulations, by implementing and maintaining "Best Management Practices."

5.7.3 Lessee acknowledges that the Airport's storm water discharge permit and any subsequent renewals are incorporated by reference into this Agreement.

5.8 Permit Compliance. Lessor will provide Lessee with written notice of those storm water discharge permit requirements, that are in the Airport's storm water permit, that Lessee will be obligated to perform from time to time, including, but not limited to: Certification of non-storm water pollution prevention or similar plans; implementation of "good housekeeping" measures or Best Management Practices; and maintenance of necessary records. Such written notice shall include applicable deadlines. Lessee, within seven (7) days of receipt of such written notice shall notify Lessor in writing if it disputes any of the storm water discharge permit requirements it is being directed to undertake. If Lessee does not provide such timely notice, it is deemed to assent to undertake such requirements. If Lessee provides Lessor with timely written notice that Lessee disputes such storm water discharge permit requirements, Lessor and Lessee agree to negotiate a prompt resolution of their differences. Lessee warrants that it will not object to written notice from Lessor for purposes of delay or avoiding compliance.

5.8.1 Lessee agrees to undertake, at its sole expense unless otherwise agreed to in writing between Lessor and Lessee, those storm water discharge permit requirements for which it has received written notice from Lessor. Lessee warrants that it shall meet any and all deadlines that may be imposed on or agreed to by Lessor and Lessee. Lessee acknowledges that time is of the essence.

5.8.2 In addition to the storm water discharge permit requirements imposed on Lessee pursuant to this Agreement, due to extensive monitoring requirements and potential mitigation measures associated with de-icing activities and lavatory servicing, Lessee shall not conduct any de-icing activities outdoors and shall not conduct any lavatory servicing in uncovered areas without the express written permission of Lessor. Permission shall not be granted by Lessor without adequate assurances that Lessee will pay for monitoring expenses and any expenses required to mitigate pollution if the monitoring detects levels of deicer or e-coli that

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exceed the allowed maximum discharge levels.

5.8.3 Lessor agrees to provide Lessee, at its request, with any non-privileged information collected and submitted to any governmental entity(ies) pursuant to applicable storm water regulations.

5.8.4 Lessee agrees that the terms and conditions of the Airport's storm water discharge permit may change from time to time and hereby appoints Lessor as its agent to negotiate with the appropriate governmental entity(ies) any such permit modifications.

5.8.5 Lessor will give Lessee written notice of any breach by Lessee of the Airport's storm water discharge permit or the provisions of this Section. Such a breach is material, and Airport may seek to terminate this Agreement pursuant to Section 19, Termination by Lessor. Lessee agrees to cure promptly any breach and pay the costs of any mitigation measures imposed due to any breach.

5.8.6 Lessee agrees to participate in any Airport-organized task force or other work group established to coordinate storm water activities at the Airport.

5.9 Lessee shall be solely responsible for the proper management, storage, and disposal of hazardous substances and hazardous wastes used, generated, stored, disposed, treated, or caused to be present on the Leased Premises by the activities of Lessee. Notwithstanding any other provision of this Agreement, Lessee shall not treat or dispose of hazardous wastes on Lessor's premises. Lessee shall provide all required notices, including those mandated under right-to-know laws, of the presence or use on the Leased Premises of hazardous substances, extremely hazardous substances, or hazardous wastes, shall provide all notices to appropriate authorities and to Lessor of any releases to the environment of hazardous substances, extremely hazardous substances, or hazardous wastes, and shall obtain all permits necessary for the generation, storage, disposal, or treatment of hazardous wastes. Lessee shall manage used oil and other petroleum products as required by Federal and state law and regulations. Lessee shall be solely liable for the investigation, corrective action, or remediation of any release to the environment caused by Lessee, its invitees, employees, agents, or contractors of any hazardous waste, hazardous substance, extremely hazardous substance, oil or other petroleum-based substance.

5.10 Indemnification. Notwithstanding any other provisions of this Agreement, Lessee agrees to indemnify and hold harmless Lessor and other tenants for any and all claims, demands,

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costs, (including attorneys' fees), fees, fines, penalties, charges and demands by and liability directly or indirectly arising from Lessee's actions or omissions, including failure to comply with Lessee's obligations under this Section, applicable regulations, or permits, unless the result of Lessor's sole negligence. This indemnification shall survive any termination or non-renewal of this Agreement.

SECTION 6

TITLE TO IMPROVEMENTS AND REPAIRS

6.1 Improvements erected or constructed upon the Leased Premises by Lessee shall remain the property of Lessee for as long as this Agreement shall remain in effect, but such improvements shall become the property of Lessor upon expiration or termination of this Agreement, free and clear of all claims on the part of Lessee on account of any repair or improvement work done under the terms hereof by Lessee. The vesting of title in Lessor at the time specified is a part of the consideration for this Agreement. Lessor shall not be liable to Lessee or Lessee's contractors or sub-Lessees for the value of any improvements constructed or located on the Leased Premises.

SECTION 7

ADDITIONAL OBLIGATIONS OF LESSEE

7.1 Lessee shall conduct its operations hereunder in an orderly and proper manner, considering the nature of such operation, so as not to unreasonably annoy, disturb, endanger or be offensive to others.

7.2 Further, Lessee shall take all reasonable measures not to produce on the Airport any disturbance that interferes with the operation by Lessor or the Federal Aviation Administration of air navigational, communication or flight equipment on the Airport.

7.3 Lessee shall restrict the height of structures, objects of natural growth and other obstructions on the Leased Premises to such a height so as to comply with Federal Aviation Regulations, Part 77 (14 C.F.R. § 77).

7.4 Lessee shall control the conduct and demeanor of its officers, agents, employees, and invitees and, upon objection from Lessor concerning the conduct, or demeanor of any such person, Lessee shall immediately take all lawful steps necessary to remove the cause of the objection.

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7.5 Lessee shall comply with all environmental, health and safety laws and requirements and all other federal, state or municipal laws, ordinances, rules, regulations and requirements applicable to the Leased Premises and the improvements thereon and Lessee's operations at the Airport hereunder. Lessee agrees to allow Lessor access to premises and records to investigate compliance with all applicable laws if there is reason to suspect negligence or willful non-compliance.

7.6 Lessee shall comply with all written instructions of Lessor and applicable Federal, state, and local laws, ordinances, and regulations in disposing of trash, garbage and other refuse; the frequency of removal thereof from the Airport premises shall at all times be subject to the rules, regulations and approval of Lessor. All disposal of trash, garbage, refuse and wastes shall be at the expense of Lessee.

7.7 Lessee shall not commit, nor permit to be done, anything which may result in the commission of a nuisance, waste or injury on the Leased Premises.

7.8 Lessee shall not do, nor permit to be done, anything which may interfere with the effectiveness or accessibility of the drainage system, sewerage system, fire protection system, sprinkler system, alarm system and fire hydrants and hoses, if any, installed or located on the Leased Premises.

7.9 Lessee shall take measures to ensure security in compliance with Federal Aviation Regulations and the Airport Security Plan.

7.10 Lessee shall not do, nor permit to be done, any act or thing upon the Leased Premises which may constitute a hazardous condition so as to increase the risks attendant upon the operations permitted by the Agreement.

7.11 Lessee shall use only a working supply of flammable liquids within any covered or enclosed portion of the Leased Premises. The term "working supply" as used in this Section 7.11 shall mean the amount consumed by Lessee during any normal workday. Any other supplies of such liquids shall be kept and stored in safety containers of a type approved by the Underwriters Laboratories.

7.12 Except for services permitted under Section 3 hereof to be performed by Lessee or Lessee's subcontractors, Lessee shall provide prompt written notice to Lessor of any person, firm or corporation performing aircraft maintenance work, flight instruction of any sort, air taxi, aircraft charter or aircraft leasing of any sort on the Leased Premises for commercial purposes without a valid permit from Lessor.

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7.13 It is the intent of the parties hereto that noise, including but not limited to, noise caused by aircraft engine operation shall be held to a minimum. To this end Lessee will conduct its operations in such a manner as to keep the noise produced by aircraft engines and component parts thereof or any other noise to a minimum by the use of such methods or devices as are practicable, considering the extent and type of the operations of Lessee, but in no event less than those devices or procedures that are required by Federal, State or local law. In addition, Lessee shall use its best efforts to minimize prop or jet blast interference to aircraft operating on or to buildings, structures and roadways, now located on or which in the future may be located on areas adjacent to the Leased Premises.

7.14 In connection with the conduct of Lessee's business, Lessee shall maintain in accordance with generally accepted accounting principles, consistently applied, during the term hereof, including any Renewal Terms, Lessee's records and books of account, recording all transactions at, through or in any way connected with the Airport which records and books of account shall be kept at all times at Lessee's place of business at the Airport.

7.15 Lessee shall permit in ordinary business hours during the term hereof, including any Renewal Terms, and for one year thereafter the examination and audit by the employees or representatives of Lessor of such records and books of account.

7.16 Economic Nondiscrimination.

7.16.1 Lessee agrees to furnish services to all users on fair and reasonable terms, without unjust discrimination.

7.16.2 Lessee agrees to charge fair, reasonable, and not unjustly discriminatory prices for each unit or service, provided that Lessee may be allowed to make reasonable and nondiscriminatory discounts, rebates, or other similar types of price reductions to volume purchasers.

SECTION 8

INGRESS AND EGRESS

8.1 Lessee shall have the right of ingress and egress to and from the Leased Premises and the public landing areas at the Airport by means of connecting taxiways, to be used in common with others having rights of passage thereon, except when the Airport is closed to the public.

8.2 The use of any such roadway or taxiway shall be subject to the Rules and Regulations of the Airport which are now in effect or which may hereafter be promulgated. Lessor may,

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at any time, temporarily or permanently, close or consent to or request the closing of any such roadway or taxiway and any other way at, in or near the Leased Premises presently or hereafter used as such, so long as a reasonable means of ingress and egress as provided above remains available to Lessee. Lessee hereby releases and discharges Lessor, its officers, employees and agents; and all municipalities and other governmental authorities and their respective successors and assigns, of and from any and all claims, demands, or causes of action which Lessee may now or at any time hereafter have against any of the foregoing, arising or alleged to arise out of the closing of any street, roadway or other area, provided that a reasonable means of access to the Leased Premises remains available to Lessee whether within the Leased Premises or outside the Leased Premises at the Airport unless otherwise mandated by safety considerations or lawful exercise of police power. Lessee shall not do or permit anything to be done which will interfere with the free access and passage of others to space adjacent to the Leased Premises or in any streets or roadways near the Leased Premises.

SECTION 9

INSURANCE, DAMAGE OR DESTRUCTION

9.1 To safeguard the interest of Lessor, Lessee at its sole cost and expense shall procure and maintain throughout the term of this Agreement, including any renewals thereof, insurance protection for "all risk" coverage on the structure and improvements of which the Leased Premises is a part, to the extent of one hundred percent (100%) of the actual replacement cost thereof, with insurance companies licensed to do business in the State of Georgia. If said insurance company becomes financially incapable of performing under the terms of said policy, Lessee shall promptly obtain a new policy issued by a financially responsible carrier and shall submit such new policy as previously provided.

9.1.1 The above stated property insurance shall name Lessor as Additional Insured, provide thirty (30) days' notice of cancellation or material change, by registered mail, to the Office of the Director, Aviation Division, DOT. Lessee shall be fully and solely responsible for any deductible, coinsurance penalty, or self-insured retention, including any losses, damages, or expenses not covered due to an exhaustion of limits or failure to comply with the policy, and shall have a deductible amount not to exceed one thousand dollars ($1,000.00) per occurrence.

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9.1.2 Lessee shall provide a copy of the above stated property insurance policy to the Office of the Director, Aviation Division, DOT, at least seven (7) days prior to the effective date of this Agreement. Upon the failure of Lessee to maintain such insurance as above provided, Lessor, at its option, may take out such insurance and charge the cost thereof to Lessee with the next installment of the monthly fee due hereunder or may declare a default hereunder pursuant to Section 19 herein.

9.2 In the event any improvements, insurable or uninsurable, on the Leased Premises are damaged or destroyed (except damage or destruction caused by Lessee as set forth in 9.6 hereof) to the extent they are unusable by Lessee for the purposes for which they were used prior to such damage, or same are destroyed, Lessee shall promptly repair, rebuild, or replace the damaged or destroyed portion of the Leased Premises as they were immediately prior to such casualty, except for requirements of construction codes, which shall be as of the time of repair or replacement.

9.3 In the event of damage or destruction to any of the improvements upon the Leased Premises, Lessor shall have no obligation to repair or rebuild the improvements or any fixtures, equipment or other personal property installed by Lessee pursuant to this Agreement. Upon the failure of Lessee to repair or rebuild Lessor may, as agent of Lessee, repair or rebuild such damage or destruction at the expense of Lessee which expense shall be due and payable on demand.

9.4 Upon completion of all the work, Lessee shall certify by a responsible officer or authorized representative that such rebuilding and repairs have been completed, that all costs in connection therewith have been paid by Lessee and said costs are fair and reasonable and said certification shall also include an itemization of costs. If the insurance proceeds are not sufficient, Lessee agrees to bear and pay the deficiency. Nothing herein contained shall be deemed to release Lessee from any of its repair, maintenance or rebuilding obligations under this Agreement.

9.5 Lessee shall, at its expense, repair and replace any and all fixtures, equipment and other personal property necessary to properly and adequately continue its airport business on the airport, but in no event shall Lessee be obligated to provide equipment and fixtures in excess of those existing prior to such damage or destruction. During such period of repair or reconstruction, the rent payments provided for elsewhere herein shall be proportionately abated from the date of such damage, destruction or loss until the same is repaired, replaced, restored or rebuilt, provided, Lessee does not use said damaged

SAMPLE

Leased Premises or the location thereof for any purposes other than the repair or rebuilding of same. Such abatement shall not exceed the actual time required for arranging for and the doing of such work. Lessee agrees that such work will be promptly commenced and prosecuted to completion with due diligence, subject to delays beyond Lessee's control.

9.6 In the event the improvements on the Leased Premises are damaged or destroyed by fire or other cause by reason of any act or omission of Lessee or its employees, this Agreement shall continue in full force and effect, notwithstanding the provisions of Sections 9.2, 9.3, 9.4 and 9.5 hereof, and Lessee shall repair or rebuild the improvements so damaged or destroyed, at Lessee's own cost and expense, in a good workmanlike manner to the same standards existing at the time of the casualty, subject to applicable building codes existing at the time of repair or rebuilding.

SECTION 10
LIABILITIES AND INDEMNITIES

10.1 Lessor shall not in any way be liable for any cost, liability, damage or injury, including cost of suit and reasonable expenses of legal services, claimed or recovered by any person whomsoever, or occurring on the Leased Premises, or the Airport, or as a result of any operations, works, acts or omissions performed on the Leased Premises, or the Airport, by Lessee, its sublessees or tenants, or their guest or invitees.

10.2 Lessee agrees to indemnify, save and hold harmless, Lessor (its officers, agents, servants and employees) of and from any and all costs, liability, damage and expense (including costs of suit and reasonable expenses of legal services) claimed or recovered, justly or unjustly, false, fraudulent or frivolous, by any person, firm or corporation by reason of injury to, or death of, any person or persons, and damage to, destruction or loss of use of any and all property, including Lessor personnel and Lessor property, directly or indirectly arising from or resulting from, any operations, works, acts or omissions of Lessee, its agents, servants, employees, contractors, sublessees or tenants, unless caused directly or indirectly by the sole negligence or willful misconduct of Lessor. Provided, however, that upon the filing with Lessor by anyone of a claim for damages arising out of incidents for which Lessee herein agrees to indemnify and hold Lessor harmless, Lessor shall notify Lessee of such claim and in the event that Lessee does not settle or compromise such claim, then Lessee shall undertake the legal defense of such claim both on behalf of

SAMPLE

Lessee and behalf of Lessor, using counsel chosen by Lessee. It is specifically agreed, however, that Lessor at its own cost and expense, may participate in the legal defense of any such claim. Any final judgment rendered against Lessor for any cause for which Lessee is liable hereunder shall be conclusive against Lessee as to liability and amount upon the expiration of the time for appeal.

10.3 In addition to Lessee's undertaking, as stated in this Section, and as a means of further protecting Lessor, its officers, agents, servants and employees, Lessee shall at all times during the term of this Agreement, including any renewals thereof, obtain and maintain in effect Public Liability and Automotive Liability Insurance coverage as set forth in Exhibit C attached hereto and incorporated herein by reference. In this connection, Lessee agrees to require its contractors doing work on the Airport, and Lessee's tenants and sublessees, to carry adequate insurance coverage, and if Lessee so desires, it may accomplish same by an endorsement to Lessee's policies to include such persons or parties as additional named insureds.

10.3.1 Lessor reserves the right to increase the minimum liability insurance set forth in Exhibit C when in Lessor's reasonable opinion the risks attendant to Lessee's operations hereunder have increased.

10.4 Lessee represents that it is the owner of or fully authorized to use any and all services, processes, machines, articles, marks, names or slogans used by it in its operations under or in any way connected with this Agreement. Lessee agrees to save and hold Lessor, its officers, employees, agents and representatives free and harmless of and from any loss, liability, expense, suit or claim for damages in connection with any actual or alleged infringement of any patent, trademark or copyright or arising from any alleged or actual unfair competition or other similar claim arising out of the operations of Lessee under or in any way connected with this Agreement.

10.5 Lessee represents and warrants that no broker has been concerned on its behalf in the negotiation of this Agreement and that there is no such broker who is or may be entitled to be paid a commission in connection therewith. Lessee shall indemnify and hold harmless Lessor of and from any claim for commission or brokerage made by any such broker when such claim is based in whole or in part upon any act or omission of Lessee.

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SECTION 11

RULES AND REGULATIONS

11.1 From time to time, Lessor may adopt and enforce rules and regulations with respect to the occupancy and use of the Airport, and Lessee hereby acknowledges receipt of a current copy of such rules and regulations. Lessee agrees to observe and obey any and all rules and regulations of Lessor, and all other Federal, State and municipal requirements, rules, regulations and laws, and to require its officers, agents, employees, contractors, and suppliers, to observe and obey the same. Lessor reserves the right to deny access to the Airport and its facilities to any person, firm or corporation that fails or refuses to obey and comply with such rules, regulations or laws. The rules and regulations shall be enforced in a uniform and nondiscriminatory manner.

SECTION 12

SIGNS

12.1 Lessee shall have the right to install and maintain one or more signs on the Leased Premises identifying it and its operations, provided, however, the subject matter, type, design, number, location and elevation of such signs, and whether lighted or unlighted, shall be subject to and in accordance with the reasonable written approval of Lessor. No sign will be approved that may be confusing to aircraft pilots or automobile drivers or other traffic or which fails to conform to the architectural scheme of the Airport or meet the requirements of Lessor, provided however, nothing herein shall excuse Lessee from complying with other governmental requirements as set forth in Section 16.

SECTION 13

ASSIGNMENT AND SUBLEASE

13.1 Lessee covenants and agrees that it will not sell, convey, transfer, mortgage, pledge or assign this Agreement or any part thereof, or any rights created thereby, without the prior written consent of Lessor, which consent shall not be unreasonably withheld or denied.

13.2 Any assignment or transfer of this Agreement, or any rights of Lessee hereunder, without the consent of Lessor, shall entitle Lessor at its option to terminate this Agreement.

13.3 Any assignment of this Agreement approved by Lessor shall be on the conditions that the assignee accepts and agrees to all terms, conditions and provisions of this Agreement, accepts and agrees to discharge all of the covenants as Lessee hereunder, and agrees to

SAMPLE

obligations of the payment of all sums due and to become due by Lessee under the terms hereof.

13.4 Notwithstanding anything contained in this Section 13 to the contrary, Lessee may sublet a portion or portions of the Leased Premises to a person, partnership, firm or corporation for use that is compatible with Lessee's authorized use without the prior written consent of Lessor, but in no event shall Lessee sublet all or any portion of the Leased Premises to a fixed base operator, or for any commercial use without the prior written consent of Lessor. Lessee shall provide Lessor with the name and complete contact information, including phone numbers and e-mail addresses, for each sub-lessee. Contact information shall be updated promptly and no less than monthly throughout the term of this Agreement, including any renewals thereof.

13.5 No consent by Lessor to subleasing by Lessee of portions of the Leased Premises shall in any way relieve Lessee of any of its obligations to Lessor set forth or arising from this Agreement and a termination of Lessee's rights hereunder shall ipso facto terminate all subleases.

13.6 If Lessee assigns, sells, conveys, transfers, mortgages, or pledges this Agreement or sublets any portion of the Leased Premises in violation of the foregoing provisions of this Section, or if the Leased Premises are occupied by anyone other than Lessee, Lessor may collect from any assignee, sublessee or anyone who claims a right to this Agreement or who occupies the Leased Premises any charges or fees payable by it and may apply the net amount collected to the rents herein reserved; and no such collection shall be deemed a waiver by Lessor of the agreements contained in this Section nor of acceptance by Lessor of any assignee, claimant or occupant, nor as a release of Lessee by Lessor from the further performance by Lessee of the agreements contained herein.

SECTION 14
CONDEMNATION

14.1 In the event that the Leased Premises or any material part thereof shall be condemned and taken by authority of eminent domain for any purpose during the term of this Agreement, including any renewals thereof, rent payments for that portion of the Leased Premises so taken shall be abated from the date that such portion of the Leased Premises is taken provided, however, if, in Lessee's judgment, the remaining portion of the Leased Premises is insufficient for Lessee's operations authorized hereunder, Lessee may

SAMPLE

terminate this Agreement and all of its rights and unaccrued obligations hereunder effective as of the date of taking of the condemned portion (or effective as of any date thereafter and within ninety (90) days of the date of such dispossession) by giving Lessor thirty (30) days written notice of such termination.

SECTION 15
CIVIL RIGHTS

15.1 General Civil Rights Provision.

15.1.1 Lessee agrees to comply with pertinent statutes, regulations, Executive Orders and such rules as are promulgated, including the Nondiscrimination Acts and Authorities listed in Section 15.4 (the "Nondiscrimination Acts and Authorities"), to ensure that no person shall, on the grounds of race, creed, color, national origin, sex, age, or disability be excluded from participating in any activity conducted with or benefiting from Federal assistance.

15.1.2 If Lessee transfers its obligation to another, the transferee is obligated in the same manner as Lessee.

15.1.3 This provision obligates Lessee for the period during which the property is owned, used or possessed by Lessee and the Airport remains obligated to the Federal Aviation Administration.

15.1.4 This provision is in addition to that required by Title VI of the Civil Rights Act of 1964.

15.2 Civil Rights – Title VI Assurances. Compliance with Non-discrimination Requirements. During the performance of this Agreement, Lessee, for itself, its assignees, and successors in interest, agrees as follows:

15.2.1 Compliance with Regulations: Lessee will comply with Title VI and the Nondiscrimination Acts and Authorities listed in Section 15.4, as they may be amended from time to time, which are herein incorporated by reference and made a part of this Agreement.

15.2.2 Nondiscrimination: Lessee, with regard to the work performed by it during this Agreement, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. Lessee will not participate directly or indirectly in the discrimination prohibited by the Nondiscrimination Acts and Authorities, including

SAMPLE

employment practices when this Agreement covers any activity, project, or program set forth in Appendix B of 49 CFR part 21.

15.2.3 Solicitations for Subcontracts, including Procurements of Materials and Equipment: In all solicitations, either by competitive bidding or negotiation made by Lessee for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by Lessee of Lessee's obligations under this Agreement and the Nondiscrimination Acts and Authorities on the grounds of race, color, or national origin.

15.2.4 Information and Reports: Lessee will provide all information and reports required by the Nondiscrimination Acts and Authorities, and directives issued pursuant thereto, and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by Lessor or the Federal Aviation Administration to be pertinent to ascertain compliance with such Nondiscrimination Acts and Authorities and directives. Where any information required of Lessee is in the exclusive possession of another who fails or refuses to furnish the information, Lessee will so certify to the sponsor or the Federal Aviation Administration, as appropriate, and will set forth what efforts it has made to obtain the information.

15.2.5 Sanctions for Noncompliance: In the event of a Lessee's noncompliance with the Nondiscrimination Acts and Authorities, Lessor will impose such contract sanctions as it or the Federal Aviation Administration may determine to be appropriate, including, but not limited to:

a. Withholding payments to Lessee under the Agreement until the Lessee complies; and/or
b. Cancelling, terminating, or suspending the Agreement, in whole or in part.

15.2.6 Incorporation of Provisions: Lessee will include the provisions of paragraphs 15.2.1 through 15.2.6 in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations, and directives issued pursuant thereto. Lessee will take action with respect to any subcontract or procurement as Lessor or the Federal Aviation Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if Lessee becomes involved in, or is threatened with

SAMPLE

litigation by a subcontractor, or supplier because of such direction, Lessee may request Lessor to enter into any litigation to protect the interests of Lessor. In addition, Lessor may request the United States to enter into the litigation to protect the interests of the United States.

15.3 Non-discrimination Clauses.

15.3.1 Lessee, for it, its heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree as a covenant running with the land that in the event facilities are constructed, maintained, or otherwise operated on the Leased Premises for a purpose for which a United States Government program or activity is extended or for another purpose involving the provision of similar services or benefits, Lessee shall maintain and operate such facilities and services in compliance with all requirements imposed by the Nondiscrimination Acts and Regulations listed in the Nondiscrimination Acts and Authorities (as may be amended) in Section 15.4 such that no person on the grounds of race, creed, color, national origin, sex, age, or disability, will be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said Leased Premises.

15.3.2 Lessee, for itself, its personal representatives, successors in interest and assigns, as a part of the consideration hereof, does hereby covenant and agree as a covenant running with the land that (1) no person on the grounds of race, creed, color, national origin, sex, age, or disability shall be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of the Leased Premises; (2) that in the construction of any improvements on, over, or under such land and the furnishing of services thereon, no person on the grounds of race, creed, color, national origin, sex, age, or disability shall be excluded from participation in, denied the benefits of, or otherwise be subjected to discrimination, (3) that Lessee shall use the Leased Premises in compliance with all other requirements imposed by or pursuant to the Nondiscrimination Acts and Authorities (as may be amended) in Section 15.4.

15.3.3 In this connection, Lessor reserves the right to take whatever action it might be entitled by law to take in order to enforce this Section. This Section is to be considered as a covenant on the part of Lessee, a breach of which, continuing after notice by Lessor to cease and desist, will constitute a material breach of this

SAMPLE

Agreement and will entitle Lessor, at its option, to exercise its right of termination as provided for herein, or take any action that it deems necessary to enforce compliance herewith.

15.3.4 Lessee shall include the foregoing provisions in every agreement or concession pursuant to which any person or persons, other than Lessee, operates any facility at the Leased Premises providing service to the public and shall include thereon a provision granting Lessor a right to take such action as the United States may direct to enforce such covenant.

15.3.5 Lessee shall indemnify and hold harmless Lessor from any claims and demands of third persons including the United States of America resulting from Lessee's noncompliance with any of the provisions of this Section and Lessee shall reimburse Lessor for any loss or expense incurred by reason of such noncompliance.

15.4 Nondiscrimination Acts and Authorities. In the performance of this Agreement, Lessee, for itself, its assignees, and successors in interest, agrees to comply with the following non-discrimination statutes and authorities, as amended, including but not limited to:

15.4.1 Title VI of the Civil Rights Act of 1964 (42 USC § 2000d *et seq*., 78 stat. 252) (prohibits discrimination on the basis of race, color, national origin);

15.4.2 49 CFR part 21 (Non-discrimination in Federally-assisted programs of the Department of Transportation—Effectuation of Title VI of the Civil Rights Act of 1964);

15.4.3 The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 USC § 4601) (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);

15.4.4 Section 504 of the Rehabilitation Act of 1973 (29 USC § 794 *et seq*.), as amended (prohibits discrimination on the basis of disability); and 49 CFR part 27;

15.4.5 The Age Discrimination Act of 1975, as amended (42 USC § 6101 *et seq*.) (prohibits discrimination on the basis of age);

15.4.6 Airport and Airway Improvement Act of 1982 (49 USC § 471, Section 47123), as amended (prohibits discrimination based on race, creed, color, national origin, or sex);

SAMPLE

15.4.7 The Civil Rights Restoration Act of 1987 (PL 100-209) (broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, the Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);

15.4.8 Titles II and III of the Americans with Disabilities Act of 1990, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 USC §§ 12131 – 12189) as implemented by U.S. Department of Transportation regulations at 49 CFR parts 37 and 38;

15.4.9 The Federal Aviation Administration's Nondiscrimination statute (49 USC § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);

15.4.10 US Department of Transportation (DOT) guidance "Policy Guidance Concerning Recipients' Responsibilities to Limited English Proficient (LEP) Persons" (70 FR 74087, December 14, 2005). To ensure compliance with Title VI, Lessee must take reasonable steps to ensure that LEP persons have meaningful access to Lessee's programs;

15.4.11 Title IX of the Education Amendments of 1972, as amended, which prohibits Lessee from discriminating because of sex in education programs or activities (20 USC 1681 *et seq*.).

SECTION 16

GOVERNMENTAL REQUIREMENTS

16.1 Lessee shall procure all licenses, certificates, permits or other authorization from all governmental authorities, if any, having jurisdiction over Lessee's operations at the Leased Premises which may be necessary for Lessee's operations thereat.

16.2 Lessee shall pay all taxes; license, certification, permit and examination fees; and excise taxes which may be assessed, levied, exacted or imposed on the Leased Premises or operation hereunder, and shall make all applications, reports and returns required in connection therewith.

SAMPLE

SECTION 17

RIGHTS OF ENTRY RESERVED

17.1 Lessor, by its officers, employees, agents, representatives and contractors shall have the right at all reasonable times after providing Lessee with 24 hours' notice, to enter upon the Leased Premises for any and all purposes, provided, such action by Lessor, its officers, employees, agents, representatives and contractors does not unreasonably interfere with Lessee's use, occupancy, or security requirements of the Leased Premises.

17.2 Without limiting the generality of the foregoing, Lessor, by its officers, employees, agents, representatives, contractors and furnishers of utilities and other services, shall have the right, at its own cost and expense, whether for its own benefit, or for the benefit of others than Lessee at the Airport, to maintain existing and future utility, mechanical, electrical and other systems and to enter upon the Leased Premises at all reasonable times to make such repairs, replacements or alterations thereto, as may, in the opinion of Lessor, be deemed necessary or advisable, and from time to time to construct or install over, in or under the Leased Premises such systems or parts thereof and in connection with such maintenance use the Leased Premises for access to other parts of the Airport otherwise not conveniently accessible, provided, however, that in the exercise of such right of access, repair, alteration or new construction, Lessor shall not unreasonably interfere with the actual use and occupancy of the Leased Premises by Lessee. In the event that such access, repair, alteration or construction does unreasonably interfere with Lessee's use and occupancy of the Leased Premises for a period of ten (10) consecutive days or more, Lessee may terminate this Agreement by written notice to Lessor and all obligations of Lessee hereunder shall cease, unless specifically provided to the contrary herein. It is specifically understood and agreed that the reservation of the aforesaid right by Lessor shall not impose or be construed to impose upon Lessor any obligation to repair, replace or alter any utility service lines now or hereafter located on the Leased Premises for the purpose of providing utility services only to the Leased Premises.

17.3 In the event that any personal property of Lessee shall obstruct the access of Lessor, its officers, employees, agents or contractors, or the utility company furnishing utility service to any of the existing utility, mechanical, electrical and other systems, and thus shall interfere with the inspection, maintenance or repair of any such system, Lessee shall move such property, as directed by Lessor or said utility company, in order that access may be had to the system or part thereof for inspection, maintenance or repair. If Lessee shall

SAMPLE

fail to so move such property after direction from Lessor or said utility company to do so, Lessor or the utility company may move it, and Lessee hereby agrees to pay the cost of such moving upon demand, and further Lessee hereby waives any claim for damages as a result therefrom, except for claims for damages arising from Lessor's sole negligence or willful misconduct.

17.4 At any reasonable time, and from time to time during the ordinary business hours, Lessor, by its officers, agents and employees, whether or not accompanied by a prospective lessee, occupier or user of the Leased Premises, shall have the right after providing 24 hours' notice to Lessee, to enter thereon for the purpose of exhibiting and viewing all parts of the same, subject to Lessee's reasonable security requirements.

17.5 Reasonable exercise of any or all of the foregoing rights, by Lessor, or others under right of Lessor, shall not be, nor be construed to be, an eviction of Lessee, nor be made the grounds for any abatement of rent payments nor any claim or demand for damages, consequential or otherwise, except as specifically provided to the contrary herein.

SECTION 18

ADDITIONAL RENTS AND CHARGES

18.1 Except as provided in Section 5.3 (b), in the event Lessee fails within thirty (30) days after receipt of written notice from Lessor to perform or commence to perform any obligation required herein to be performed by Lessee, Lessor may enter the Leased Premises (without such entering causing or constituting a cancellation of this Agreement or an interference with the possession of such Leased Premises by Lessee) and do all things reasonably necessary to perform such obligation, charging to Lessee the reasonable cost and expense thereof, and Lessee agrees to pay to Lessor upon demand such charge in addition to other amounts payable by Lessee hereunder. Provided, however, that if in the reasonable opinion of Lessor, Lessee's failure to perform any such obligation endangers the safety of the public or employees or property of Lessor, or other tenants of the Airport, and Lessor so states in its notice to Lessee, Lessor may perform such obligation of Lessee at any time after the giving of such notice, and charge to Lessee the reasonable cost and expense thereof which Lessee shall pay upon demand.

18.2 If Lessor elects to pay any sum or sums or incur any obligation or expense by reason of the failure, neglect or refusal of Lessee to perform or fulfill any one or more of the conditions, covenants or agreements contained in this Agreement, or as the result of any

SAMPLE

act or omission of Lessee contrary to said conditions, covenants or agreements, Lessee hereby agrees to pay the sum or sums so paid or expense so incurred by Lessor as the result of such failure, neglect or refusal of Lessee, including interest, not to exceed the greater of fifteen percent (15%) per annum or the rate which is four percent (4%) per annum above the prime rate as published by the Wall Street Journal, together with all costs, damages and penalties. In such event, the total of such amounts may be added to any installment of rent thereafter due hereunder, and each and every part of the same shall be and become additional rent recoverable by Lessor in the same manner and with like remedies as if it were originally a part of the rent provided for in this Agreement.

SECTION 19
TERMINATION BY LESSOR

19.1 In the event of a default on the part of Lessee in the payment of rents, or any other reasonable charges required by this Agreement to be paid to Lessor, Lessor shall give written notice to Lessee of such default, and demand the cancellation of this Agreement, or the correction thereof. If, within fifteen (15) days after the date Lessor gives such notice, Lessee has not corrected said default, and paid the amount determined to be delinquent in full, Lessor shall have the right to terminate this Agreement and all rights and privileges granted hereby in and to the Leased Premises.

19.2 This Agreement together with all rights and privileges granted in and to the Leased Premises shall terminate automatically, upon the happening of any one or more of the following events:

19.2.1 the filing of Lessee of a voluntary petition in bankruptcy, or any assignment for benefit of creditors of all or any part of Lessee's assets; or

19.2.2 any institution of proceedings in bankruptcy against Lessee; provided, however, that Lessee may defeat such termination if the petition is dismissed within thirty (30) days after the institution thereof; or

19.2.3 the filing of a petition requesting a court to take jurisdiction of Lessee or its assets under the provisions of any Federal reorganization act; or

19.2.4 the filing of a request for the appointment of a receiver or trustee of Lessee's assets by a court of competent jurisdiction, or the request for the appointment of a receiver or trustee of Lessee's assets by a voluntary agreement with Lessee's creditors;

SAMPLE

19.2.5 the abandonment by Lessee of the conduct of its authorized use at the Airport, and in this connection, the suspension of operations for a period of sixty (60) days will be considered abandonment in the absence of a satisfactory explanation which is accepted in writing by Lessor; or

19.2.6 in the event that this Agreement is found to be contrary to law.

19.3 Upon the default by Lessee in the performance of any covenant or conditions required to be performed by Lessee, and the failure of Lessee to remedy such default for a period of thirty (30) days after receipt from Lessor of written notice to remedy the same or to commence to cure such default and diligently pursue such cure to completion, (except as otherwise provided in Section 5.3 (b) above) and, except default in the timely payment of any money due Lessor, Lessor shall have the right to cancel this Agreement for such cause.

19.3.1 In the event that Lessor does not exercise its right to cancel this Agreement as authorized by Section 19.3 for the unremedied default by Lessee in the performance of any covenant or conditions required to be performed by Lessee, Lessee acknowledges and agrees that Lessor will be damaged by such unremedied default. The parties agree that the injury to Lessor caused by such unremedied default will be difficult or impossible to estimate accurately, and the amount of damages set forth herein are reasonable estimates of Lessor's probable losses. Therefore, in addition to any other remedies that Lessor may have or damages that it may pursue, Lessor may charge Lessee the damages set forth herein not as a penalty, but as liquidated compensatory damages to Lessor. For each default that remains unremedied for a period of thirty-one (31) or more days, or ninety-one or more days for failures under Section 5.3 (b) above, unless the commencement of a remedy has begun in a timely manner and is being pursued diligently, Lessor may charge Lessee liquidated damages in the following amounts:

a. $50 for each day Lessee remains in default for failure to submit any reports or documentation required under this Agreement; and

b. $200 for each day Lessee remains in default in the performance of any other covenant or condition of this Agreement.

In such event, the total of such damages may be added to any installment of rent thereafter due hereunder, and each and every part of the same shall be and

SAMPLE

become additional rent recoverable by Lessor in the same manner and with like remedies as if it were originally a part of the rent provided for in this Agreement.

19.4 Upon the default of Lessee, and the giving of notice by Lessor to cancel this Agreement as provided for elsewhere herein, said notice of cancellation shall be final; provided however, that should Lessor determine that Lessee is diligently remedying such default to completion, and so advises Lessee in writing, said notice of cancellation shall be held in abeyance. If, however, Lessor determines in its reasonable discretion that such default is no longer being diligently remedied to conclusion, Lessor shall so advise Lessee in writing, and said notice of cancellation shall no longer be held in abeyance for any reason and shall become final without further notice to Lessee. The determination of Lessor in this regard shall in all events be conclusive and binding upon Lessee.

19.5 Upon the cancellation or termination of this Agreement for any reason, all rights of Lessee, tenants and any other persons in possession shall terminate, including all rights or alleged rights of creditors, trustees, assigns, and all others similarly so situated as to the Leased Premises. Upon said cancellation or termination of this Agreement for any reason, the Leased Premises, except for such personal property which may be removed from said Leased Premises as provided for elsewhere herein, shall be free of all encumbrances and all claims of Lessee, its tenants, creditors, trustees, assigns and all others, and Lessor shall have immediate right of possession to the Leased Premises.

19.6 Failure by Lessor to take any authorized action upon default by Lessee of any of the terms, covenants or conditions required to be performed, kept and observed by Lessee shall not be construed to be, nor act as, a waiver of said default nor of any subsequent default of any of the terms, covenants and conditions contained herein to be performed, kept and observed by Lessee. Acceptance of rent payments by Lessor under the terms hereof, for any period or periods after a default by Lessee of any the terms, covenants and conditions herein required to be performed, kept and observed by Lessee shall not be deemed a waiver or estoppel of any right on the part of Lessor to cancel this Agreement for any subsequent failure by Lessee to so perform, keep or observe any of said terms, covenants or conditions.

SAMPLE

SECTION 20

TERMINATION BY LESSEE

20.1 In addition to any other right of cancellation or termination herein given to Lessee, or any other rights to which it may be entitled to by law, equity or otherwise, as long as Lessee is not in default in payment to Lessor of any amounts due Lessor hereunder this Agreement, Lessee may cancel this Agreement and thereby terminate all of its rights and unaccrued obligations hereunder, by giving Lessor written notice upon or after the happening of the following events:

20.1.1 issuance by a court of competent jurisdiction of an injunction which in any way substantially prevents or restrains the use of the Leased Premises, or any part thereof necessary to Lessee's use on the Airport, and which injunction remains in force for a period of at least thirty (30) days after the party against whom the injunction has been issued has exhausted or abandoned all appeals or one hundred twenty (120) days whichever is shorter, if such injunction is not necessitated by or issued as a result of an act or omission of Lessee; or

20.1.2 the assumption by the United States Government, or any authorized agency thereof, of the operation, control or use of the Airport and its facilities, or any substantial part thereof, in such a manner as substantially to restrict Lessee from use of the Leased Premises for a continuous period of at least ninety (90) days.

SECTION 21

SURRENDER AND RIGHT OF RE-ENTRY

21.1 Upon the cancellation or termination of this Agreement pursuant to any terms hereof, Lessee agrees peaceably to surrender up the Leased Premises to Lessor in the same condition as they are in at the time of the commencement of the Term hereof, and as they may hereafter be repaired and improved by Lessee; save and except, (a) such normal wear and tear thereof as could not have been prevented by ordinary and usual repairs and maintenance, (b) obsolescence in spite of repair, and (c) damage to or destruction of the leasehold improvements for which insurance proceeds are received by Lessor. Upon such cancellation or termination, Lessor may re-enter and repossess the Leased Premises together with all improvements and additions thereto, or pursue any remedy permitted by law for the enforcement of any of the provisions of this Agreement, at Lessor's election. Furthermore, upon such cancellation or termination, and for a reasonable time thereafter

SAMPLE

(not exceeding thirty (30) days after such cancellation or termination, and for which period Lessee will pay to Lessor current lease rent payments), or during the term of this Agreement, if Lessee is not in default in rent payments or any other charges or obligations due Lessor, Lessee shall have the right to remove its personal property, fixtures and trade equipment which it may have on the Leased Premises, provided that Lessee repairs all damages that might be occasioned by such removal, and restores the building and site to the condition above required.

SECTION 22

SERVICES TO LESSEE

22.1 Lessor covenants and agrees that during the term of this Agreement, including any renewals thereof, it will operate the Airport for the use and benefit of the public, including Lessee; provided, however, that Lessor may prohibit or limit any given type, kind, or class of aeronautical use of the Airport if such action is necessary for the safe operation of the Airport or necessary to serve the civil aviation needs of the public. Lessor further agrees to use its best efforts to maintain the runways and taxiways in good repair. Lessor agrees to keep in good repair hard-surfaced public roads for access to the Leased Premises. Lessor also agrees to maintain its water and sanitary sewer facilities in areas designated for utilities or easements adjacent to the Leased Premises for access thereto by Lessee in accordance with Lessor Ordinances governing same.

22.2 Lessee will contract with and obtain all required permits from the appropriate Lessor Departments for any utility services provided by Lessor, paying any required connection fees including those to be paid by owners and all such services will be provided at rates and on terms and conditions established by Lessor.

22.3 Lessee will also contract with the furnishers of all other utilities for the furnishing of such services to the Leased Premises and shall pay for all water, gas, electricity, sanitary sewer service, other utilities, telephone, burglary and fire protection services furnished to the Leased Premises.

SECTION 23

SURVIVAL OF THE OBLIGATIONS OF THE LESSEE

23.1 In the event that the Agreement shall have been terminated in accordance with a notice of termination as provided in Section 19 hereof, all the obligations of Lessee under this

SAMPLE

Agreement shall survive such termination, re-entry, regaining or resumption of possession and shall remain in full force and effect for the full term of this Agreement, including any renewals thereof, and the amount or amounts of damages or deficiency shall become due and payable to Lessor to the same extent, at the same time or times, and in the same manner as if no termination, re-entry, regaining or resumption of possession had taken place. Lessor may maintain separate actions each month to recover the damage or deficiency then due or at its option and at any time may sue to recover the full deficiency less the proper discount, for the entire unexpired term of the Agreement.

23.2 The amount of damages for the period of time subsequent to termination (or re-entry, regaining or resumption of possession) on account of Lessee's rental obligations shall be the sum of the following:

23.2.1 the amount of the total of all unpaid installments thereof payable prior to the effective date of termination except that the credit to be allowed for the installment payable on the first (1st) day of the month in which the termination is effective shall be prorated for the part of the month the Agreement remains in effect on the basis of the total days in the month;

23.2.2 an amount equal to all expenses incurred by Lessor in connection with regaining possession, restoring the Leased Premises, acquiring a new lease for the Leased Premises, legal expenses (including but not limited to attorney's fees), putting the Leased Premises in order, maintenance and brokerage fees;

23.2.3 an amount equal to any deficiency for the remaining term of this Agreement, computed in accordance with the provisions of Section 23.1.

SECTION 24

USE SUBSEQUENT TO CANCELLATION OR TERMINATION

24.1 Lessor, upon termination or cancellation pursuant to Section 19 hereof, may occupy the Leased Premises or may enter into an agreement with another lessee and shall have the right to permit any person, firm or corporation to enter upon the Leased Premises and use the same. Such use may be of part only of the Leased Premises or of the entire Leased Premises, together with other premises, and for a period of time the same as or different from the balance of the terms and conditions the same as or different from those set forth in this Agreement.

SAMPLE

24.2 Lessor shall also, upon said termination or cancellation, or upon re-entry, regaining or resumption of possession, have the right to repair and to make structural or other changes in the Leased Premises, including changes which alter its character and the suitability thereof for the purpose of Lessee under this Agreement, without affecting, altering or diminishing the obligations of Lessee hereunder, provided, that any structural changes shall not be at Lessee's expense.

24.3 In the event either of use by others or of any actual use and occupancy by Lessor, there shall be credited to the account of Lessee against its survived obligations hereunder any net amount remaining after deducting from the amount actually received from any lessee, licensee, permittee or other occupier in connection with the use of the said Leased Premises or portion thereof during the balance of the term or use and occupancy as the same is originally stated in this agreement, or from the market value of the occupancy of such portion of the Leased Premises as Lessor may itself during such period actually use and occupy, all expenses, costs and disbursements incurred or paid by Lessor in connection therewith. No such use and occupancy shall be or be construed to be an acceptance of a surrender of the Leased Premises, nor shall such use and occupancy constitute a waiver of any rights of Lessor hereunder. Lessor will use its best efforts to mitigate damages to Lessee under this Section.

SECTION 25

LIMITATION OF RIGHTS AND PRIVILEGES GRANTED

25.1 Except for the exclusive right of Lessee to possession of the Leased Premises, no exclusive rights at the Airport are granted by this Agreement and no greater rights or privileges with respect to the use of the Leased Premises or any part thereof are granted or intended to be granted to Lessee by this Agreement, or by any provision thereof, than the rights and privileges expressly and specifically granted hereby.

25.2 Lessor expressly reserves unto itself, its successors in interest, and assigns, for the use and benefit of the public, a right of flight for the passage of aircraft in the airspace above the surface of the Leased Premises described, together with the right to cause in said airspace such noise as may be inherent in the operation of aircraft, now known or hereafter used, for navigation of or flight in the said airspace, and for use of said airspace for landing on, taking off from, or operating on the airport.

SAMPLE

SECTION 26

NOTICES

26.1 All notices, consents and approvals required or desired to be given by the parties hereto shall be sent in writing, and shall be deemed sufficiently given when same are received by the United States Mail or if undelivered, the date of postmark, sufficient postage prepaid, registered or certified mail, return receipt requested or hand delivered, addressed to the recipient at the address set forth below:

To Lessor: Airport Manager
Gwinnett County Airport Briscoe Field
600 Briscoe Boulevard
Lawrenceville, GA 30046

With a copy to: Gwinnett County Attorney
75 Langley Drive
Lawrenceville, GA 30046

and

To Lessee: _____
_____
_____
_____

26.2 Such addresses shall be subject to change from time to time to such other addresses as may have been specified in written notice given by the intended recipient to sender.

SECTION 27

HOLDING OVER

27.1 No holding over by Lessee after the termination of this Agreement shall operate to extend or renew this Agreement for any further term whatsoever; but Lessee will by such holding over become the tenant at sufferance. After written notice by Lessor to vacate such premises, continued occupancy thereof by Lessee shall constitute Lessee a trespasser.

27.2 Any holding over by Lessee beyond the thirty (30) day period permitted for removal of personal property and fixtures without the written consent of Lessor shall make Lessee liable to Lessor for damages equal to 125% of the rent and fees provided for herein and which were in effect at the termination of this Agreement.

SAMPLE

27.3 All insurance coverage that Lessee is required under the provisions hereof to maintain in effect shall continue in effect for so long as Lessee, or any of Lessee's sublessees or tenants occupy the Leased Premises or any part thereof.

SECTION 28

INVALID PROVISIONS

28.1 The invalidity of any provisions, articles, paragraphs, portions, or clauses of this Agreement shall have no effect upon the validity of any other part or portion hereof, so long as the remainder shall constitute an enforceable Agreement.

SECTION 29

MISCELLANEOUS PROVISIONS

Remedies to be Nonexclusive.

29.1 All remedies provided in this Agreement shall be deemed cumulative and additional, and not in lieu of, or exclusive of, each other, or of any other remedy available to Lessor, or Lessee, at law or in equity, and the exercise of any remedy, or the existence herein of other remedies or indemnities shall not prevent the exercise of any other remedy.

Non-Waiver of Rights.

29.2 The failure by either party to exercise any right, or rights accruing to it by virtue of the breach of any covenant, condition or agreement herein by the other party shall not operate as a waiver of the exercise of such right or rights in the event of any subsequent breach by such other party, nor shall other party be relieved thereby from its obligations under the terms hereof.

Force Majeure.

29.3 Neither party shall be deemed in violation of this Agreement if it is prevented from performing any of its obligations hereunder by reason of labor disputes, acts of God, acts of the public enemy, acts of superior governmental authority or other circumstances for which it is not responsible or which is not in its control, expressly excluding pandemics, provided, however, that this Section shall not excuse Lessee from paying the rent payments herein specified.

Non-liability of Individuals.

29.4 No director, officer, agent or employee of either party hereto shall be charged personally or held contractually liable by or to the other party under any term or provision of this

SAMPLE

Agreement or of any supplement, modification or amendment to this Agreement because of any breach thereof, or because of his or their execution or attempted execution of the same.

Quiet Enjoyment.

29.5 Lessor covenants that as long as Lessee is not in default of any provision of this Agreement, Lessee shall and may peaceably and quietly have, hold and enjoy the Leased Premises exclusively, except as provided in Section 8, to it during the term hereof unless sooner canceled as provided in this Agreement.

General Provisions.

29.6 Lessee shall not use, or permit the use of, the Leased Premises, or any part thereof, for any purpose or use other than those authorized by this Agreement.

29.7 This Agreement shall be performable and enforceable in Lawrenceville, Georgia, and shall be construed in accordance with the laws of the State of Georgia.

29.8 This Agreement is made for the sole and exclusive benefit of Lessor and Lessee, their successors and assigns, and is not made for the benefit of any third party.

29.9 In the event of any ambiguity in any of the terms of this Agreement, it shall not be construed for or against any party hereto on the basis that such party did or did not author the same.

29.10 All covenants, stipulations and agreements in this Agreement shall extend to and bind each party hereto, its legal representatives, successors and assigns.

29.11 The titles of the several articles of this Agreement are inserted herein for convenience only, and are not intended and shall not be construed to affect in any manner the terms and provisions hereof, or the interpretation or construction thereof.

29.12 Nothing herein contained shall create or be construed to create a partnership between Lessor and Lessee or to constitute Lessee an agent of Lessor. Lessor and Lessee each expressly disclaim the existence of such a relationship between them.

SECTION 30

SUBORDINATION CLAUSES

30.1 This Agreement is subject and subordinate to the following:

30.1.1 Lessor reserves the right to develop and improve the Airport as it sees fit, regardless of the desires or view of Lessee, and without interference or hindrance

SAMPLE

by or on behalf of Lessee, provided, Lessee is not deprived of the use of or access to the Leased Premises.

30.1.2 Lessor reserves the right to take any action it considers necessary to protect the aerial approaches to the Airport against obstruction, together with the right to prevent Lessee from erecting or permitting to be erected any building or other structure on the Airport which, in the opinion of Lessor, would limit the usefulness of the Airport or constitute a hazard to aircraft.

30.1.3 This Agreement is and shall be subordinate to the provisions of existing and future agreements between Lessor and the United States relative to the operation or maintenance of the Airport, the execution of which have been or may be required as a condition precedent to the obtaining or expenditure of Federal funds for the benefit of the Airport.

30.1.4 During the time of war or national emergency, Lessor shall have the right to lease all or any part of the landing area or of the Airport to the United States for military or naval use, and if any such lease is executed, the provisions of this Agreement insofar as they may be inconsistent with the provisions of such lease to the Government, shall be suspended, but such suspension shall not extend the term of this Agreement. Abatement of rent payments shall be determined by Lessor in proportion to the degree of interference with Lessee's use of the Leased Premises.

30.1.5 Except to the extent required for the performance of any obligations of Lessee hereunder, nothing contained in this Agreement shall grant to Lessee any rights whatsoever in the airspace above the Leased Premises other than those rights which are subject to Federal Aviation Administration rules, regulations and orders currently or subsequently effective.

SECTION 31

ENTIRE AGREEMENT

31.1 The Agreement consists of Sections 1 to 31, inclusive, and Exhibit A, Exhibit B, and Exhibit C.

31.2 It constitutes the entire Agreement of the parties hereto and may not be changed, modified, discharged or extended except by written instrument duly executed by Lessor and Lessee. The parties agree that no representations or warranties shall be binding upon Lessor or Lessee unless expressed in writing in this Agreement.

SAMPLE

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the day and year written above.

LESSOR

Gwinnett County, Georgia

By: _____
Nicole L. Hendrickson, Chairwoman

Attest: _____
Clerk/Deputy Clerk

(SEAL)

Date: _____

Approved as to form:

_____
Jenny S. Carter, Deputy County Attorney

Date: _____

Gwinnett County Airport Authority

By: _____
Stan Hall, Chairman

Attest: _____
Marcus Strickland, Secretary

Date: _____

[Signatures Continue of Following Page]

SAMPLE

LESSEE

_____

By: _____
Name:
Title:

Signed, sealed and delivered
in the presence of:

_____

BY: _____
NOTARY PUBLIC

SAMPLE

EXHIBIT B

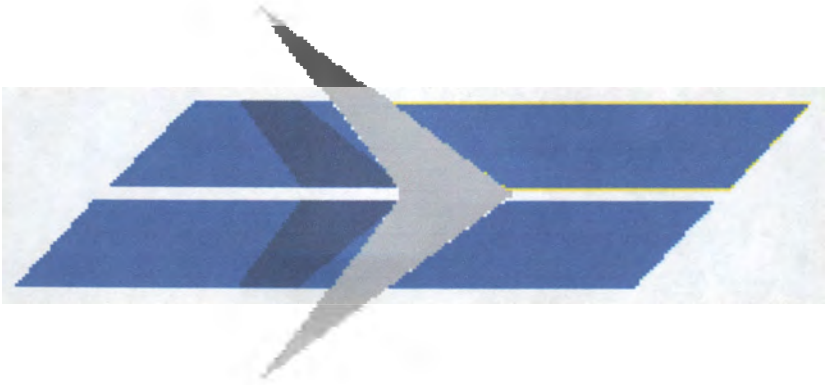
MINIMUM STANDARDS

FOR

COMMERCIAL AERONAUTICAL ACTIVITIES

AT

GWINNETT COUNTY AIRPORT



Adopted September 13, 2007

MINIMUM STANDARDS
TABLE OF CONTENTS

INTRODUCTION.....ii

DEFINITIONS.....1

GENERAL CONDITIONS.....7

AIRCRAFT CHARTER AND OR/TAXI.....9

AIRCRAFT RENTAL.....9

AIRCRAFT SALES.....10

AIRFRAME AND POWER PLANT REPAIR.....10

FIXED BASE OPERATORS.....11

FLIGHT TRAINING.....12

FLYING CLUB.....13

FUEL STORAGE FACILITIES.....13

MISCELLANEOUS OPERATORS.....14

TEMPORARY SPECIALIZED AVIATION SERVICE OPERATOR (TSASO).....15

COMPLIANCE/ENFORCEMENT/APPEALS.....17

AMENDMENTS.....18

ADOPTION OF MINIMUM STANDARDS.....19

GWINNETT COUNTY AIRPORT AUTHORITY MANAGEMENT AGREEMENT (ATTACHMENT 1).....20

INSURANCE REQUIREMENTS (ATTACHMENT 2).....25

INTRODUCTION

The Gwinnett County Airport Authority being authorized to manage and promulgate rules and regulations for the overall operation of airport activities under the Gwinnett County Airport Authority – Management Agreement dated February 7, 2001, (attachment 1) does hereby establish the following Policy for the Minimum Standards:

The Minimum Standards are intended to be the threshold entry requirements for those wishing to provide commercial aeronautical services to the public and to insure that those who have undertaken to provide commodities and services as approved are not exposed to unfair or irresponsible competition. These Minimum Standards were developed taking into consideration the aviation role of the Gwinnett County Airport, facilities that currently exist at the Airport, services being offered at the Airport, the future development planned for the Airport and to promote fair competition at Gwinnett County Airport. The uniform application of these Minimum Standards, containing the minimum levels of service that must be offered by the prospective service provider, relates primarily to the public interest and discourages substandard entrepreneurs, thereby protecting both the established aeronautical activity and the Gwinnett County Airport patrons.

This document applies to all commercial aeronautical activities conducted at Gwinnett County Airport. It does not apply to governmental organizations, non-commercial aeronautical activities, or auxiliary governmental organizations such as the Civil Air Patrol (CAP).

1. DEFINITIONS

Advanced – Aviation Training Device (AATD) – any personal computer-based aviation training device or any AATD, as they are defined in FAA Advisory Circular AC 61-126, or any other FAA publication intended to replace AC 61-126, which is approved and/or authorized by the FAA to log instrument flight experience, to provide instrument proficiency checks, to provide instrument rating practical tests, and to log up to a maximum of 20 hours towards an instrument rating. An official letter from FAA shall be required to substantiate that a device qualifies as an AATD.

Aeronautical Activity – any activity or service conducted at the Airport that involves, makes possible, or is required for the operation of aircraft, or which contributes to or is required for the safety of such operations. These activities include, but are not limited to, air taxi and charter operations, aircraft fueling, aircraft storage, flight training, aircraft rental, aircraft sales, aircraft repair and maintenance, and any other activities, which because of their relationship to the operation of aircraft can appropriately be regarded as an "aeronautical activity."

Aircraft – any device used or designed for navigation of flight in the air including, but not limited to, an airplane, sailplane, glider, helicopter, gyrocopter, ultra-light, balloon, or blimp.

Air Charter or Taxi – the commercial operation of providing air transportation of person(s) or property for hire by either on a charter basis or as an air taxi operator.

Airframe and Power Plant Maintenance – the commercial operation of providing airframe and power plant services, which includes service, the repair, maintenance, inspection, constructing, and making of modifications and alterations to aircraft, aircraft engines, propellers and appliances including the removal of engines for major overhaul as defined in 14 CFR Part 43. This category of service also includes the sale of aircraft parts and accessories.

Airframe and Powerplant Mechanic (A&P) – a person who holds an aircraft mechanic certificate with both airframe and powerplant ratings as authorized and described in 14 CFR Part 65.

Aircraft Fuel – all flammable liquids composed of a mixture of selected hydrocarbons expressly manufactured and blended for the purpose of effectively and efficiently operating an internal combustion, jet, or turbine engine.

Aircraft Owner – a person or entity holding legal title to an aircraft, or any person having exclusive possession of an aircraft. In order to determine whether a person has exclusive possession of an aircraft the overall use of the aircraft will be considered (i.e., a person operating an aircraft for one flight may have exclusive use of the aircraft during the flight but

not exclusive possession of the aircraft.)

Aircraft Parking and Storage Areas – those hangar and apron locations of the Airport designated by the Airport Director for the parking and storage of aircraft.

Aircraft Rental – the commercial operation of renting or leasing aircraft to the public for compensation.

Aircraft Sales – the sale of new or used aircraft through brokerage, ownership, franchise, distributorship, or licensed dealership.

Airport Director – the duly appointed Director or the Director's designee.

Attended – an employee of the commercial operation is present on the business site.

Avionics Sales and Maintenance – the commercial operation of providing for the repair and service, or installation of aircraft radios, instruments and accessories. Such operations may include the sale of new or used aircraft radios, instruments and accessories.

Building –any improvement made to Airport property. All buildings shall compatible to the material and design of the newer basic structures on the airport. For the purposes of these Minimum Standards building shall include all the improvements made to a leased area, if the commercial operator is a lessee. If the commercial operator is a sublessee, building shall include all the improvements made to a leased area that is available for use by the sublessee, and is not exclusively leased to a different person/entity (i.e., restrooms used by all tenants in a building shall meet the requirements set forth in the standards).

Commercial Aeronautical Activity – the conduct of any aspect of a business, concession, operation, or agency providing goods or services to any person for compensation or hire, including exchange or services, whether or not such objectives are accomplished. An activity is considered a commercial activity regardless of whether the business is nonprofit, charitable, or tax-exempt. A commercial business activity that involves, makes possible, or is required for the operation of aircraft, or which contributes to or is required for the safety of aeronautical operations.

Commercial Operator (Operator) – a person, firm, corporation, or other entity, which makes possible, or is required for the operation of aircraft, or which contributes to, or is required for the safe conduct and utility of aircraft operations, the purpose of such activity being to generate and/or secure earnings, income, compensation, and/or profit, whether or not such objectives are accomplished.

Commercial Self-Service Fueling – fueling of an aircraft by the pilot using commercial fuel pumps installed for that purpose. The fueling facility may or may not be attended by the vendor, which may be a fixed base operator or an airport sponsor/operator that is exercising its right to sell fuel.

Employee – a person who is hired by another to perform a service for wages or salary and is under the other's control and who receives an Internal Revenue Service Form W-2 Wage and Tax Statement. Any person who does not receive an Internal Revenue Service Form W-2 is considered an Independent Contractor.

Exclusive Right – a power, privilege, or other right excluding or debarring another from enjoying or exercising a like power, privilege, or right. An exclusive right can be conferred whether by express agreement, by the imposition of unreasonable standards or requirements, or by any other means. Such a right conferred on one or more parties, but excluding others from enjoying or exercising a similar right or rights, would be an exclusive right.

Federal Aviation Administration (FAA) – the Federal Aviation Administration as established in 1967 within the Department of Transportation of the United States government that has the responsibility of promoting safety in the air, by both regulation and education.

Federal Aviation Regulations (FAR) – the Federal Aviation Regulations as published by the FAA that governs the operation of aircraft, airways, and airmen. Compliance with the FARs is mandatory. In 1996, all references to the FARs were changed to "14 CFR" (Title 14 of the Code of Federal Regulations).

Fixed Base Operator (FBO) – a full service commercial operator who is authorized to engage in the primary activity of aircraft refueling (selling fuel) and secondary activities including: airframe and power plant maintenance, flight training, aircraft rental, aircraft charter or air taxi, avionics sales and service, and aircraft storage/hangar(s) rental.

Flight Training – the commercial operation of instructing pilots in dual and solo flight, in fixed or rotary wing aircraft, and related ground school instruction as necessary to complete a FAA written pilot's examination and flight check ride for various categories of pilots licenses and ratings. Flight training is divided into two separate categories for the purposes of the Minimum Standards: Unlimited FAR Part 61/FAR Part 141 Flight Training and Limited FAR Part 61 Flight Training.

Flight Training Device (FTD) – An airplane Flight Training Device (FTD) is a full scale replica of an airplane's instruments, equipment, panels, and controls in an open flight deck area or an enclosed airplane cockpit, including the assemblage of equipment and computer software programs necessary to represent the airplane in ground and flight conditions to the extent of the systems installed in the device; is found to meet the criteria outlined in AC 120-45A, or any subsequent publication of the FAA intended to replace AC 120-45A; and in which flight training events or flight checking events are accomplished.

Flying Club – a non-commercial and nonprofit entity organized for the purpose of providing its members with any number of aircraft for their personal use and enjoyment. Aircraft must be vested in the name of the flying club owners on a pro-rata share, and the club may not derive greater revenue from the use of the aircraft than they cost to operate, maintain, and replace the aircraft.

Fueling or Fuel Handling – the transportation, sale, delivery, dispensing, storage, or draining of fuel or fuel waste products to or from aircraft, vehicles, or equipment.

Fuel Storage Area – any portion of the Airport designated temporarily or permanently by the Gwinnett County Board of Commissioners, the Gwinnett County Airport Authority, or their designee as an area in which aviation or motor vehicle gasoline or any other type of fuel or fuel additive may be stored or loaded.

Hazardous Material – any substance, waste, or material which is toxic, explosive, corrosive, flammable, infectious, radioactive, carcinogenic, mutagenic, or otherwise hazardous, and is or becomes regulated as a hazardous material by any governmental authority, agency, department, commission, board, or agency.

Independent Contractor – a person who is paid by another to perform services but does not receive an Internal Revenue Service Form W-2 Wage and Tax Statement.

Independent Operators – a commercial operator offering a single aeronautical service but without an established place of business on the airport.

Land – an area of the earth inclusive of improvements, bodies of water, and natural or man-made objects. For the purposes of these Minimum Standards land shall include all the area contained in a lease agreement, if the commercial operator is a lessee. If the commercial operator is a sublessee, land shall include all the area contained in the leaseholder's lease agreement that is available for use by the sublessee (areas already encumbered by other businesses, uses, etc., shall be excluded from the land available for use by the sublessee).

Lessee – any person or entity that is a party to a written contract between the Gwinnett County Board of Commissioners and/or the Gwinnett County Airport Authority, which specifies the terms and conditions under which the person/entity may occupy and operate from certain Airport facilities and/or property.

Master Lease Holder – any person or entity that is a party to a written contract between the Gwinnett County Board of Commissioners and the Gwinnett County Airport Authority for a period of time greater than five years, which specifies the terms and conditions under which the person/entity may occupy and operate from certain Airport facilities and/or property.

Minimum Standards – the qualifications or criteria, which may be established by the Airport owner or any designated agent, as the minimum requirements that must be met by businesses engaged in on-airport aeronautical activities for the right to conduct those activities.

Permanent Aviation Facility – a building placed on airport property, by a Master Lease Holder, subject to the terms and conditions of a Master Lease.

Person – an employee, independent contractor, volunteer, firm, or other entity that participates in a commercial aeronautical activity.

Preventive Aircraft Maintenance – maintenance that is not considered a major aircraft alteration or repair and does not involve complex assembly operations as listed in 14 CFR Part 43 (attachment 3 hereby incorporated by reference), except for Item 22 in the Regulation. Item 22 involves the replacement of prefabricated fuel lines, and shall, for purposes of these regulations, be considered a major aircraft repair.

Self-Fueling – the fueling of an aircraft by the owner of the aircraft or the owner's employee.

Self-Service – aircraft refueling, repair, preventative maintenance, towing, adjustment, cleaning, and general services performed by an aircraft owner or his/her employees on his/her aircraft with resources supplied by the aircraft owner.

Shall – indicates a mandatory requirement.

Should – indicates a recommendation or that which is advised but not required.

Specialized Aviation Service Operation (SASO) – a commercial aeronautical business that is authorized to offer a single or limited service according to established Minimum Standards. Examples of a SASO include, but are not limited to, the following commercial aeronautical activities: flight training, aircraft maintenance, air charter or taxi, aircraft sales, avionics maintenance, aircraft rental, and sales, and aircraft storage.

Sublease – a written agreement, approved by the Airport, stating the terms and conditions under which a third party operator leases space from a Lessee for the purpose of providing aeronautical services at the Airport.

Tenant – an individual, corporation, firm, partnership, association, organization, and any other group acting as an entity, to conduct business on the Airport. Tenant includes a trustee, receiver, assignee or similar representative.

Though-the-Fence Operation – an arrangement that the airport sponsor may at times enter into to permit access to the public landing area by independent operators offering an aeronautical activity or access to aircraft based on land adjacent to, but not part of, the airport.

Vehicle Parking Area – any portion of the Airport designated and made available temporarily or permanently by the Master Lease Holder of the area in question and the Airport Director for the parking of vehicles.

2. GENERAL CONDITIONS:

A. Lessees shall arrange for suitable and required space, structures or facilities, each to be permanent, fire resistant, and compatible to the material and design of the newer basic structures on the airport.

B. All plans, specifications, architectural designs and landscaping shall require written approval of the Airport Authority.

C. All such tenants shall conduct their activities and render their services in a safe, responsible and efficient manner and shall be solely responsible for all acts of their agents and/or employees and shall save and hold Gwinnett County Airport Authority and Gwinnett County their officer, agents and employees harmless from any acts of the Lessee, its agents, employees and invitees.

D. No one shall be permitted to operate an aeronautical business activity at the airport without either: 1) a fully executed lease agreement incorporating these minimum standards and the airport's rules and regulations, or 2) a fully executed sublease agreement that has been approved in writing by the Airport Authority and which incorporates these minimum standards and the airport's rules and regulations, or 3) a current letter of authorization issued by the Airport Director and which incorporates these minimum standards and the airport's rules and regulations.

E. All tenants shall abide by and comply with the airport's Storm Water Pollution Prevention Plan, and all State and County Laws and Ordinances, Rules and Regulations of the Federal Aviation Administration and the Department of Transportation.

F. Lessees shall not sublease or assign any portion of their leased premises without the prior written approval of Gwinnett County Airport Authority and, when approved, such subletting or assignment shall be subject to all of these minimum standards.

G. Tenants, in the operation and use of the airport, will not on the grounds of race, color or national origin, discriminate or permit discrimination against any person or group of persons in any manner prohibited by Title 49, CFR, Part 21.

H. All Lessees operating an aeronautical business shall carry the insurance coverages as specified in their fully executed lease agreement with the Gwinnett County Board of Commissioners and/or the Gwinnett County Airport Authority. All sub-lessees and persons operating under a letter of authorization shall carry the insurance coverages specified in attachment 2, hereby incorporated by reference.

I. Lessee shall begin payment of rent on their Leasehold on the effective date of their Lease.

J. All aeronautical activities shall demonstrate financial stability and business ability in general aviation related to their proposed activities to the satisfaction of the Gwinnett County Airport Authority.

K. All tenants shall abide by and comply with the airport's Airport Security Plan (ASP) and all Federal, State, and County Laws, Ordinances, Rules and Regulations, and Directives pertaining to aircraft and airport security. This shall include, but not be limited to, maintaining positive control of all access points to the airport, installing automated gates at all vehicle access points, actively participating in the Airport COPS program, and providing 24 hour emergency contact information.

3. AIRCRAFT CHARTER AND/OR TAXI:

Any party desiring to engage in the charter of aircraft to the public must provide as a minimum the following:

A. **LAND.** A minimum area of 30,000 square feet to provide for a building, aircraft tie down area, and paved automobile parking.

B. **BUILDINGS.** A minimum of 4,000 square feet of building space, properly lighted and heated, which shall include office space, public lounge, restroom facilities, and public use telephone.

C. **TAXIWAYS.** Provide necessary taxiway access to public taxiway and runways.

D. **PERSONNEL.** At least two (2) persons having current commercial pilot certificates with instrument ratings and ratings appropriate for the type of aircraft to be flown.

4. AIRCRAFT RENTAL:

Any party desiring to engage in aircraft rental must provide for repair services necessary to meet any warranties for the type of aircraft for which rental privileges are granted. Have available at least three (3) aircraft and must provide, at a minimum, the following:

A. **LAND.** A minimum area of 30,000 square feet to provide space for a building, display area, paved apron and paved automobile parking.

B. **BUILDING.** A minimum area of 4,000 square feet of building space, properly lighted and heated, which shall include office space, public lounge, restroom facilities and public telephone.

C. **PERSONNEL.** At least one (1) full-time employee, having current ratings appropriate for the types of aircraft to be rented.

D. **AIRCRAFT APRON.** Provide a sufficient square footage of hard-surface apron for aircraft parking.

E. **AUTOMOBILE PARKING.** Provide sufficient paved area for parking of automobiles.

5. AIRCRAFT SALES:

Any party desiring to engage in aircraft sales, either new or used, must provide for, on site, a minimum stock of spare parts and provide repair services necessary to meet any warranties for the type of aircraft for which sales privileges are granted (during the sales guarantee only), or provide the customer with a written agreement specifying where such parts and service may be obtained and must provide, at a minimum, the following:

A. **LAND.** A minimum area of 30,000 square feet on which to provide space for a building, display area, paved apron and paved automobile parking.

B. **BUILDING.** A minimum internal area of 4,000 square feet of building space, properly lighted and heated, which shall include office space, public lounge, restroom facilities and public telephone.

C. **PERSONNEL.** At least one (1) full-time employee, having current ratings appropriate for the types of aircraft to be demonstrated.

D. **AIRCRAFT APRON.** Provide a sufficient square footage of hard-surface apron for aircraft parking.

E. **AUTOMOBILE PARKING.** Provide sufficient paved area for parking of automobiles.

6. AIRFRAME AND POWER PLANT REPAIR:

Any party desiring to engage in repair of aircraft on the airport must provide as a minimum the following:

A. **LAND.** A minimum land area of 43,560 square feet on which to provide space for a building, temporary parking of aircraft, and paved automobile parking for customers and employees.

B. **BUILDINGS.** A minimum of 10,000 square feet of building space, 2,000 square feet of which shall include heated office space, storage, public lounge, restroom facilities, and a public use telephone. A minimum of 8,000 square feet of hangar space for maintenance and sufficient storage of aircraft, parts, and equipment.

C. **PAVED AREAS.** A paved ramp consisting of at least 20,000 square feet to provide temporary storage and parking of aircraft.

D. **PERSONNEL.** At least two (2) full time employees properly certificated by the Federal Aviation Administration to perform airframe or powerplant repair. At least one (1) of these employees must be appropriately certified an I.A.

7. FIXED BASE OPERATORS:

A. **LAND.** A minimum area of ten (10) acres (435,600 square feet) to provide for buildings, paved automobile parking, dispensing equipment, and paved tie down area necessary to accommodate a variety of general aviation aircraft.

B. **BUILDINGS.** A minimum of 50,000 square feet of building space, to include 6,000 square feet of heated office space, restroom facilities, public lounge, pilots' lounge, and public use telephones, and; a minimum of 44,000 square feet of hangar space.

C. **PAVED AREAS.** A paved aircraft parking and tie down ramp of at least 200,000 square feet, and sufficient paved area for the parking of automobiles.

D. **PERSONNEL.** An adequate number of properly trained persons shall be on duty during the required hours of operation for fuel dispensing. The office shall be attended by an employee 24 hours per day, 7 days a week.

E. **AIRCRAFT SERVICE EQUIPMENT.** Emergency starting equipment and appropriate fire extinguishers along with adequate ground support equipment shall be provided to meet the needs of aircraft that normally use the airport.

F. **REQUIRED SERVICES.** Provide the following:

- Tie down and hangar storage for general aviation aircraft (itinerant and local).
- Have available for sale aviation gasoline, jet fuel, oils and lubricants of kinds and grades customarily sold to general aviation aircraft
- Major maintenance and repair of general aviation aircraft, engine and avionics,
- Maintain an adequate inventory of aircraft parts and accessories to maintain, repair and service general aviation aircraft.

G. **OTHER SERVICES PERMITTED BY FBO.**

1. Sale of new or used aircraft.
2. Aircraft rental.
3. Flight training.
4. Aircraft charter and air taxi.
5. Sightseeing flights.

6. Aerial survey, photography and mapping services.
7. Avionics sales and service.

8. FLIGHT TRAINING:

Any party desiring to engage in flight training must provide a minimum of the following:

A. **LAND.** A minimum area of 30,000 square feet to provide space for a building, aircraft tie down area, and paved automobile parking.

B. **BUILDINGS.** A minimum area of 4,000 square feet of building space, which shall include at least 2,000 square feet of heated office space, public lounge, classrooms, restroom facilities and public telephone.

C. **TAXIWAYS.** Provide necessary taxiway access to public taxiways and runways.

D. **PERSONNEL.** At least two (2) persons properly certificated by the FAA as flight instructors, one (1) of which must hold a CFII, and both must possess additional ratings to cover the type of training offered, and be a certificated ground school instructor.

E. **AIRCRAFT AND AUTOMOBILE PARKING.** Provide a minimum of 15,000 square feet of hard surface apron for aircraft parking with proper catch basins and drains, and a minimum of 4,500 square feet of paved area for parking of automobiles.

F. **AIRCRAFT.** Have available for use in flight training, either owned or under written lease which gives exclusive use of the aircraft to the flight school, a sufficient number of aircraft properly certified and airworthy to handle the proposed scope of the training operation, but not less than three (3) aircraft, at least one of which must be equipped for and capable for use for instrument flight training.

For the purposes of this section an FAA approved Flight Training Device (FTD), or an FAA approved Advanced Aviation Training Device (AATD), as defined in this document, may be used in lieu of one of the required aircraft (i.e., not less than three aircraft OR not less than two aircraft and one FAA approved FTD or AATD).

G. **SECURITY.** Identify and comply with all Department of Homeland Security and/or Transportation Security Administration (TSA) regulations concerning flight instruction, including providing correspondence either to or from the local TSA office, with a copy to be kept by the Airport Director's office, showing that

the TSA is aware of the flight school's operations. Comply with the Airport Security Plan.

H. **EXCEPTION.** An operator who provides rotary wing flight training only, will comply with the provisions of this section except that authorization will be granted, upon written request, to effect a 60% reduction in the space requirements and a reduction in the required number of aircraft to two (2).

9. FLYING CLUB:

The following requirements pertain to all flying clubs desiring to base their aircraft on the airport:

A. Each flying club organization must be a non-profit corporation or partnership. Each member must have an equal share in the ownership of the aircraft or be a member of the corporation.

B. The club may not derive greater revenue from the use of its aircraft than the amount necessary for the actual use of operation, maintenance and replacement of its aircraft.

C. The club will file and keep current with the Airport Authority, a complete list of the club's membership and investment share held by each member.

D. No one other than bona fide club members shall use the aircraft for rental. No one shall use the club aircraft for hire, charter or air taxi.

E. Each aircraft owned by the flying club must have aircraft liability insurance of not less than the amount specified in Attachment 2 of this document.

10. FUEL STORAGE FACILITIES:

Any party desiring to utilize and construct a fuel storage facility at Gwinnett County Airport must be a full-service fixed base operator or be limited to self-fueling operations only, which excludes, but is not necessarily limited to resale, share costs, co-operatives, etc. and must provide as a minimum the following:

A. Be a Master Leaseholder in good standing.

B. Construct a minimum permanent aviation facility of not less than 18,000 square feet. Have a minimum fuel storage capacity of 10,000 gallons. This self-fueling privilege shall require annual fuel usage of at least 50,000 gallons of jet fuel, or 50,000 gallons of Avgas.

C. Construct a minimum permanent aviation facility of not less than 12,500 square feet and not more than 17,999 square feet. Have a minimum fuel storage facility of 10,000 gallons. This self-fueling privilege shall require annual fuel usage of at least 75,000 gallons of jet fuel, or 75,000 gallons of Avgas.

D. To operate a flight school, flight school operations shall not engage in commercial leasing of airplanes, charter rentals, or any other business. Construct a minimum permanent aviation facility of not less than 12,500 square feet. Have a minimum fuel storage facility of 10,000 gallons. This self fueling privilege shall require annual fuel usage of at least 35,000 gallons of jet fuel, or 35,000 gallons of Avgas.

E. Compliance with National Fire Protection Agency, Federal Aviation Administration, Environmental Protection Agency, Georgia EPD, and County Rules and Regulations in regard to fuel handling storage and storage and delivery.

For the purposes of these minimum standards permanent aviation facility shall be a single hangar facility with attached office space meeting the applicable size requirements.

11. MISCELLANEOUS OPERATORS:

Miscellaneous operators are commercial aviation operators offering any aeronautical activity not covered in Sections 2-10 of these Minimum Standards. Such activities include, but are not limited to:

Sightseeing Flights, Crop Dusting and other Agricultural Applications, Banner Towing and Aerial Advertising, Aerial Photography and Survey, Aerial Fire Fighting, Power Line and/or Pipeline Patrol, or any other operations approved by the Airport Director.

A. **LAND.** No minimum amount of land is required to be leased.

B. **BUILDINGS.** No minimum space is required to be leased.

C. **PAVED AREAS.** Provide sufficient paved ramp area for the storage and parking of aircraft, equipment, vehicle parking for customers and employees.

D. **PERSONNEL AND EQUIPMENT.** All personnel and equipment utilized in the miscellaneous operator's operation shall be appropriately certificated by the FAA and any/all other applicable regulating agencies.

E. **INSURANCE.** Insurance requirements will be determined on a case-by-case basis by the County's Risk Management Division based on the inherent risk involved in the proposed miscellaneous operation. Miscellaneous operators shall provide proof of insurance meeting the requirements set forth in attachment 2 and

any other requirements set forth by the County's Risk Management Division, prior to beginning any commercial operations.

12. TEMPORARY SPECIALIZED AVIATION SERVICE OPERATOR (TSASO)

Aircraft operators using the Airport may require specialized assistance with the maintenance of their Aircraft and/or flight training. When assistance is not available on the Airport through an existing approved commercial aeronautical service provider due to the specialized nature of the maintenance and/or flight training requirements, or if the flight instruction is to be carried out in an aircraft owned by the aircraft operator (proof of which shall be submitted if required by the Airport Director), the Airport Director may allow an Aircraft operator to solicit and utilize the services of a qualified entity to provide said services.

A. **LAND.** No amount of land can be leased, as the TSASO operation is temporary in nature.

B. **BUILDINGS.** No minimum space is required to be leased, however, any maintenance activities must be accomplished in an area not subject to rainfall or that contributes to storm water runoff (i.e., must be accomplished inside a hangar, or building). The Temporary Specialized Aviation Service Operator shall not have a permanent presence on the airport, (i.e., office space) or scheduled office hours of operation. Services will be provided on an as-needed basis.

No signs shall be posted on the airport identifying the TSASO, as it is temporary in nature.

No advertising shall be posted for a TSASO, as it is temporary in nature. Advertising includes, but is not limited to, printed ads in newspapers, trade journals, or magazines, radio advertisements, television advertisements, or web sites showing the services available. Any advertising for a TSASO, or any signs posted at the airport identifying the TSASO shall automatically eliminate the temporary nature of the business, and shall require that the business meet all the requirements of either Section 6 – Airframe and Powerplant Repair or Section 8 – Flight Training, whichever is appropriate for the business that has placed a sign and/or advertisement.

C. **PAVED AREAS.** No minimum amount of paved area must be leased.

D. **PERSONNEL AND EQUIPMENT.** Equipment shall be adequate to properly support the services being provided. To qualify for this category, the Temporary Specialized Aviation Service Operator shall not have any employees or contract

labor and will be the sole provider of the service. The Temporary Specialized Aviation Service Operator shall be licensed or certified under the appropriate governmental requirements for the service being provided and shall provide the Airport Director with a copy of any appropriate licenses or certificates as part of the Temporary Specialized Aviation Service Operator Letter of Authorization Process.

All aircraft used for flight training by a TSASO shall be dual equipped aircraft that meet the FAA requirements for commercial operations, and the TSASO operator shall be present for the supervision of all student flights.

E. **LETTER OF AUTHORIZATION.** Prior to commencing any work at the airport the Temporary Specialized Aviation Service Operator must have the Aircraft Owner/Operator submit a request to the Airport Director on behalf of the TSASO requesting a 60-day Letter of Authorization for maintenance or a 180-day Letter of Authorization for flight instruction.

The request for a Letter of Authorization shall be accompanied by copies of any appropriate licenses or certificates required for the work proposed to be performed. The request shall also be accompanied by evidence of insurance coverage as required in attachment 2 of these Minimum Standards.

Aircraft operators requiring after-hour or weekend service by a TSASO must give notice to the Airport Director prior to the TSASO engaging in activities on the airport.

Aircraft operators are responsible for assuring compliance with all Airport Rules and Regulations and the Airport Security Plan by the TSASO while on the airport.

The 60-day Letter of Authorization, or 180-day Letter of Authorization may be renewed. Renewal shall be subject to the TSASO's compliance with all terms of the Letter of Authorization and these minimum standards. All renewals will be issued by the Airport Director and then presented to the Airport Authority at their next regularly scheduled meeting for ratification. If the Authority does not ratify a renewal, the renewed Letter of Authorization is voided effective on the next business day following the regularly scheduled meeting.

Prior to issuance of a Letter of Authorization from the airport for flight instruction, the flight instructor must show evidence of complying with all Department of Homeland Security and/or Transportation Security Administration (TSA) regulations concerning flight instruction, including providing correspondence either to or from the local TSA office, with a copy to be kept by the Airport Director's office, showing that the TSA is aware of the flight training operations.

13. COMPLIANCE/ENFORCEMENT/APPEALS:

A. Failure to comply with these requirements shall be a violation of airport minimum standards, and the Airport Authority and/or the Gwinnett County Board of Commissioners may take any action deemed advisable for each occurrence.

B. These requirements are effective with the date of adoption by the Gwinnett County Airport Authority.

C. Anyone wishing to allege a violation of these requirements or to challenge the Airport Director's interpretation of these standards may submit their complaint/challenge to the Airport Director in writing or verbally. In order to ensure that full investigation of the complaint/challenge is accomplished, the complaint/challenge should include the name and contact information of the person filing the complaint/challenge, and as much information as possible about the complaint/challenge.

D. After receiving a complaint/challenge, the Airport Director shall conduct a full investigation into the matter. The results of the investigation shall be communicated to the complainant/challenger within 30 days of the original complaint/challenge.

E. If the complainant/challenger disagrees with the Airport Director's determination, or if a complainant/challenger is not notified of a determination within 30 days, the complainant/challenger may request reconsideration from the Gwinnett County Airport Authority by making a request for reconsideration to the Airport Director or by making a request for reconsideration at a regularly scheduled Gwinnett County Airport Authority meeting during the Public Comment portion of the meeting agenda.

F. After receiving a request for reconsideration the Airport Authority will refer the matter to the Airport Authority's Lease Committee for review. The Lease Committee will then schedule a meeting to discuss the matter (a Reconsideration Meeting). The person requesting reconsideration shall be allowed to attend this Reconsideration Meeting if they desire. The Lease Committee will provide a report to the Airport Authority at the next regularly scheduled meeting of the Authority that immediately follows the Reconsideration Meeting. The report from the Lease Committee shall not be more than 90 days after the original request for reconsideration.

G. If the person requesting reconsideration does not agree with the Lease Committee's determination they must submit a written notice to the Deputy Director of Gwinnett County's Department of Transportation at 75 Langley Drive,

Lawrenceville, GA 30045 within 10 days of the Lease Committee's report. Upon receiving the written notice, the Deputy Director shall direct the Airport Director to put an action item under new business for the Airport Authority to act upon at their next regularly scheduled meeting. The determination of the Airport Authority shall be final.

14. AMENDMENTS:

These minimum standards may be supplemented and amended by the Gwinnett County Airport Authority from time to time and in such manner and to such extent, as the Authority may deem proper.

15. ADOPTION OF MINIMUM STANDARDS:

Gwinnett County
State of Georgia

IN WITNESS WHEREOF, the Gwinnett Airport Authority has hereunto set their hands and seal this 13th day of September, 2007, in adoption of the above written Minimum Standards.

Gwinnett County
Airport Authority

Attest:

Mark Grams, Secretary
Gwinnett County Airport Authority

Eric "Tip" Cape, Chairman
Gwinnett County Airport Authority

MINUTE BOOK 2001

001133

COUNTY OF GWINNETT,

STATE OF GEORGIA.

MANAGEMENT AGREEMENT

THIS AGREEMENT made and entered into this 7 day of Feb., 2001, by and between GWINNETT COUNTY, a political subdivision of the State of Georgia, as party of the first part, (hereinafter referred to as the "County"), and The GWINNETT COUNTY AIRPORT AUTHORITY, of the State of Georgia, as party of the second part, (hereinafter referred to as the "Authority").

WITNESSETH:

WHEREAS, the County and Authority are authorized by the Constitution and Laws of the State of Georgia to enter into an agreement for the management and operation of the Gwinnett County Airport; and

WHEREAS, the County and the Authority have previously entered into such a management agreement dated October 18, 1988, as amended on July 9, 1993, which management agreement has expired by its terms; and

WHEREAS, in consideration of the growth of Gwinnett County and the rapid development of the Gwinnett County Airport, the parties hereto desire to enter into a new management agreement which sets forth their respective duties and obligations for the benefit of the Gwinnett County Airport and the citizens of Gwinnett County

NOW, THEREFORE, for and in consideration of the sum of TEN DOLLARS ($10.00), the receipt and sufficiency of which are hereby acknowledged, and the mutual

MINUTE BOOK 2001 001134

promises of the parties hereto, the parties hereby enter into the following management agreement:

1.

The Authority does hereby agree to manage the facilities and operations located on the Gwinnett County Airport, the boundaries of which are described in Exhibit "A" attached hereto and incorporated herein by reference.

(A) The Authority shall be authorized to enter into contracts, sub-contracts, leases, sub-leases, agreements and permits including aircraft tie-down agreements, for the operation and maintenance of the airport premises, provided, however, that any such contract, sub-contract, lease, sub-lease, agreement or permit, including any renewal of same, which has a term in excess of four years shall be approved by the County prior to its effective date. The Authority shall follow County purchasing guidelines where applicable. All such contracts entered into by the Authority shall be subject to funds allocated by the County and available in the Airport Operating Fund.

(B) The Airport Authority and the County shall jointly approve all contracts and agreements which concern the application for or the expenditure of Federal Aviation Administration or other United States Government grant funds. The County shall, in cooperation with the Authority, invite, receive, open, tabulate, review and award all bids in connection with such agreements and contracts in accordance with County purchasing ordinances and Federal requirements.

(C) The Authority shall be authorized to make recommendations to the County for an individual for employment as airport manager. The airport manager, when so employed, shall be a County employee of the Department of Transportation.

(D) The Department of Transportation shall, in conjunction with the Authority and other County departments, annually prepare a budget for the operation of the Gwinnett County Airport, which shall be submitted first to the Authority for review and

001125
MINUTE BOOK 2001

recommendations and then to the County. The submittal of the budget to the County shall be accompanied by any formal recommendations of the Authority. The County shall appropriate such funds as the Board of Commissioners, in its sole discretion, shall deem necessary.

(E) The Authority shall consider to make recommendations to the County on all long-range plans and policy guidelines for the overall growth and development of the Gwinnett County Airport. The Authority may promulgate rules and regulations for the overall operation of airport activities.

(F) The Authority and airport manager shall set the fee schedules for Airport revenue operations subject to the approval of the County.

2.

The term of the within agreement shall be from the date of the execution of this agreement through December 31, 2010. Either party may terminate this agreement for any reason by giving one hundred eighty (180) days advance written notice.

3.

The use of the airport facilities by the Authority, and its lessees and assigns, shall be subject to all rules and regulations as are presently established by the Authority or as may hereafter be established. The Authority shall comply with all rules and regulations as established by the Federal Aviation Administration.

4.

The Authority agrees to remit to the County treasury on a monthly basis the revenues collected by the Authority from the T-hangars, tie-down leases, maintenance hangars, and other leased premises for deposit in the airport operating fund, which funds shall be used for payment of airport debts and/or operations.

ATTACHMENT 1

MINUTE BOOK 2001 001136

5.

In the event of any conflict between the language of this Agreement and the acts which created the Authority, the parties hereto specifically intend and agree that language of this Agreement shall prevail.

IN WITNESS WHEREOF, the parties hereto have executed these presents the day and year first above written.

GWINNETT COUNTY, GEORGIA

By: _____
F. Wayne Hill, Chairman

Attest:

_____
Brenda Maddox, Clerk

Executed by authority granted at a Meeting of the Board of Commissioners held on the 6th day of February, 2001.

APPROVED AS TO FORM
Gwinnett County Law Department

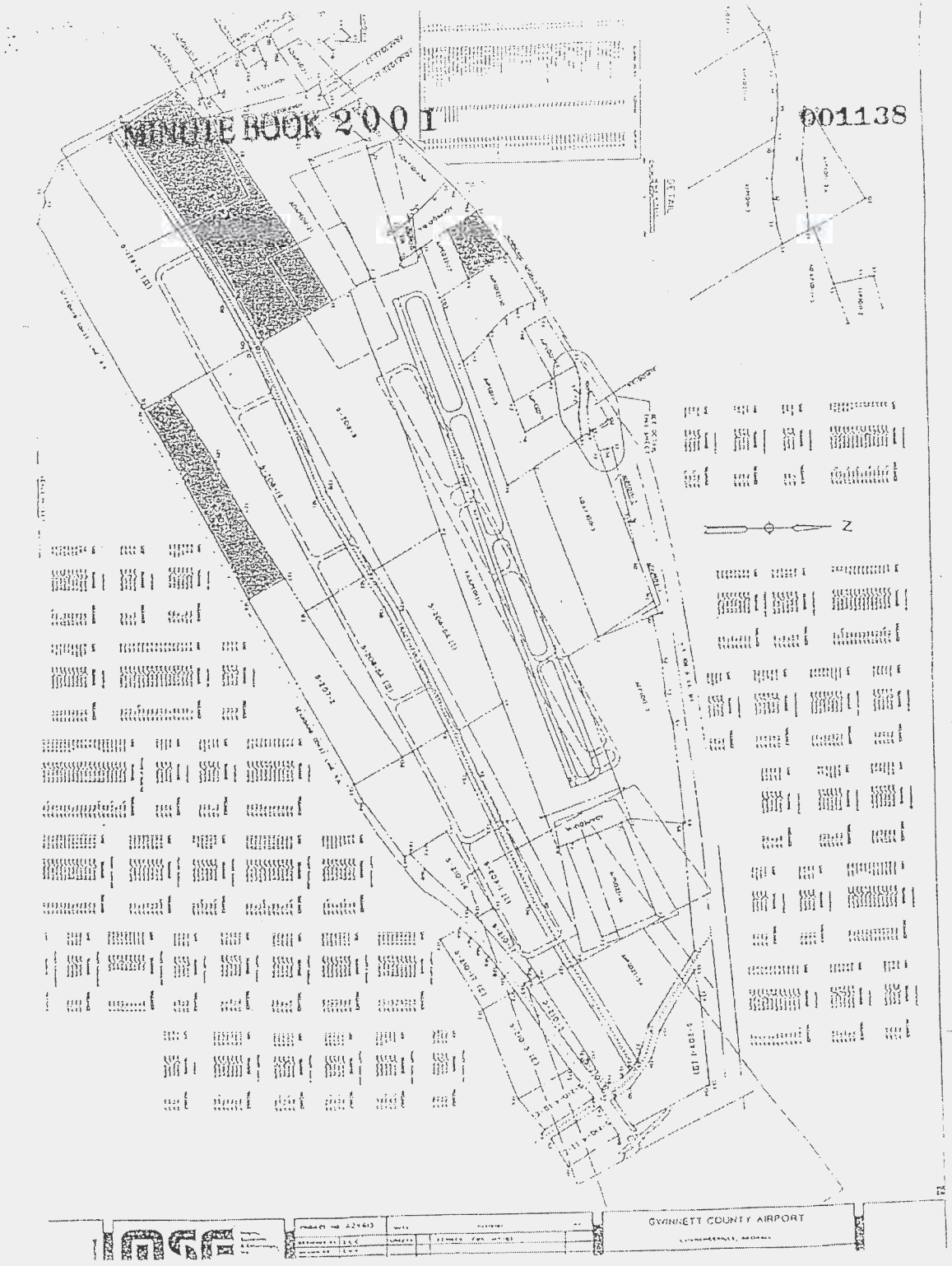
_____
Glenn P. Stephens
Senior Assistant County Attorney

GWINNETT COUNTY AIRPORT AUTHORITY

Attest:

By: _____
Jann Moore, Chairperson

_____
Emory Geiger, Secretary



ATTACHMENT 1

ATTACHMENT 2

1. Statutory Workers' Compensation Insurance shall be carried for any person, corporation, partnerships, or other as required by Georgia law with commercial operations at the airport. Persons, corporations, partnerships, or others not required to carry Workers' Compensation insurance must sign a Gwinnett County release. In addition, if you are required to carry Workers' Compensation you must include:

   (a) Employers Liability:
   Bodily Injury by Accident - $100,000 each accident
   Bodily Injury by Disease - $500,000 policy limit
   Bodily Injury by Disease - $100,000 each

2. Premises Liability Insurance for all persons, corporations, partnerships or others with commercial operations and must include:

   (a) Not less than $1,000,000 Combined Single Limit Bodily Injury and Property Damage
   (b) Not less than $1,000,000 Combined Single Limit Bodily Injury and Property Damage for Products Liability if you sell, repair, manufacturer, or distribute products
   (c) The following additional coverages must apply:
   * Additional Insured Endorsement
   * Contractual Liability
   * Severability of Interest
   * Personal Injury

3. Aircraft Liability for any persons, corporations, partnerships, or others who own, non-own, lease, borrow, or hire an aircraft.

   (a) Not less than $1,000,000 Combined Single Limits Bodily Injury and Property Damage, Limited to $100,000 per Seat Passenger legal Liability.

4. Environmental Impairment Liability (Pollution Liability) for anyone having stationary fuel tanks, portable fuel tanks, waste oil tanks and drums of chemicals.

   (a) $1,000,000 Limit of Liability per Occurrence for Bodily Injury and Property Damage.

5. Hangarkeepers' Legal Liability for any persons, corporations, partnerships, or others who have aircraft which are the property of others and are in the care, custody or control of the person, corporation, partnership, or other as a bailee.

   (a) Not less than a per-aircraft limit equal to the maximum value of any aircraft and a maximum limit of the total value of all aircraft while in the care, custody or control of the operator.

6. Gwinnett County Board of Commissioners and the Airport Authority should be shown as an additional insured on Aircraft Liability, Premises Liability, Hangarkeepers' Liability, Environmental Impairment Liability and Automobile Liability policies that are required.

7. The cancellation provision should provide a 30-day notice of cancellation.

8. Certificate Holder should read:

   Gwinnett County Board of Commissioners
   75 Langley Drive
   Lawrenceville, GA 30045-6900

   and

   Gwinnett County Airport Authority
   600 Briscoe Boulevard
   Lawrenceville, GA 30046

9. Insurance Company, except Workers' Compensation carrier, must have an A.M. Best Rating of A-6 or higher.

10. Insurance Company shall be licensed to do business by the Georgia Department of Insurance.

11. Certificates of Insurance, and any subsequent renewals, must be current and on file with the Airport Manager.

12. All minimum insurance coverages required will be primary over any insurance program carried by the County, only as respects operations of insured.

13. The person, corporation, partnership or other shall agree to waive all rights of subrogation against the Airport Authority, Gwinnett County, the Board of Commissioners, its officers, officials, employees, and volunteers from losses arising from the issue of this permit.

14. All accidents involving insurance claims must be reported to the County. If the County

requires any information on coverage or a particular claim then the person, corporation, partnership or other must provide copies of policies or loss runs.

15. Compliance by the person, corporation, partnership or other with the foregoing requirements as to carrying minimum insurance shall not relieve the person, corporation, partnership or other of their liability provisions.

16. The person, corporation, partnership or other is to comply with the FAA, EPA, OSHA and any other laws that may apply to them when entering the airport.

17. The person, corporation, partnership, or other shall, at a minimum, apply risk management practices accepted by their industry.

18. The Airport Authority reserves the right to amend the minimum standards for insurance at any time, based on the increase in legal liability exposures and the availability of insurance coverages and limits.

EXHIBIT C

Airport Master Plan Update

Gwinnett County Airport – Briscoe Field

GCID: 2025-0258
2025

Gwinnett

Table of Contents

Chapter One: Introduction 1
Objectives 1
Key Issues 1
Master Plan Key Elements and Process 2
Public Involvement 2
Summary 3
Chapter Two: Inventory 7
Introduction 7
Objective 7
Airport Characteristics 8
Airport Location 8
Aviation Classification 10
Georgia Aviation System Plan Role 11
Airport Meteorological Conditions 12
Wind 12
Airside Facilities 15
Runways 15
Pavement Strength Pavement Condition Index 15
Taxiways 17
Apron 17
Markings 18
Airport Lighting 19
Runway Lighting 19
Taxiway Lighting 19
Airport Signage 20
Approach Lighting 20
Instrument Approach Procedures 20
NAVAIDS 22
Rotating Beacon 22
Segmented Circle/Wind Cone 22
Glideslope and Localizer Antennae 23

Precision Approach Path Indicator 24
Weather Facilities 24
Minimum Useful Life Guidelines 24
Airspace and Air Traffic Control 27
General Aviation Facilities 29
Airport Businesses 29
Aircraft Storage 29
Airport Administration 29
Airport Maintenance 29
Emergency Services 29
Fencing/Security 30
Fuel Storage 31
Auto Access and Parking 31
Existing Environmental Conditions 31
Historical Archaeological and Cultural Resources 31
Socioeconomic, Environmental Justice, and Children's Environmental Health and Safety Risks 32
Visual Effects 32
Fish, Wildlife, and Plants Federally Protected Species 33
Plant Communities 33
Wildlife 35
Fish Communities 36
Wetlands Waters of the U.S. 36
Wetlands and Surface Waters 36
Floodplains 36
Groundwater 37
Wild and Scenic Rivers 37
Farmlands 39
Climate 40
Coastal Resources 40
Department of Transportation Act, Section 4(F) 40
Natural Resources and Energy Supply 40
Hazardous Materials 41
Solid Waste 41
Pollution Prevention 41

Air Quality 42
Noise 42
Land Use 43
Summary of Airport Facilities 46
Chapter Three: Forecast 47
Introduction 47
Historical Aviation Activity 47
General Aviation Operations 50
General Aviation Industry and Local Economy 52
General Aviation Industry 52
Gwinnett County Economy 55
Forecasts of Aviation Activity 56
Forecast of Based Aircraft 57
Forecast of Operations 60
General Aviation Operations 60
Total Operations 61
Itinerant and Local, IFR/VFR Operations 63
Operations by Engine Type 65
Identification of the Critical Aircraft 65
Day/Night Operations and Peaking 67
Comparison with Previous Forecasts 68
Chapter Four: Facility Requirements 72
Introduction 72
Georgia Aviation System Plan Requirements 72
Planning Horizon 74
Airfield Capacity Analysis 74
Capacity Factors 75
Annual Service Volume 76
Aircraft Delay 77
Hourly Capacity 77
Airfield Design Requirements 77
Runway Design Code 77
Aircraft Approach Category 78
Aircraft Design Group 78

Visibility Minimums 78
Airfield Design Standards 83
Runway System Requirements 84
Runway Length 84
Runway Width 93
Runway Strength 93
Runway Protection and Separation Requirements 93
Runway Safety Area 93
Runway Object Free Area 94
Runway Obstacle Free Zone 94
Runway Protection Zone 94
Runway Separation Standards 96
Taxiway Configuration Requirements 97
Airfield, Lighting, Markings, and Signage 100
Airfield Lighting and Signage 100
Airfield Marking 100
Navigational Aid System 100
Automated Weather Observing System 101
Airport Traffic Control Tower 101
General Aviation Facilities 102
Aircraft Storage Requirements 102
Airport Support Facilities 106
Airport Administration Building 106
Airport Maintenance Facility 106
Emergency Services 106
Security 106
Aviation Fueling Facilities 106
Airport Access 107
Summary 109
Chapter Five: Airport Alternatives 111
Introduction 111
Design Standards 111
Airfield Improvement 111
No Action 111

Runway 7-25 Improvements 112
Taxiway Development 115
Airfield Lighting and Signage 117
Vertical Glideslope Indicator 117
Runway Safety Areas 117
Vertiport 119
AWOS Relocation 120
Landside Improvements 121
General Aviation Improvements 121
Waste Oil 125
Aircraft Wash Rack 125
Passive Use Area 127
Air Traffic Control Tower 128
Surface Access 130
Preferred Development Concept 131
Chapter Six: Airport Layout Plan 136
Introduction 136
Title Sheet 136
Airport Data Sheet 136
Airport Layout Drawing 137
Terminal Area Drawings 137
Airport Airspace Drawings 137
Inner Portion of the Approach Surface Drawings 138
Departure Surface Drawing 139
Airport Land Use Drawing 139
Runway 7-25 Approach Obstruction Tables 139
Chapter Seven: Capital Improvement Plan 161
Introduction 161
Implementation Plan 161
Pavement Maintenance 161
Funding Sources 162
Federal Aviation Administration 162
State Funding 163
Local Funding 163

Private Funding 163
Cost Estimates and Phasing 163

Chapter One: Introduction

This master plan update for Gwinnett County Airport-Briscoe Field (LZU) is being undertaken to evaluate the airport's existing and future role, forecast aviation demand, and plan for the timely development of new and improved facilities necessary to meet the needs of the traveling public while maintaining a safe and efficient airport. The preparation of the master plan recognizes the airport's importance to the community and seeks to bring value and amenities to its stakeholders. With a sound and realistic plan, the airport can maintain its important role in the National Air Transportation System.

The last full master plan update for LZU was completed in 2006. Gwinnett County initiated this master plan update in 2022 to reevaluate and adjust the future development plan for LZU as necessary. The master plan will provide guidance for the next 20 years through an updated Airport Layout Plan and Capital Improvement Plan that demonstrates a timeline for future investments at LZU and the steps necessary to implement those objectives.

Objectives

As the airport sponsor, Gwinnett County is obligated through federal grant assurances to maintain an up-to-date Airport Layout Plan for LZU. The following objectives help guide the master planning process:

- Identify airside, landside, and airspace improvements and recommend options to further optimize the economic aspects of the airport while enhancing the safety and operational capability
- Create a plan that meets the transportation needs of the community and establish an implementation schedule for short-, intermediate-, and long-term improvements
- Incorporate the interests of public and government agencies into the planning process
- Be sensitive to the overall environmental characteristics and needs of the surrounding area
- Enhance sustainability in the use of valuable resources and reduce the impact of our local government operations on the environment

These objectives will be updated through stakeholder input during the master plan.

Key Issues

As a community with a growing economy and increasing population, Gwinnett County faces unique challenges. The key issues addressed by this master plan are:

- Responding to economic growth within the community
- Meeting the needs of existing and future aviation stakeholders
- Identifying improvements to increase airport landside capacity
- Identifying areas of highest and best use for future airside facilities
- Meeting FAA airport design standards

Key issues will be updated during the proceedings of the master plan.

Master Plan Key Elements and Process

The Gwinnett County Airport Master Plan is being prepared following Federal Aviation Administration guidelines and industry-accepted principles and practices. The master plan will have seven chapters intended to assist in the discovery of future facility needs and provide the supporting rationale for their implementation.

Working Paper 1 includes the following draft chapters of the master plan:

- **Chapter 1** – The introduction sets the tone for the study by highlighting the objectives the study will address, setting goals, identifying key issues, and providing a summary of the overall development plan.
- **Chapter 2** – Inventory summarizes the inventory efforts. These efforts are focused on collecting and assembling relevant data pertaining to the airport and the area it serves. Information is collected on existing airport facilities and the airport environment and airspace.
- **Chapter 3** – Aviation forecasts examine the potential aviation demand at the airport. The analysis uses local socioeconomic information and national air transportation trends to quantify the levels of aviation activity that can reasonably be expected to occur at LZU through the year 2044. The results of this effort are used to determine the types and sizes of facilities that will be required to meet the projected aviation demand at the airport through the planning period.

Subsequent working papers and the final report will include the following chapters:

- **Chapter 4** – Facility requirements comprises the airfield analysis and focus on improvements needed to safely serve the type of aircraft expected to operate at the airport in the future, as well as navigational aids to increase the safety and efficiency of operations. This element also examines the general aviation terminal, hangar, apron, and support needs.
- **Chapter 5** – Airport alternatives considers a variety of solutions and propose various facility and site plan configurations to accommodate and meet the projected facility needs. An analysis is completed to identify the advantages and disadvantages of each proposed development alternative to determine a single direction for development.
- **Chapter 6** – The Airport Layout Plan provides both a graphic and narrative description of a concise Airport Layout Plan Drawing Set reflecting the proposed improvements through 2044.
- **Chapter 7** – The Capital Improvement Plan focus is also given to a proposed capital needs program which defines the schedules, costs, and funding sources for the recommended development projects.

Public Involvement

Effective public involvement plays a pivotal role in the successful development of an Airport Master Plan study. Its purpose is to foster information exchange and gather feedback from various airport stakeholders, including the airport owner, airport users/tenants, local government officials, resource agencies, elected and appointed representatives, and the general public. By actively engaging the public, the airport gains valuable insights that inform decision-making and facilitate public input that reflects community concerns and interests.

Gwinnett County Airport's public involvement comprises the following essential elements:

Technical Advisory Committee: The Technical Advisory Committee was established to guide the project team on critical technical aspects. Comprising of knowledgeable airport users, the TAC includes representatives appointed by airport management. These representatives represent various stakeholders, including corporate users, flight schools, the LZU Airport Association, fixed base operators, the LZU Air Traffic Control Tower, LZU's EAA Chapter,

and LZU's Civil Air Patrol Composite Squadron. Additionally, staff from the Gwinnett County Airport Authority were invited to participate.

The Technical Advisory Committee convened for a total of three meetings:

- TAC Meeting #1: May 14, 2023
- TAC Meeting #2: August 4, 2023
- TAC Meeting #3: April 17, 2024

Input from the TAC helped guide the direction of improvements identified in the master plan.

Public Workshops: The workshops are open to a wide audience. In these sessions, the aim is to disseminate project-related information to a broader audience and provide a question-and-answer forum. Moreover, these sessions allow participants to gain insights into the project, ask questions, and engage in discussions.

From this study, there were a total of two workshops held:

- Public Workshop #1: October 11, 2023
- Public Workshop #2: May 14, 2024

Input from the public workshops also aided in the prioritization of projects in the master plan and raised public awareness of the value of the airport to the community.

Summary

Overall, the master plan will provide an overview of the airport's needs over the 20-year planning period, including issues related to costs, timing, and funding. The goal of the plan is to act as an aid in management decisions for airport facility improvements. Major improvements recommended in the plan include items listed in **Table 1-1** and shown in **Figure 1-1**.

Table 1-1: Proposed Notable Project Development and Timeline

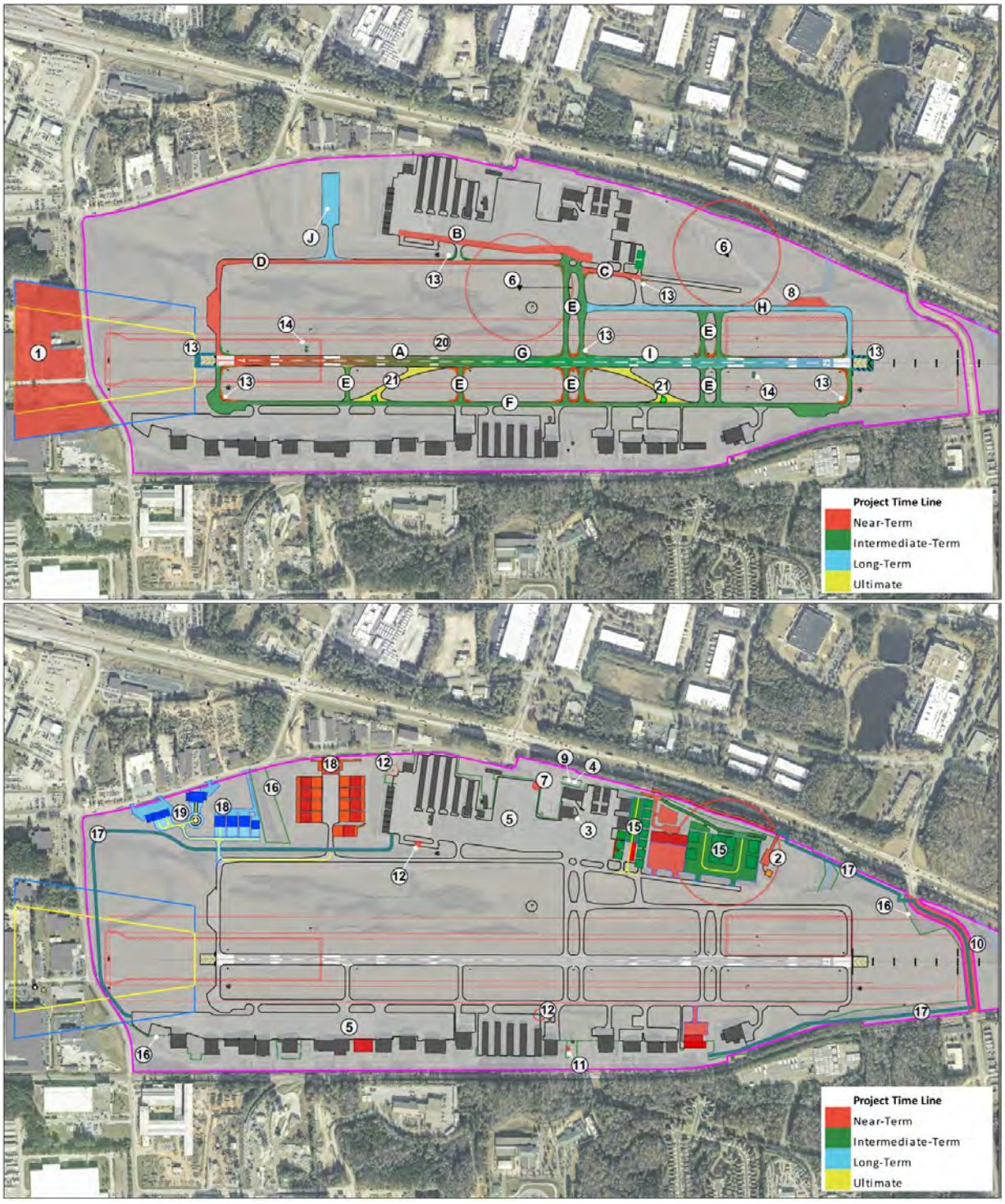
Timeline	Project ID	Proposed and Projected Description	Funding Plan	Estimated Cost
2025 – 2029	1	Obstruction Clearing Design	FEDERAL	$75,000
	1	Obstruction Clearing/Easements	FEDERAL	$1,000,000
	A	Rubber Removal	FEDERAL	$200,000
	B	Design North Ramp and Taxiway Z Rehab	FEDERAL	$145,000
	2	Passive Use/Pollinator Habitat	LOCAL	$165,000
	3	Septic System Improvements (Macerator)	LOCAL	$145,000
	4	Install Fuel Storage Barriers Design	LOCAL	$75,000
	5	Ramp Lighting Design	FEDERAL	$45,000
	6	Relocate AWOS and Upgrade to ASOS	FEDERAL	$450,000
	7	New Air Traffic Control Tower - Design, Construction, Furnishings, Equipment, and Testing	FEDERAL-BIL	$6,500,000
	8	Construct Run-up Area for Taxiway Yankee	FEDERAL	$555,556
	B	Rehabilitate North Ramp Movement Areas	FEDERAL	$775,000
	C	Rehabilitate Taxiway V	FEDERAL	$775,000
	9	Install Fuel Storage Barriers Construction	LOCAL	$200,000
	10	Relocate Fenceline – RSA/ROFA	FEDERAL	$165,000
	1	Obstruction Clearing/Easements	FEDERAL	$1,000,000
	5	Install Ramp Lighting Construction	FEDERAL	$100,000
	D	Design Taxiway Z Rehab	FEDERAL	$175,000
	--	Environmental Assessment/Permitting Northeast Basing Area	FEDERAL	$250,000
	1	Obstruction Clearing/Easements	FEDERAL	$1,000,000
	11	Rehabilitate Airport Beacon	FEDERAL	$150,000
	12	Wash Rack/Waste Oil Storage	LOCAL	$350,000
	D	Rehabilitate Taxiway Z	FEDERAL	$3,000,000
	13	Design Taxiway Filet Improvements TDG2D	FEDERAL	$165,000
	1	18B Obstruction Survey	FEDERAL	$75,000

Table 1-1: Proposed Notable Project Development and Timeline (Continued)

Timeline	Project ID	Proposed and Projected Description	Funding Plan	Estimated Cost
2030 – 2034	13	Construct Taxiway Fillet Improvements TDG2D and Upgrade Blast Pad Size	FEDERAL	$5,900,000
	E	Rehabilitate Taxiways B, C, D, E, F, G	FEDERAL	$3,000,000
	14	Repair Replace PAPIs	FEDERAL	$150,000
	15	Northeast Basing Area Site Improvements (Design, Permitting, Construction)	FEDERAL	$6,400,000
	F	Rehabilitate Taxiway W	FEDERAL	$2,000,000
	16	Repair Replace Fencing	FEDERAL	$350,000
	17	Perimeter Road Improvements	FEDERAL	$2,800,000
	--	ALP Update	FEDERAL	$250,000
	G	Rehabilitate Runway 7-25	FEDERAL	$3,500,000
	--	Environmental Assessment/Permitting Long-Term Improvements	FEDERAL	$500,000
2035 – 2044	18	Northwest Basing Area Site Improvements (Sitework)	FEDERAL	$4,000,000
	19	Vertiport	FEDERAL	$1,200,000
	20	Repair Replace Airfield Lighting	FEDERAL	$3,500,000
	H	Rehabilitate Taxiway Y	FEDERAL	$2,000,000
	I	Reconstruct Runway 7-25	FEDERAL	$8,000,000
	J	Rehabilitate Central Basing Area	FEDERAL	$1,000,000
	--	Master Plan Update	FEDERAL	$650,000
Beyond 20 years	21	High-Speed Exits	FEDERAL	$10,000,000
Total 20-Year ACIP Costs (excludes beyond 20 years)				**$62,660,556**

Source: Michael Baker International, 2024

Figure 1-1: Airside and Landside Projects



Source: Michael Baker International, 2024

Chapter Two: Inventory

Introduction

This master plan and Airport Layout Plan update for Gwinnett County/Briscoe Field (LZU) is being prepared in accordance with the requirements of the Federal Aviation Administration, the Georgia Department of Transportation Aviation Program, and Gwinnett County (Sponsor). All portions of this document are based on the criteria set forth in the FAA Advisory Circulars AC 150/5070-6B, *Airport Master Plans,* and AC 150/5300-13B, *Airport Design*. The goal of this update is to provide the framework needed to guide future airport development that will allow the airport to maintain safety and accommodate growth efficiently.

The Airport Layout Plan will provide a blueprint for airport development by depicting proposed facility improvements over the planning period and setting a guideline by which the sponsor can ensure that the development maintains airport design standards and safety requirements and is consistent with airport and community land use plans. The initial step in the planning process requires producing an inventory of existing conditions for the airport. This is necessary for understanding the framework for how the airport functions and to provide a foundation for evaluating the airport's existing and future facility requirements and development recommendations. The information collected as part of the inventory effort includes:

- The airport's national and state roles
- Existing physical facilities such as runway, taxiways, aircraft parking aprons, navigational aids, the passenger terminal area, and information about other areas for general aviation activities
- The airport's overall role in Georgia including location, road access, and local climate
- In order to obtain an accurate depiction of the existing conditions of LZU and its sounding community, it was necessary to obtain information from sources such as:
    - Interviews from airport personnel
    - Correspondence with local and state agencies
    - Updated aerial photography and mapping for the airport
    - Available sources of updated information for the airfield approaches and facilities
    - Reference materials such as FAA publications, activity databases, and planning guidelines
    - Review of airport statistical reports

Objective

The sponsor is obligated through federal grant assurances to maintain an up-to-date Airport Layout Plan for the Gwinnett County Airport. This will be accomplished during the master plan update. The following objectives will be established to help guide the airport planning process:

- Identify and collect runway and terminal area safety issues and recommend improvements and solutions to further optimize the safety and economic aspects of the airport
- Speak with and incorporate the interests of public and government agencies in the planning process

- Create a plan that is flexible and meets the aeronautical needs of the community and establish an implementation schedule for short-, intermediate-, and long-term improvements
- Collect and provide information about environmental characteristics relative to the airport and its future development

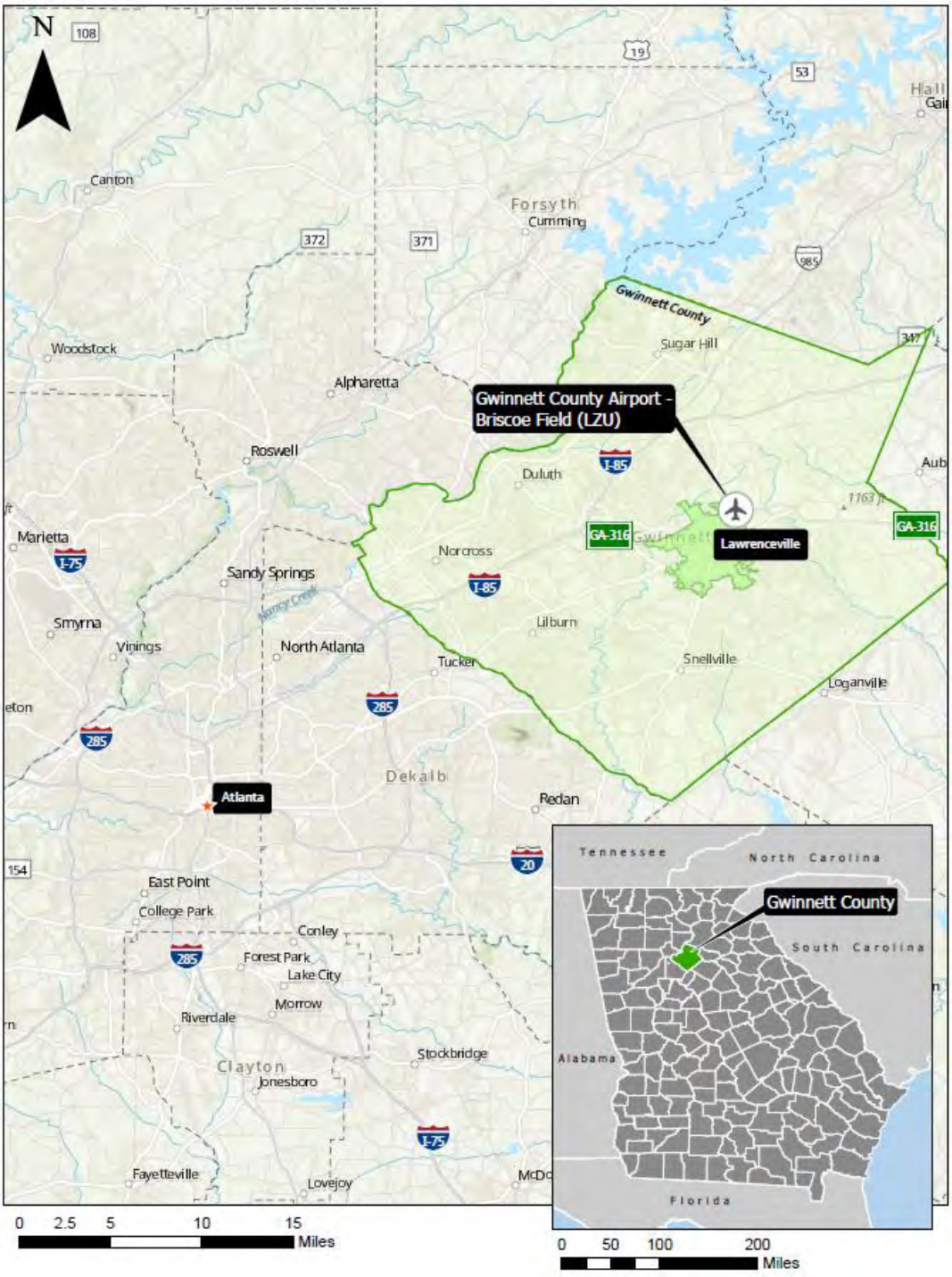
Airport Characteristics

Airport Location
Gwinnett County Airport-Briscoe Field is a public-use airport owned and operated by Gwinnett County. The airport is located approximately 2 miles northeast of the Central Business District of the city of Lawrenceville and roughly 30 miles northeast of downtown Atlanta. Gwinnett County is located in the north-central region of Georgia within the Atlanta metro region. The airport's location relative to the surrounding area is shown in **Figure 2-1**.

With a long-standing history, the city of Lawrenceville is among the first established cities in the state of Georgia, dating to 1821. In 1821, the permanent site for Gwinnett County's courthouse was established and Lawrenceville was appointed to hold the seats of county government. Having a quite rural background, the residents of the town benefited from industries such as cotton, corn, lumber, brick manufacturing, livestock, and dairy farming. Once a rail route was established in the early 1800s, Lawrenceville became a transportation hub for passengers traveling to the eastern coastline.

State Route 316 provides major east-west access between Interstate 85/Atlanta's metropolitan area to Athens, Georgia, granting access to Lawrenceville. Direct access to LZU is by way of Hi-Hope Road and Airport Road. The city of Lawrenceville is a total of 13.5 square miles and sits inside one of the fastest-growing counties in Georgia. Fee simple property held by the LZU totals more than 520 acres.

Figure 2-1: Airport Location



Source: Michael Baker International, 2022

Aviation Classification
In the United States, there are 5,069 public-use airports. Of these, 3,287 airports are identified by the FAA's *2023-2027 National Plan of Integrated Airport Systems* as important to national air transportation and eligible to receive grants under the FAA Airport Improvement Program. The NPIAS groups airports into two categories: Primary and Nonprimary. Primary airports are airports that receive scheduled air carrier service with more than 10,000 passengers a year. Primary airports are further grouped into four subcategories: large hub, medium hub, small hub, and nonhub. Nonprimary airports primarily support general aviation aircraft.

Table 2-1 presents the NPIAS service level classifications and their criteria.

Table 2-1: FAA NPIAS Classification

Airport Classifications		Hub Type: Percentage of Annual Passenger Boarding	Common Name
Commercial Service: Publicly owned airports that have at least 2,500 passenger boardings each calendar year and receive scheduled passenger service	**Primary:** Have more than 10,000 passenger boardings each year	**Large:** 1% or more	**Large Hub**
		Medium: At least 0.25% but less than 1%	**Medium Hub**
		Small: At least 0.05% but less than 0.25%	**Small Hub**
		Nonhub: More than 10,000 but less than 0.05%	**Nonhub Primary**
	Nonprimary	**Nonhub:** At least 2,500 and no more than 10,000	**Nonprimary Commercial Service**
Nonprimary (Except Commercial Service)		**Not Applicable**	**Reliever General Aviation**

Source: 2023-2027 NPIAS

In the FAA NPIAS, LZU is categorized as a Nonprimary General Aviation Reliever Airport. The term "reliever" means that LZU relieves congestion from nearby Hartsfield-Jackson Atlanta International Airport (ATL) by offering an alternative airfield for use by general aviation aircraft.

As reported in the *2023-2027 NPIAS*, the term "reliever" is defined in the FAA's authorizing statute at *49 U.S.C., Section 47102*, as "an airport the Secretary designates to relieve congestion at a commercial service airport and to provide more general aviation access to the overall community." The term "reliever" is relevant in a small number of contexts but is increasingly problematic because only a small number of commercial service airports still experience significant congestion. Regardless, because the term is still defined and used in statute, the FAA continues to report the current designations in the NPIAS.

In 2012, the FAA further defined the roles of general aviation airports in *General Aviation Airports: A National Asset* (known as the ASSET report). This comprehensive study developed the following categories of general aviation airports: National, Regional, Local, Basic, and Unclassified. **Table 2-2** presents these categories and their descriptions. LZU is classified in the ASSET report as a National airport.

Table 2-2: FAA Airport Roles

Airport Roles	
National	Located in metropolitan areas near major business centers and support flying throughout the nation and the world. These airports provide pilots with attractive alternatives to the busy primary airport.
Regional	Located in metropolitan areas and serve relatively large populations. These airports support regional economies with interstate and some long-distance flying and have high levels of activity including some jets and multiengine propeller aircraft.
Local	Provide communities with access to local and regional markets. Typically, local airports are located near larger population centers but not necessarily in metropolitan areas. They also accommodate flight training and emergency services.
Basic	Basic airports fulfill the principal role of a community airport providing a means for private general aviation flying, linking the community with the national airport system, and making other unique contributions. In some instances, the airport is the only way to access the community and provides emergency response access, such as emergency medical or firefighting and mail delivery. These airports have moderate levels of activity with an average of nine propeller-driven aircraft and no jets.
Unclassified	These airports tend to have limited activity and include public- and private-owned airports.

Source: "General Aviation Airports: A National Asset" and ASSET 2: In-Depth Review of the 497 Unclassified Airports"

Georgia Aviation System Plan Role

The Georgia Aviation System Plan is a state-level planning document prepared by GDOT. Most recently updated in 2019, the system plan evaluated all public-use general aviation airports in Georgia and classified each according to the type of aviation demand served. **Table 2-3** presents the system plan airport role classifications.

Table 2-3: Georgia Aviation System Plan Airport Role Classifications

Airport Level	Description
Level I	Minimum Standard General Aviation Airport
Level II	Business Airport of Local Impact
Level III	Business Airport of Regional Impact

Source: Georgia Aviation System Plan, 2019

Based on the GDOT classification of airports, LZU falls into the Level III Business Airport of Regional Impact role. As described in the system plan, Level III airports are defined as existing commercial airports and general aviation airports that have a regional business impact. These airports should have at least 5,500 feet of runway and precision approaches to accommodate business aircraft in inclement weather. Associated with the longer runway and instrumentation objectives for these airports is a greater level of amenities for serving the public.

Airport Meteorological Conditions
Weather conditions are important to the planning and development of an airport. Temperature is a critical factor in determining runway length requirements, while wind direction and speed are used to determine adequate runway orientation. Also, navigational aids and lighting needs are determined by the percentage of time that visibility is impaired due to cloud coverage or other conditions.

The climate data for Lawrenceville is derived from three decades of meteorological information (1980 to 2016) and is obtained from the National Oceanic and Atmospheric Administration. Due to the city's location and altitude, the climate of Atlanta is humid with subtropical temperatures during the summer months and mild temperatures during the winter months. The city's average annual temperature is 61.9° F. The average low is 44.7° F, while the annual average high is 78.5°F. The months of July and August are reported to have the warmest months, with a mean temperature of 88.7°F and a max high of 89.5° F.

The area occasionally deals with freezing temperatures. The average winter temperature is 44.7° F, with January traditionally being the coldest month. Average monthly precipitation ranges from 3.61 inches to 5.06 inches, with an annual precipitation averaging 51.17 inches. Conventionally, the month of October seems to be the driest while July experiences the most rainfall.

Wind
Runway orientation and use is determined by prevailing wind and velocity over time. As part of the inventory, historical wind data was obtained from the National Climatic Data Center. This element is important since aircraft take off and land into the wind. The FAA recommends that sufficient runways be provided to achieve at least 95% wind coverage. This is calculated using a 10.5-knot crosswind component for the smaller and light aircraft, while the 13-knot, 16-knot, and 20-knot crosswind components are used for the larger aircraft using the airport.

FAA Advisory Circular (AC) 150/5300-13B, *Airport Design,* expresses that a period of at least 10 consecutive years be examined for determining the wind coverage when carrying out an evaluation of this type. Hourly wind observations collected by the National Climatic Data Center from 2011 through 2020 were obtained for the Gwinnett County Airport-Briscoe Field to determine the wind coverage at LZU Runway 7-25.

Table 2-4 and **Figure 2-2** summarize the percent of wind coverage for the various runway configurations under all weather, visual flight rules (VFR), instrument flight rules (IFR), and below minimum weather conditions. This runway wind coverage is also presented in the form of wind roses on the Airport Layout Plan drawing.

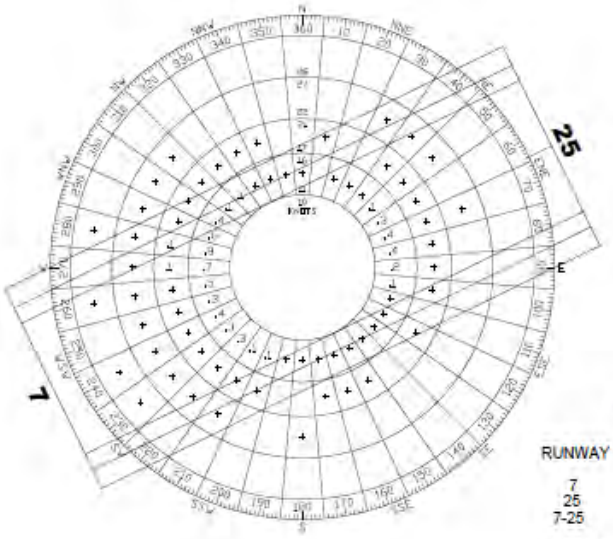
Table 2-4: Percentage of Wind Coverage

Airfield Configuration	10.5-kts (12 mph)	13-knots (15 mph)	16-knots (18.4 mph)
All Weather Conditions (%)			
7	59.49	59.55	59.60
25	69.51	70.19	70.45
7-25	98.89	99.63	99.94
1.1.1.1.1 VFR Conditions (%) (Ceiling > 1000 feet; Visibility > 3 miles)			
7	56.23	56.29	56.34
25	73.29	74.07	74.36
7-25	99.60	98.77	99.94
1.1.1.1.2 IFR Conditions (%) (Ceiling between 200' and 1000'; Visibility between 0.50 (1800') and 3.0 statute miles)			
7	74.56	74.67	74.73
25	51.32	51.52	51.32
7-25	98.45	99.77	99.94

Wind direction and speed are essential in airport operations and airfield design. Predominant wind varies throughout the year. On average, Gwinnett County Airport experiences prevailing winds from the southwest from November to April.

Figure 2-2: Existing Windrose

ALL WEATHER

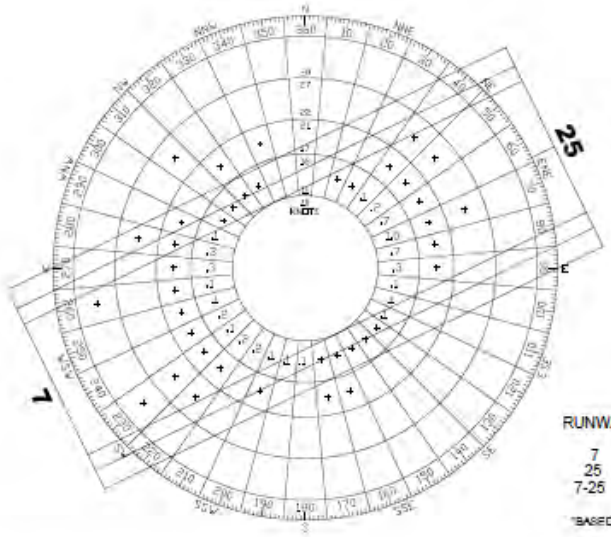


RUNWAY END COVERAGE

RUNWAY	10.5 KTS (12 mph)	13 KTS (15 mph)	16 KTS (18 mph)
7	59.49%	59.55%	59.60%
25	69.51%	70.19%	70.45
7-25	98.89%	99.63%	99.94%

*BASED ON A 60 KTS TAILWIND

IFR



RUNWAY END COVERAGE

RUNWAY	10.5 KTS (12 mph)	13 KTS (15 mph)	16 KTS (18 mph)
7	74.56%	74.67%	74.73%
25	51.32%	51.52%	51.32%
7-25	98.45%	99.77%	99.94%

*BASED ON A 60 KTS TAILWIND

SOURCE: FAA, NOAA INTEGRATED SURFACE DATABASE (ISD)
SURFACE OBSERVATION DATA OBTAINED FOR WEATHER STATION: GWINNETT CO-BRISCOE FD APT
STATION NO.: 747606
RECORD PERIOD: 2011-2020
SURFACE OBSERVATION DATA COMPILED BY MICHAEL BAKER INTERNATIONAL, OCTOBER 2022

Airside Facilities

An inventory of all major airfield components was inclusive to the 2022 inventory process. Data pertaining to all the following was inventoried: runway length and widths, pavement strengths, designations, usage characteristics, wind coverage, lighting and marking; taxiway orientations, strengths, widths and separations, and deficiencies; visual and electronic navigational aids; airspace configuration, usage, and air traffic control procedures; and obstacles to the runway protection zones and surrounding airspace. The following sections provide a concise accounting for all applicable airfield assets at the airport.

Runways

The existing airfield configuration at LZU consists of one active runway. Runway 7-25 is considered the primary runway and is constructed of asphalt on both runway ends. The runway is 6,001 feet long with a width of 100 feet. The runway heading is 069° magnetic (064 true) and 249° magnetic (244 true). The runway end of Runway 7 has an elevation of 1,061.5 feet AMSL. Runway 25 threshold elevation of 1,031.4 feet AMSL equating to an overall difference of 30 feet, making the runway slope 0.5%. Pavement markings on Runway 7-25 satisfactorily meet the FAA requirements for precision runways. Runway 7-25 has blast pads on both ends measuring 150 feet in length.

Pavement Strength Pavement Condition Index

Runway pavement strength defines the weight limits at or below which an aircraft may operate on the runways without causing undue stress on the pavement. Bearing strength is classified by the various main landing gear system configurations that can operate on runways at LZU. Single wheel aircraft have one wheel on each side of their main landing gear and are typically characterized by piston aircraft and some turboprop and smaller jet aircraft. Double wheel aircraft have two wheels on each side of their main landing gear and are characterized by larger corporate jet and turboprop aircraft. Dual tandem aircraft have four wheels on each side of their main landing gear and are characterized by larger commercial aircraft.

The Pavement Condition Index is based on a visual inspection of pavement conditions. Applied Pavement Technologies completed an inventory of airport pavements in 2018 illustrated in **Figure 2-3**. The findings were published in the 2019 Pavement Management Report. Per the 2019 report, LZU had an overall Pavement Condition Index of 49. The runway had an average PCI of 61 and the taxiways had PCI values ranging from 71 PCI to 23 PCI. On a 100-point scale, with 100 being perfect condition, the runway and taxiways are in good to fair condition. The apron areas had an average of 47 PCI. A recent pavement rehabilitation and strengthening of Runway 7-25 was completed in late 2020, therefore the PCI report does not reflect the most up-to-date conditions for this runway. Runway 7-25 PCI is likely between 90 to 100 following the completion of the overlay.

Information on runway pavement conditions and strengths were taken from FAA Form 5010-1, site visits, and information provided by airport management. Flexible pavement types exist at the airport. Runway 7-25 has a Pavement Classification Number of 37/F/D/W/T. The underlying pavement's value indicating load-carrying capacity is 37 (unitless), flexible, on an ultra-low strength subgrade, and has no limit on the tire pressure. Overall, Runway 7-25 is in good condition.

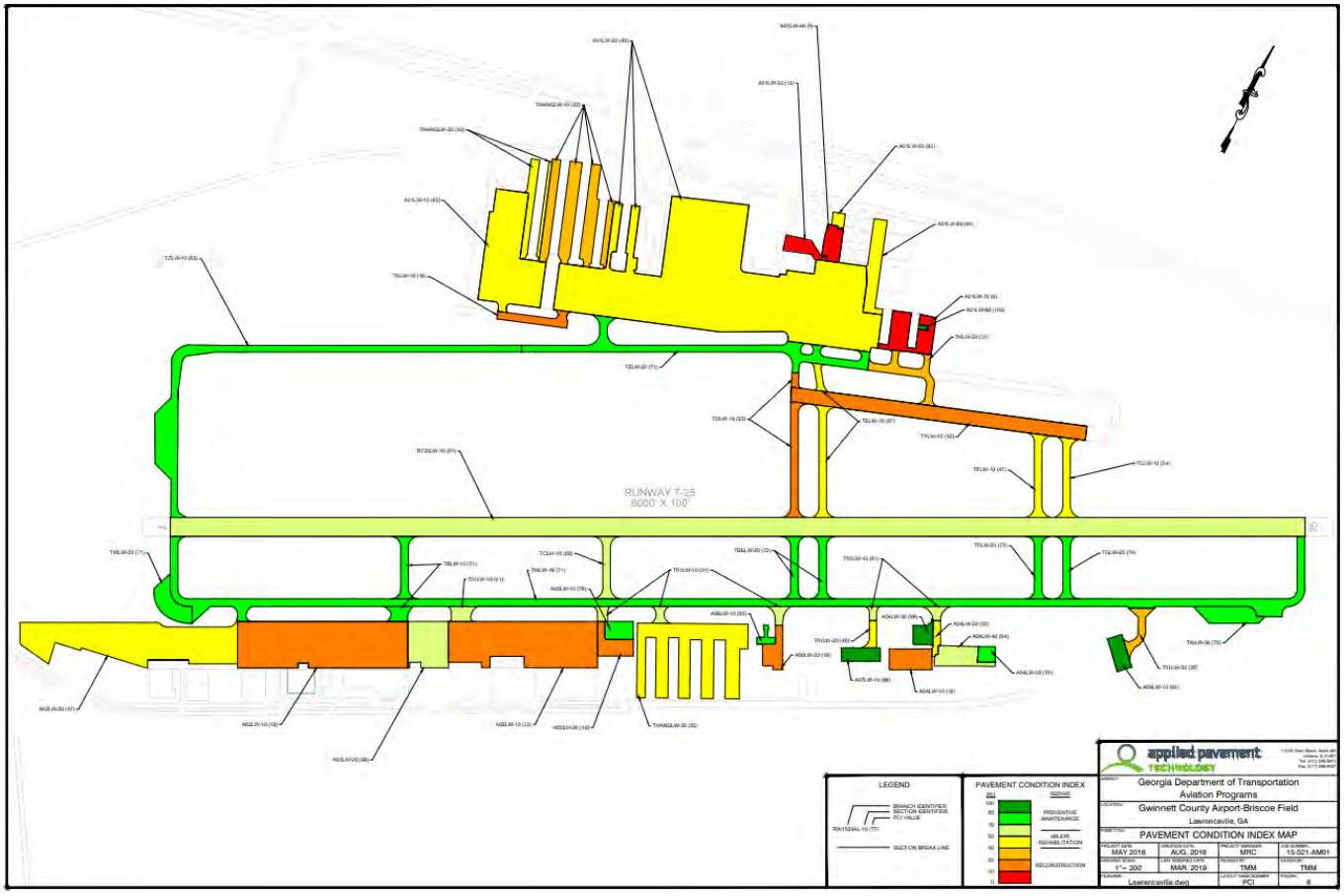
Table 2-5 presents the individual strengths for the runways at LZU. These data are drawn from the FAA Form 5010-1, dated September 15, 2022, and the FAA Airport/Facility Directory, dated January 11, 2023.

Table 2-5: Runway Strength

Wheel Configuration	Runway 7-25
Single	93,000 lb.
Dual	120,000 lb.

Source: FAA 5010-1, 2022

Figure 2-3: Pavement Condition Index Map



Source: GDOT Aviation Programs, Gwinnett County Airport-Briscoe Field Pavement Management Plan, 2019

Taxiways
In addition to the runways, the airside facility at LZU consists of a taxiway system that provides access between the airside surfaces and the landside aviation use areas. Taxiways offer a network of pavements for aircraft to navigate around the airfield, connecting various airfield components and providing access to the runways and ramps. Several types of taxiways serve different purposes on the airfield. The design standards for taxiways and taxilanes are derived from the Runway Design Code and the Taxiway Design Group. Similar to the Runway Design Code, the FAA has defined the Taxiway Design Group to determine taxiway and taxilane width requirements, separations, and fillet radii. The Taxiway Design Group is based on the undercarriage dimensions of the critical aircraft. The Runway Design Code defines most of the separation standards and clearance offsets.

As depicted in **Figure 2-4**, Runway 7-25 has one 35-foot-wide parallel taxiway — Taxiway W south of Runway 7-25 — and two partial parallel taxiways roughly 35 feet wide — Taxiway Y and Taxiway Z north of Runway 7-25. Taxiway Y, which completed construction in 2020, provides access from Runway 25 to midfield with the option of pilots traveling to the North Apron or South Apron. Taxiway Z provides access from Runway 7 to the general aviation apron. All three taxiways —Taxiway W, Y, and Z — have a separation that differs but is at minimum 400 feet from the runway centerlines. The airport has several additional connector taxiways —Taxiway D, E, G, F, G, B, and O — that join the runway and offer circulation throughout the airfield. The taxiways are paved with a combination of asphalt or concrete in certain segments. The taxiway system has three holding bays — two on Taxiway C and one on Taxiway J.

Apron
The North Ramp and South Ramp are the two aircraft apron areas located at the airport. The South Ramp is approximately 120,000 square yards of public- and private-use apron located on the south side of the airport in front of the airport administration building and fixed based operator. An additional apron area located on the north side of the airport is considered the North Ramp, which covers approximately 136,000 square yards of public-use apron. There is no apron edge lighting available. However, lighting for the ramp and hangar areas is provided by outdoor lighting fixed on the hangars and poles. LZU has a combined total of approximately 256,000 square yards of apron.

Figure 2-4: Existing Taxiways

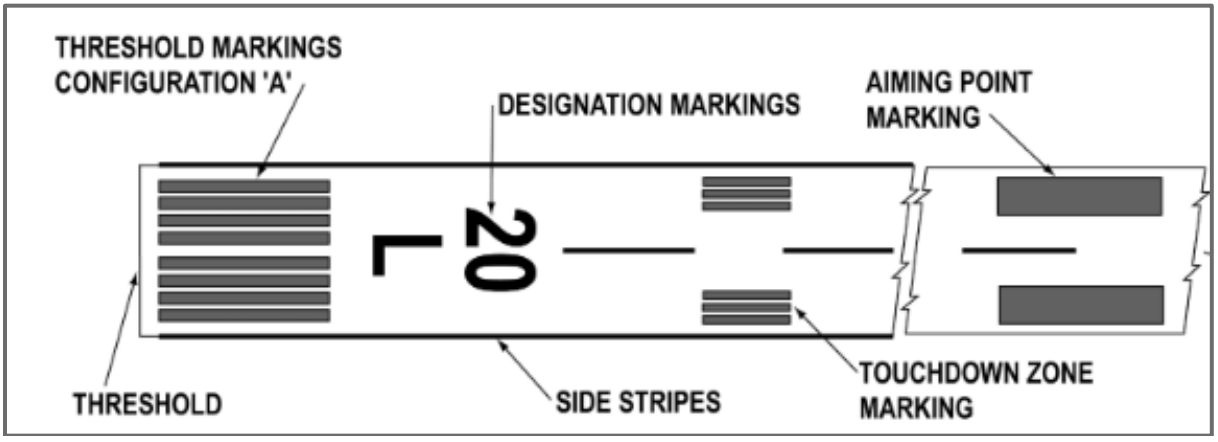
Source: Michael Baker International, 2023

Markings
Runway 7-25 is a precision instrument runway shown in **Figure 2-5**. The markings include runway numbers (designation), centerlines, runway thresholds, aiming points, side stripe markings, and touchdown zone markings.

Runway designators indicate the magnetic azimuth of the centerline of the runway. The runway centerlines identify the centers of the runway and provide alignment guidance during takeoff and landing operations. The runway threshold markings consist of eight longitudinal stripes of uniform dimensions disposed symmetrically about the runway centerline. The aiming point markings are located approximately 1,000 feet from the runway end threshold and serve as a visual aiming point for landing aircraft.

Finally, runway touchdown markings identify the touchdown zone for landing operations and are coded to provide distance information in 500 feet increments. These markings consist of groups of one, two, and three rectangular bars symmetrically arranged in pairs about the runway centerline.

Figure 2-5: Precision Runway Markings



Source: FAA Airport Marking and Signs (APM) 2-3-1

At LZU, the taxiway markings consist of the features mentioned in addition to taxiway centerline and surface painted holding position markings. The holding markings are used to protect the Runway 7-25 safety area/object free zone, ILS critical area, and approach surface as appropriate and designate the location that an aircraft must hold until cleared to move through the critical area or onto an active runway. Presently, there is no taxiway edge striping used at LZU. Most taxiways are paved in asphalt.

Airport Lighting

Runway Lighting
Several runway lighting systems can be installed as an aid to pilots. These lights help to identify where the edge of usable pavement lies, aid pilots during nighttime operations and poor visibility, and serve as an indication of how much runway length is remaining. The different runway lighting systems are categorized by the brightness or intensity of light produced. Runway 7-25 currently is equipped with high-intensity runway lights with variable intensity controls. The edge lights were upgraded to LED lights in 2021.

The runway edge lights are white in color except for the last 2,000 feet of lights where they are equipped with a two-color (amber and white) lens. The amber lens is facing an aircraft as it approaches the first 2,000 feet of usable runway pavement. This color change of the lights from white to amber indicates that the active runway pavement is ending. This gives a pilot a visual warning the runway is about to end. These high-intensity edge lights are a requirement for certain instrument approaches previously discussed.

Taxiway Lighting
As with the runway, edge lights are provided on all taxiways and some taxilanes at LZU. The airport is equipped with Medium Intensity Taxiway Lights that are blue LED lights in color. Having the lights a different color from those on the runway gives a visual indication of the transition from one type of operating area to another. The taxiway lights are spaced approximately 200 feet apart. All the taxiways have upgraded to LED taxiway lights in 2021 except for Taxiway Z, which uses incandescent bulbs. The airport plans to upgrade the existing Taxiway Z edge lights in 2023.

Airport Signage
LZU has a number of illuminated airfield signs that display instruction and guidance information to pilots. Holding designation signage (e.g., taxiway/runway intersection) is identified by white numbers on a red background. Directional and informational signage is identified by black inscriptions on a yellow background, whereas signs that contain yellow text on a black background identify the runway or taxiway on which the aircraft is located. In 2021, the airport replaced signage on the airfield except for the northern portion of the airfield along Taxiway Z. The airport plans to install new taxiway signage to Taxiway Z and W and intersections of W in 2024.

Approach Lighting
Approach lighting systems, such as shown in **Figure 2-6,** are located along the extended runway centerline and serve to enhance the runway visibility upon approach. A variety of systems can be used based on the types of IFR approaches to that runway. As required for conducting CAT I instrument approaches, runways must be equipped with approach lighting systems that have sequenced flashers. These systems help to guide pilots under poor visibility conditions to the runway so that a visual confirmation of the runway can be made. Currently, Runway 25 is the only runway equipped with such a system at LZU.

Runway 25 is equipped with an approach lighting system, a Medium Intensity Approach Lighting System with runway alignment indicator lights, that supports the CAT I ILS approach. This system is 2,400 feet in length and with light stationed every 200 feet.

Figure 2-6: LZU MALSR

Source: Smartegies, 2023

Instrument Approach Procedures
Related to the airfield layout are the types of approaches that aircraft can use to land at a facility. The various approaches have differing safety-related setbacks and facility requirements, such as radio beacons or approach lighting systems, and are included here as an indication of the facilities available at LZU.

There are two general classes of procedures under which pilots operate aircraft. These procedures are dependent on the current visibility and weather conditions. Under clear conditions with a cloud ceiling greater than 1,000 feet above ground level and with visibility greater than 3 statute miles, pilots can operate aircraft under visual flight rules. No special approach procedures have to be followed under VFR conditions. During times of inclement weather when the cloud ceiling falls below 1,000 feet and visibility is less than 3 statute miles, instrument flight rules must be followed. These procedures allow aircraft to land safely when ideal weather conditions are not experienced. During IFR conditions, air traffic control services are provided during departure, en route, and arrival to ensure aircraft are kept at safe operating distances from one another. IFR arrival procedures at any airport are based on the types of instrument systems at that facility.

The two basic types of instrument approaches are precision and non-precision. Per FAA AC 150/5300-13B, a precision approach is defined as an instrument approach procedure that provides course and vertical path guidance with visibility below ¾ mile (4000 RVR). A non-precision approach is defined as an approach procedure that provides course guidance with or without vertical path guidance with visibility minimums not lower than ¾ mile (4000 RVR). Visibility minimums, measured in feet or miles, are associated with instrument approaches. During an IFR approach, the pilot must ultimately make a visual confirmation of the runway. If the runway cannot be visually confirmed, they must execute a missed approach procedure. Each IFR approach procedure has a published height related to the aircraft's distance above the runway touchdown zone elevation, at which point the pilot must have visual confirmation. For non-precision approaches, this is referred to as the minimum descent altitude. For precision approaches, it is the decision height. If the visual confirmation is not initially attained, the pilot has to abort the landing and then can attempt the approach again or request to land at another airport.

Runway 7-25 is equipped with an instrument landing system that allows for precision approaches. An instrument landing system is comprised of the following four components: 1) localizer antenna array, 2) glideslope antenna array, 3) outer marker, and 4) runway approach lighting system. With these four components, an aircraft is guided to a touchdown point just beyond the approach end of a runway. This system allows aircraft to land when weather conditions at LZU are poor. An ILS is runway-end specific. Therefore, precision approaches using this particular system may be conducted on Runway 25. There is one category of non-precision approach to Runway 7 and two categories of precision approach for Runway 25 as shown below. The type of approach, lowest ceiling/visibility minimums, and vertical guidance are shown in **Table 2-6**.

GPS-based precision and non-precision approaches are available to both ends of Runway 7-25. These approaches are based upon navigation using either the runway localizer or GPS technology, and they offer a wide variety of approach procedures to be used. The GPS approach uses a grouping of Global Positioning Satellites to establish an aircraft's position. GPS technology is based on the time it takes for a signal to reach and return from a fixed reference in space (the satellite). Usually, several satellites are used to gain more accurate positioning information. LOC approaches use either runway end localizer for horizontal guidance but do not use the vertical guidance from the glide slope. See **Table 2-6**.

Table 2-6: Runway 14-32 Available Instrument Approach Procedures

Runway	Approach	Lowest Ceiling Minimums	Lowest Visibility Minimums	Vertical Guidance
7	RNAV (GPS)	500	1 mile	No
25	RNAV (GPS)	200	½ mile	Yes
25	ILS/Localizer	200	¾ mile	Yes

Source: FAA Instrument procedures published for use from September 21, 2022.

NAVAIDS

Besides the use of markings and lighting, runways are generally equipped with other navigational devices, or NAVAIDS, to assist pilots with the takeoff and landing details. Some provide signals of weather conditions, while others offer either visual or instrument course guidance. It should be noted that most of these systems are owned and operated by the FAA. LZU is equipped with the systems identified in **Figure 2-9** and discussed below.

Rotating Beacon
Pilots are aided in locating airports that operate at night or during very adverse weather conditions by rotating lighted beacons. LZU is equipped with a rotating beacon located south of Taxiway D and E adjacent to the Air Traffic Control Tower. High intensity lamps mounted on an assembly rotate 360° every six seconds, providing the illusion of emitting flashes of light. The beacon is outfitted with an optical rotating lighting system that projects two beams of light, one green and one white, 180° apart. The beacon is in good condition and is operational during nighttime hours and IFR conditions. It alternates every 180°, green and white lights.

Segmented Circle/Wind Cone
The purpose of the segmented circle is to help pilots locate the wind cone while in flight and to identify any special traffic patterns that may be present at the airport. The segmented circle encompasses 360° similar to a compass, and, where applicable, traffic pattern and landing strip indicators are provided outside the circle to denote the established traffic patterns. The wind cone and segmented circle at LZU is located between Taxiway Z and Runway 7-25 sitting west of Taxiway D and is illuminated at night for visibility as shown in **Figure 2-7**.

Figure 2-7: LZU: Segmented Circle/Wind Cone

Source: Smartegies, 2023

Glideslope and Localizer Antennae

The glideslope antennae emit a signal that is used to establish and maintain the aircraft's vertical position along the precision instrument approach. The GS antenna is located near the approach end of Runway 25 along the north side of the runway near Taxiway G. The antennae model is known as an end-fire glideslope. The localizer antenna emits a signal to establish and maintain the aircraft's horizontal position along the precision instrument approach. The LOC antenna is located on the extended runway centerline approximately 1,000 feet beyond the stop end of the runway as displayed in **Figure 2-8**.

Figure 2-8: LZU Localizer

Source: Smartegies, 2023

Precision Approach Path Indicator
The Precision Approach Path Indicator, or PAPI, provides the pilot of an aircraft with visual descent guidance information during the approach to a runway. These lights are typically visible from 5 miles during the day and up to 20 miles or more at night. PAPIs use a light bar unit installed in a single row perpendicular to the runway edge. The lights in the light bar project a beam of white light in the upper segment and red light in the lower segment. Depending on the aircraft's angle in relation to these lights, the pilot will receive a combination that indicates his position relative to the desired glideslope. LZU has a two light PAPI systems (P2L) located on each runway end.

Weather Facilities
An automated weather reporting system, or AWOS, is an instrument that transmits local real-time weather data directly to pilots. The airport is equipped with an Automated Weather Observation System (AWOS 3-PT) weather reporting system located on the northeast portion of the airport. The AWOS 3-PT is a modern weather collection and reporting system that measures the following meteorological conditions:

- Altimeter settings
- Wind velocity and direction
- Temperature and dewpoint
- Visibility
- Cloud cover and sky conditions
- Barometric pressure
- Prevalent weather conditions (fog, thunderstorms, rain)

The AWOS equipment gathers meteorological data every minute and automatically transcribes current conditions via a designated radio frequency. The conditions are also available by telephone and aviation weather websites. The AWOS is located north of Taxiway Y.

Minimum Useful Life Guidelines
FAA Order 5100.38D, Change 1, *AIP Handbook,* provides recommended guidelines for the minimum useful life of facilities before equipment is rehabilitated, reconstructed, or replaced in order for the project to receive federal funding. Although these assets age and deteriorate differently at each airport, by assessing and monitoring each asset, airport managers and stakeholders can be assured that the assets are maintained for present and future users.

Table 2-7 itemizes each asset with the correlating installation year and useful life. In some cases, the installation year has been estimated or may vary by facility.

Table 2-7: Minimum Useful Life Guidelines

Facility Type	Installation, Rehab, or Reconstruction Year	Minimum Useful Life (Years)	Estimated Age in 2024 (Years)	Owned and Maintained By
Airport Beacon	2006	15	18	Sponsor
Glideslope	1994	15	30	FAA
Localizer	1994	15	30	FAA
MALSR	1992	15	31	FAA
PAPIs	2006	15	18	Sponsor
AWOS	1994	15	30	FAA
Airfield Electrical Vault	2013	10	11	Sponsor
Runway 7-25 Lighting and Signage	2021	10	3	Sponsor
Taxiway Lighting and Signage (D, E, F, F, V, H, V, Y)	2021	10	3	Sponsor
Taxiway Lighting and Signage (Z, W, B, C, D, E, F, G, J, Partial T)	2023	10	1	Sponsor
Runway 7-25 Rehab	2021	10	3	Sponsor
Fencing	2008, 2011	20	13 – 16	Sponsor
Airport Buildings	Varies	40	--	Sponsor
Asphalt Sealcoat	Varies	3	--	Sponsor
Pavement Rehab	Varies	10	--	Sponsor
Pavement Reconstruction	Varies	20	--	Sponsor
Unspecified Construction Projects	Varies	20	--	FAA/Sponsor

TBD – To Be Determined
Source: Michael Baker International, 2023

Figure 2-9: Existing NAVAIDs

Source: Michael Baker International, 2022

Airspace and Air Traffic Control

The Air Traffic Control Tower at LZU was constructed in the early 1990s and handles all VFR and IFR traffic during the hours of 7:00am to 9:00pm local time daily. The ATCT not only oversees aircraft flying within the controlled airspace near LZU but also the vehicles and aircraft operating on the ground within the defined movement area. Vehicles and operators must maintain contact with tower personnel in either of these areas, whether on the ground or in the air. ATCT personnel's purpose is to ensure that all movements are coordinated safely.

The National Airspace System is an integrated collection of controls, procedures, and policies put in place and regulated by the FAA to ensure safe and efficient air operations. The National Airspace System is divided into airspace classes using aeronautical charts to designate the level of service and operating rules in that area. Airspace within the United States is generally classified as either "controlled" or "uncontrolled" and identifies them as Class A, B, C, D, E, and G as illustrated in **Figure 2-10**.

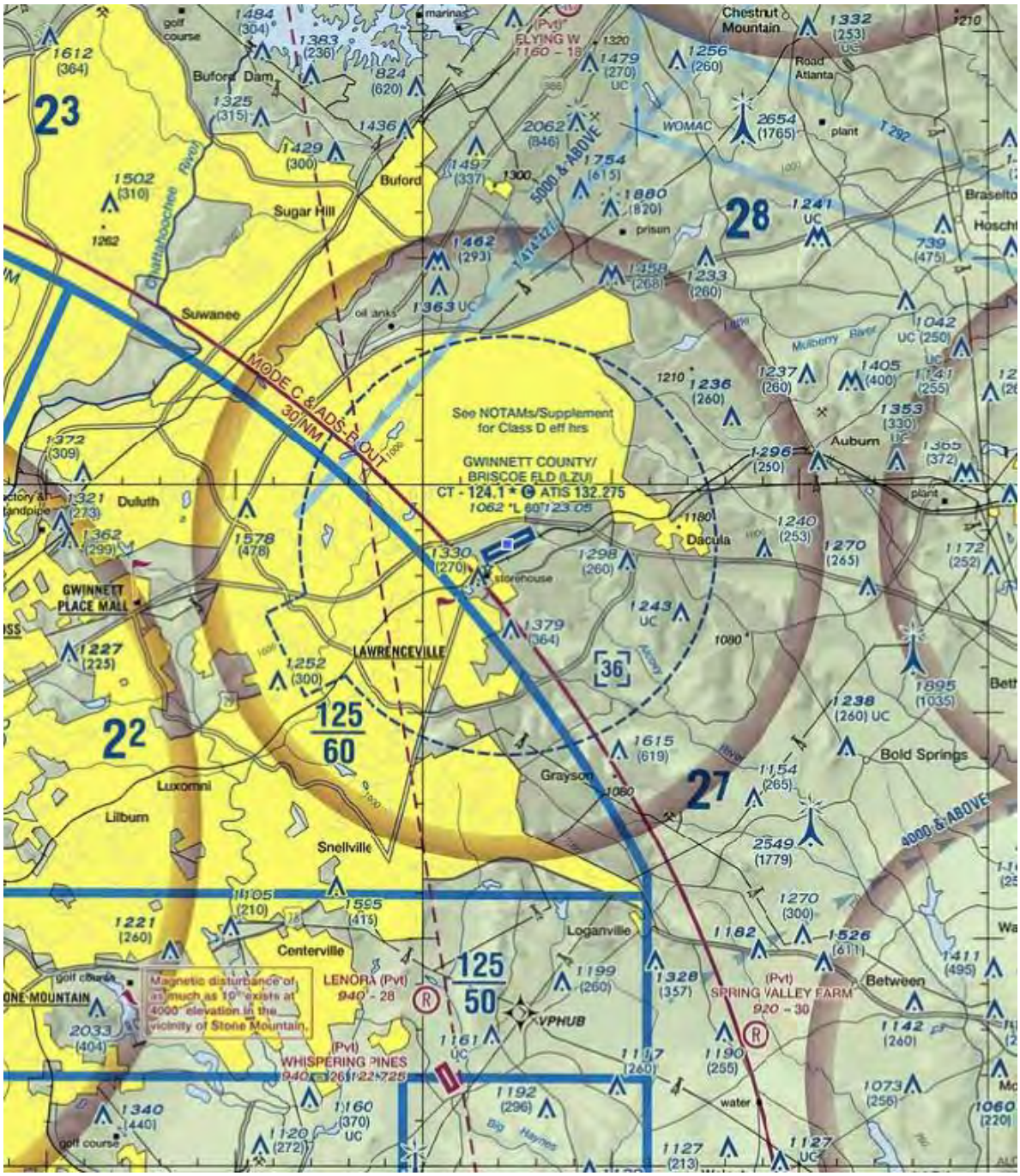
Figure 2-10: Airspace Classification

Source: FAASafety.gov

LZU is surrounded by Class D airspace within a four nm radius, extending from the surface up to but not including 3,600 feet MSL when the tower is operational. All other times, the airport operates in Class G airspace which is uncontrolled airspace extending from the surface to but not including 1,200 feet above ground level (AGL). At all times, a quadrant of LZU airspace is located under Hartsfield-Jackson Atlanta International Airport's Class B airspace. This airspace begins at 6,000 feet MSL and extends to 12,500 feet MSL as shown in **Figure 2-11**.

Air Traffic Control is a service provided to promote the safe, orderly, and expeditious flow of air traffic. Air traffic services are normally provided by the FAA or by a contractor. Air Traffic Control Towers are terminal facilities that provide these services to airborne aircraft operating in the airport's vicinity and those operating in the airport area through the use of air/ground communications, visual signaling, and other devices. The Air Traffic Control Tower at LZU is currently an FAA contract tower open from 7:00am to 9:00pm local time. When the ATCT is closed, airport information and advisory services are available via the airport's Common Traffic Advisory Frequency. The CTAF also allows pilots to turn on the runway lights, taxiway lights, PAPIs, and approach lighting system.

Figure 2-11: Aeronautical Chart



Source: Airnav.com, 2022

General Aviation Facilities

The general aviation facilities of an airport consist of those facilities not included as airside characteristics. General aviation facilities are ground-based facilities that support the aircraft and pilot/passenger handling functions. These facilities typically include the terminal building, fixed based operators, aircraft storage hangars, airport maintenance, fuel storage tanks, aircraft parking aprons, and support facilities. These facilities are depicted in **Figure 2-12**.

Airport Businesses
LZU is served by two full-service fixed based operators: Aircraft Specialists Jet Center and Sheltair. Each FBO offers various traditional services and amenities, including a passenger waiting area, full-service fueling, aircraft parking, aircraft maintenance and repair, aircraft detailing, and a pilot lounge. Aircraft Specialists Jet Center operates from the South Ramp and Sheltair operates from the North Ramp. The transition to Sheltair, formerly Gwinnett Aero, LLC, began in early 2023. Redevelopment of many facilities located in vicinity of the North Ramp area is expected following the transition to Sheltair.

The airport has 22 tenants, both public and private, that operate out of the airport. Other on-airport businesses and organizations include Quest Diagnostics, Georgia Jet, BIS Jets, Medway Air Ambulance, The Flying Machine, ATP Flight School, Gwinnett County Composite Squadron Civil Air Patrol, CRM Flight Academy, Experimental Aircraft Association (EAA), High Roller, and Gwinnett County Police.

Aircraft Storage
LZU has a variety of different aircraft storage options on the airfield. According to FAA AC 5300-13B, conventional (box) hangars are square or rectangular hangars designed for safe storage of various sizes and types of aircraft. T-hangars are rectangular buildings with tee-shaped floor plans mostly used for small aircraft storage. Conventional hangars are normally independent buildings spaced apart as needed for fire protection by their size. Corporate hangars are conventional hangars with office space integrated near the back or side of the structure.

There are a total of 11 T-hangar buildings with roughly 174 units, 13 corporate hangars, and 26 conventional hangars. In addition, there are approximately 196 tie-down spaces on the North Ramp and 114 tie-down spaces on the South Ramp that accommodate based and transient aircraft. Currently, the airport is in the process of expanding its hangar capacity to better accommodate larger aircraft parking needs of airport users and tenants. A new hangar development is underway west of the North Ramp.

Airport Administration
Airport administration includes the airport manager and the administrative staff who report to Gwinnett County. The administration building is located toward the last segment of Briscoe Boulevard adjacent to ATP Flight School.

Airport Maintenance
The Airport Maintenance facility is located within the airport admin hangar, and one T-hangar is located on the South Ramp. The on-airport facility is used for the storage and maintenance of County-owned vehicles and equipment.

Emergency Services
Both Gwinnett County and the city of Lawrenceville provide public safety services to LZU. Although Gwinnett County Police occupy space at LZU within the Administration Building for their helicopter operations, there is no onsite police station at the airport. Gwinnett County Police provide service to the unincorporated areas of the airport. Lawrenceville Police provide services to the airport areas within the city limits. There are no onsite airport fire and rescue facilities

based at Gwinnett County Airport. Gwinnett County Fire Station 31 is located approximately 3 miles from the airport and is the primary response unit for the Gwinnett County Airport in case of a fire or emergency.

Fencing/Security

The entire perimeter of the airport is securely enclosed by a 6-foot-high topped with barbed-wire fence. Gates are provided at various locations throughout the property as needed for airside access. Airside access at motorized gate locations is accomplished by code access entry whereas remotely located gates are chained and locked with padlocks that can only be accessed by airport personnel. The existing fence meets FAA security guidelines.

Figure 2-12: General Aviation Facilities

Building No.	Tenant	Type of Business	Building No.	Tenant	Type of Business
440	Quest Diagnostics	Aircraft Services	600	Gwinnett County	Airport Administration/Police
450	Aircraft Specialist Jet Center	Aircraft Services	650	Lookup Flight Academy LLC	Office/Flight School
455	Aircraft Specialist Jet Center	Corporate Hangar/Office	670	Aero Industries	T-Hangar Rentals
460	Aircraft Specialist Jet Center	Aircraft Services	690	EAA	Flying Club
470	Aircraft Specialist Jet Center	Aircraft Services/Office	738	LZU Holdings LLC	Flight School/Conventional Hangar
490	Cotter Prop & Develop LLC	Corporate Hangar/Office	739	LZU Holdings LLC	Flight School/Conventional Hangar
500	Aircraft Specialist Jet Center	FBO Terminal/Conventional Hangar	740	Flight School of Gwinnett	Office/Flight School
510	Aircraft Specialist Jet Center	Corp. Office, Rest. Hngr Rental	760	High Roller, LLC	Corporate Hangar/Offices
520	Aircraft Specialist Jet Center	Conventional Hangar/Offices	770	SHELTAIR	Old Airport Admin Storage
530	Georgia Jet	Corporate Hangar/Offices	800	B&D International	Offices/Flight School
554	BIS Jet	Conventional Hangar	850	SHELTAIR	FBO Terminal/Conventional Hangar
564	Air Harbor	T-Hangar/Conv. Hangar Rentals	855	SHELTAIR	Aircraft Services
570	Airflow Leasing	Corporate Hangar/Offices	860	SHELTAIR	Aircraft Services/Conventional Hangars
590	Gwinnett County	Air Traffic Control Tower	865	SHELTAIR	Conventional Hangars
596	Innova Solutions INC	Corporate Hangar/Office	870	SHELTAIR	T-Hangar Rentals

Source: Michael Baker International, 2023

Fuel Storage
Airport fuel providers generally supply only two varieties of aviation fuel — 100-Low Lead (AvGas) and Jet A fuel. AvGas is used mainly by piston-powered aircraft while Jet A is typically used by turboprop and jet-powered aircraft. To facilitate onsite fueling, Aircraft Specialists Jet Center, the airport's south fixed based operator, has full-service fueling facilities including AvGas and Jet A fuel in three above-ground 12,000-gallon tanks. Sheltair, the airport's north fixed based operator, currently stores AvGas and Jet A in three 12,000-gallon tanks. In addition, ATP Flight School provides both AvGas and Jet A fuel to their students in two 8,000-gallon above ground tanks.

Auto Access and Parking
Businesses located at Gwinnett County Airport-Briscoe Field have designated parking areas for their employees and customers. The main access road to access parking is by Briscoe Boulevard to the south of the airport and Airport Road to the north. Briscoe Boulevard starts from Hosea Road before diverging into two separate rights of way. The primary right of way for Briscoe Boulevard has one lane in each direction, while the secondary right of way includes one lane with adjacent angled parking. Airport Road to the north begins at Hosea Road and has one lane in each direction.

Designated parking facilities in the Airport Administration building area seem at capacity. Several unpaved spaces are also provided for businesses throughout the airport. These gravel spaces help to avoid stormwater complications. This information will be considered later in this study to help identify future parking needs.

Existing Environmental Conditions

The purpose of conducting this environmental overview of the LZU property was to evaluate the potential environmental constraints that could affect future projects in the master plan. This undertaking was conducted with consideration given to the requirements of the National Environmental Policy Act, Federal Aviation Administration Orders 5050.4B and 1050.1F, and other applicable federal regulations.

Several environmental categories must be considered when evaluating a project's potential effects on the environment. Each of the 14 environmental categories must be evaluated on a project-specific level. Therefore, each project listed in this master plan update would require an environmental evaluation in accordance with NEPA and other federal regulations. To determine the appropriate level of environmental documentation, the anticipated impacts associated with the implementation of a proposed action must be compared to the FAA-designated significance thresholds for each environmental category as defined in FAA Order 1050.1F. Once the appropriate level of environmental documentation [Categorical Exclusion, Environmental Assessment, or Environmental Impact Statement] is determined, the project-specific impacts are described, potential avoidance and minimization alternatives are evaluated, and all appropriate mitigation measures are explored for those impacts that are determined to be unavoidable.

The following sections describe the existing conditions at the airport relative to each of the 14 environmental categories that must be considered when evaluating a proposed action's potential for impacts to the environment.

Historical Archaeological and Cultural Resources
The National Historic Preservation Act of 1966 mandates that districts, sites, buildings, structures, and objects significant to American history, architecture, archaeology, engineering, and culture be cataloged on the National Register of Historic Places. Section 106 of the NHPA, Protection of Historic and Cultural Resources, requires federal agencies to consider the effects of their actions on resources listed on the NRHP, as well as resources that are determined to be eligible for listing on the NRHP.

As defined in 36 CFR Part 800.16(d), the Area of Potential Effects is defined as "... the geographical area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist." Based on this definition, all future projects at the airport must define an APE that includes all properties physically affected by project implementation, all properties visible from the project area, and locations where the proposed project may alter or disturb surface and subsurface soils that contain or may contain archaeological sites.

Once the APE is defined for the project, all properties 50 years old or older and all archaeological resources previously identified and newly identified must be evaluated for their potential eligibility for inclusion on the National Register of Historic Places. Once a recommended eligibility for historic and archaeological resources is issued, coordination with the Georgia State Historic Preservation Office would be conducted to obtain concurrence regarding those recommended eligibility determinations. The proposed projects are then evaluated for their potential to result in adverse impacts to all NRHP-eligible historic and archaeological resources identified within the APE. Additional coordination with the Georgia State Historic Preservation Office is required to obtain concurrence on the effect determinations, as well as recommendations for mitigation measures for instances where adverse impacts are unavoidable.

No adjacent historic resources were identified in the DNRs Georgia Natural, Archaeological, and Historic Resources Geographic Information System public database. However, the former Georgia Carolina & Northern Railway (CSX Transportation) railroad tracks are located along the southern border of the airport. This circa-1886 historic resource was determined eligible for NRHP by the State Historic Preservation Office for a nearby GDOT roadway study conducted by Edwards Pitman Environmental, Inc. in 2018. Assessment of effects studies may be required to ensure that future projects would have no adverse effects on this or other NRHP-eligible resources.

Socioeconomic, Environmental Justice, and Children's Environmental Health and Safety Risks
According to the U.S. Environmental Protection Agency, environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. EPA defines fair treatment to mean that no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental, and commercial operations or policies. In accordance with Executive Order 12898, proposed projects would need to be analyzed to identify and address any disproportionately high and adverse effects to minority and low-income populations and communities. These populations are afforded protections against incurring disproportionate adverse effects by a corpus of laws and regulations known as Environmental Justice 1.

When the FAA determines that a project has significant impacts in any environmental impact category, the potential for disproportionately high and adverse effects on minority or low-income populations must be examined pursuant to DOT Order 5610.2(a). Even in the absence of a significant impact in an environmental impact category, further inquiry into the potential for disproportionately high and adverse effects on minority or low-income populations may be warranted based on the demographics of the study area and the nature of environmental impacts associated with the proposed project. If there are disproportionately high and adverse effects on minority or low-income populations, DOT Order 5610.2(a) requires that certain procedures be followed for analyzing the proposed action's potential impacts, offsetting benefits, potential alternatives, and substantial need. The FAA reflects its adherence to the requirements of DOT Order 5610.2(a) in its NEPA document.

Visual Effects
FAA Order 1050.1F defines visual effects as "the extent to which the proposed action or alternative(s) would either: 1) produce light emissions that create an annoyance or interfere with activities, or 2) contrast with, or detract from, the visual resources and/or the visual character of the existing environment." Furthermore, visual effects are

usually difficult to define and assess because they involve subjectivity. Although aviation-related and aerospace actions do not typically result in adverse visual effects, they can occur in specific circumstances. Adverse visual impacts are divided into two categories: (1) light emission effects and (2) visual resources and visual character.

Light emissions include any light that emanates from a source into the surrounding environment. Navigational aids, terminal lighting, parking facility lighting, airfield, and apron lighting are all examples of airport sources of light emissions. Visual resources include traditional cultural properties, buildings, and other natural or manmade landscape features that are visually important or have unique characteristics. Structures or objects that obscure or block other landscape features would be considered visual resources. Visual resources can also include collections of various individual resources that can be viewed at once or in concert from the area surrounding the site of the proposed action or alternative(s). In some instances, the nighttime sky may be considered a visual resource. Visual character refers to the overall makeup or the existing environment where the proposed action or alternative(s) would be located. Developed areas in proximity to densely populated areas have an urban visual character, whereas less developed areas may have a visual character that is better defined by the landscape features as opposed to manmade structures.

There are no special purpose laws or requirements that address visual effects. However, some visual resources are protected under federal, state, or local regulations. In addition to NEPA, some other laws that protect resources that may be adversely affected by visual effects include Section 106 of the National Historic Preservation Act, Section 4(f) of the DOT Act, the Wild and Scenic Rivers Act, and state and regional coastal protection acts. Visual resources may also be protected and managed on federal resource lands such as the U.S Forest Service Resource Management Plans and the Bureau of Land Management Visual Resource Management System.

There are also state and local regulations, policies, and zoning ordinances that may apply to visual effects. The airport property consists of various sources of lighting that are mostly contained within the existing boundaries. Types of lighting include taxiway and runway lighting, Runway End Indicator Lights, a rotating beacon, apron lighting, roadway streetlamps, and exterior building lights. There are no known visually sensitive resources located in the airport vicinity that are not already affected by the presence of the existing facility; therefore, it is unlikely that future projects at the airport would result in adverse light emission impacts to adjacent property owners. However, visual impacts could occur if an NRHP-eligible historic property is identified in the airport vicinity and a future project might result in the clearing of forested habitats that create a new sightline to the airport property.

Fish, Wildlife, and Plants Federally Protected Species

Plant Communities

For each of the future planned projects at the airport described in this master plan, the proposed action must be evaluated for its potential to result in adverse impacts to the existing plant communities, local wildlife, and fish communities. The airport property encompasses approximately 520 acres including the main airport campus and a parcel located east of Cedars Road and the Alcovy River maintained as a takeoff/approach area.

The main campus of the airport was included in ecological assessments for previous projects. This study area includes three main habitat types: approximately 132 acres of developed lands (including all runways, taxiways, aprons, structures, and parking lots), 267 acres of mowed/maintained habitat, 50 acres of scrub/shrub habitat, and 3 acres of mixed pine-hardwood forest habitat. In addition, the main campus area includes approximately 0.56 acres of wetlands and 6,000 linear feet of streams as shown in **Figure 2-13**.

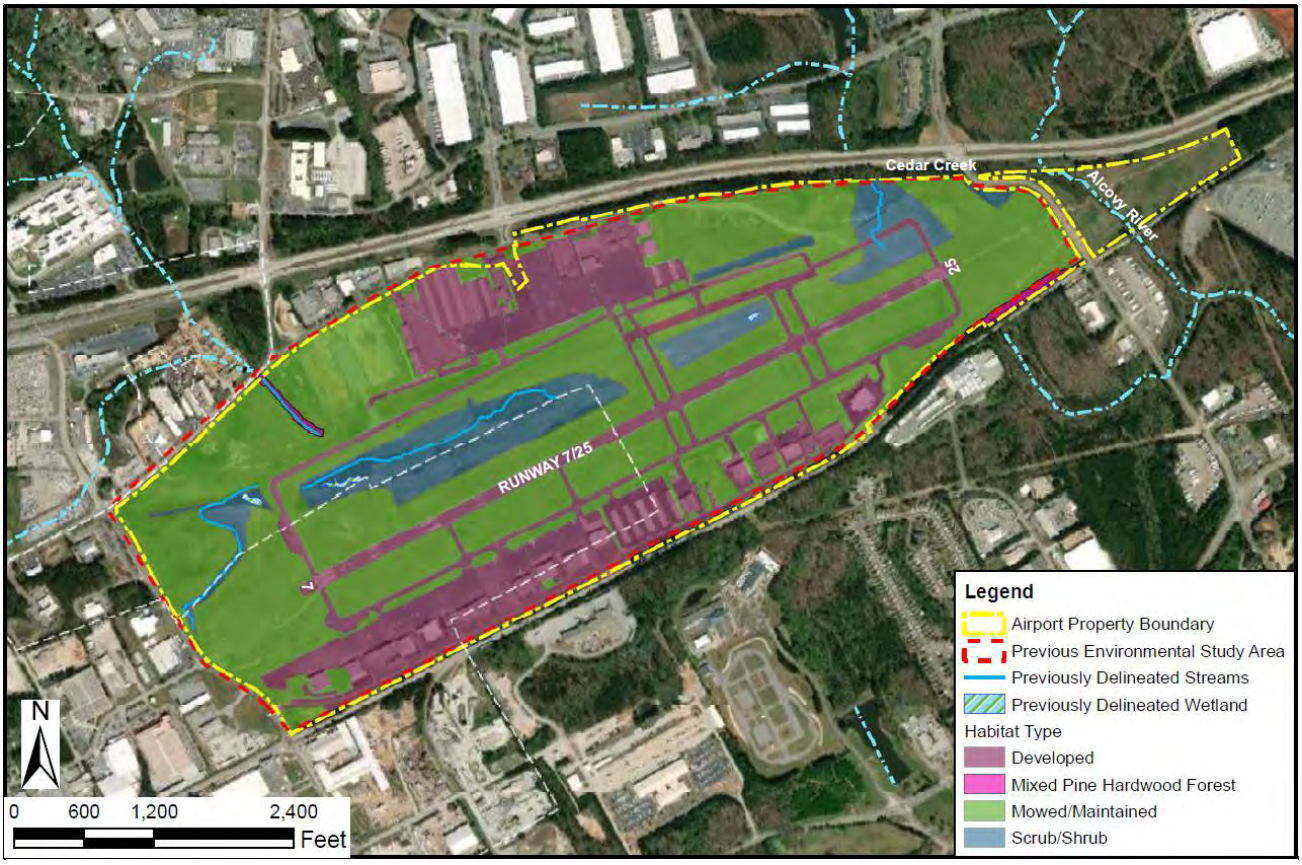
The terminal, hangar, and apron area located along the southern boundary and hangar and the apron area located along the northern boundary contain the largest acreages of developed lands on the property. The southern portion of the property contains an extensive network of aprons, vehicular parking lots, several T-hangars, various sized corporate hangars, administrative buildings, an ATCT, and office space for several aviation-related businesses. The

northern portion of the property also contains a large area of developed lands. This area contains large aircraft aprons, T-hangars, corporate hangars of various sizes, and office space for several aviation-related businesses.

As mentioned, the airfield consists of one main runway, Runway 7-25, a full-length parallel taxiway located south of the main runway (Taxiway W), and two partial parallel taxiways located north of the main runway. Taxiway Z is the western parallel runway, and Taxiway Y is composed of two partial taxiways that run alongside eastern portions of the runway. The airfield also includes a network of connector taxiways. Paved airfield surfaces are bordered by mowed/maintained habitats consisting mostly of emergent grass communities including non-woody, herbaceous species. Areas adjacent to the runway, taxiways, and other paved surfaces are consistently mowed to prevent woody vegetation from becoming established resulting in the creation of air navigation obstructions. This habitat is also maintained to reduce the attraction of these areas to wildlife species that prefer habitats that contain thick, tall grassy meadows.

Segments of Cedar Creek and Alcovy River flow southeast across eastern end of the airport property. A network of drainages, unnamed tributaries, and floodplain drain east across airport property towards Cedar Creek. Scrub/shrub habitat line the banks of Cedar Creek, Alcovy River, and tributary drainages. This scrub/shrub habitat consists of early successional herbaceous and woody species. These riparian areas are maintained to prevent the establishment of forest habitat that would result in the creation of air navigation obstructions. **Figure 2-13** illustrates those findings.

Figure 2-13: LZU Vegetation Habitats



Source: Michael Baker International, 2022

Wildlife

Federally Protected Species

Section 7 of the Endangered Species Act of 1973 requires federal agencies to ensure that any action authorized, funded, or carried out by them is not likely to jeopardize the continued existence of listed species or modify their critical habitat.[1] In accordance with Section 7 of the ESA, county listings of federally and state-protected species were reviewed via the Information for Planning and Consultation maintained by the U.S. Fish and Wildlife Service and the Georgia Rare Species and Natural Community database maintained by the Georgia Department of Natural Resources' Wildlife Resources Division to determine the potential for federally protected species being located on the airport property. According to the data provided by the USFWS and the GADNR-WRD, the Gwinnett County Airport is located within the potential range of one federal candidate species: monarch butterfly (Danaus plexippus).

On December 15, 2020, the USFWS announced that listing the monarch butterfly as endangered or threatened under the ESA is warranted but precluded. As a result, the monarch butterfly is now a candidate under the ESA. The lead federal agency may treat candidate species as proposed under the ESA and request conference, as appropriate, if they determine a proposed action is likely to jeopardize the continued existence of the species or if the species may be listed prior to completion of project construction. Potentially suitable monarch butterfly habitat occurs statewide and may be present within the airport's boundaries. USFWS data should be evaluated before proposed projects to determine if a final listing decision has been issued. USFWS data would also be used to assess effects and develop Avoidance and Minimization Measures for monarch butterflies.

Critical Habitat

An Information for Planning and Consultation report dated November 4, 2022, confirmed that there are no critical habitats for federally protected species within the Gwinnett County Airport project area (IPaC report included in Agency Coordination). Updated IPaC reports should be consulted, but at this time it is not anticipated that future projects would have the potential to adversely affect critical habitat.[1]

Bald and Golden Eagles

The Bald and Golden Eagle Protection Act provides for the protection of the bald eagle (Haliaeetus leucocephalus) and the golden eagle (Aquila chrysaetos) by prohibiting, except under certain specified conditions, the taking, possession, and commerce of such birds. Under the Bald and Golden Eagle Protection Act, a "take" of a bald eagle is defined as to "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest, or disturb." No bald eagles or golden eagles have been encountered on the airport property and no nests for either species have been discovered on or near the vicinity of the airport. However, the bald eagle is identified as occurring within the HUC 10 watershed for this project, the Upper Alcovy River Watershed. Based on the results of the field surveys, it has been determined that future projects at the airport are not likely to result in a "take" of either bald or golden eagles.

Migratory Birds

The Migratory Bird Treaty Act requires that federal agencies identify any areas potentially used by birds protected under the MBTA and characterize these areas along with their significance to migratory birds. The USFWS's IPaC database lists six migratory birds of concern potentially occurring within the airport project area. The list of birds includes the bald eagle, chimney swift (Chaetura pelagica), prothonotary warbler (Protonotaria citrea), red-headed woodpecker (Melanerpes erythrocephalus), rusty blackbird (Euphagus carolinus), and wood thrush (Hylocichla mustelina). There is no suitable habitat for chimney swifts at the airport because there are no vertical surfaces like caves or hollow trees for swifts to build their nests. There is no suitable habitat for the red-headed woodpecker at the airport as this bird prefers mature pine forests with an open understory. The forested areas identified on the airport property appear to be the fragmented remnants of production forestland with a dense understory of shrubs

[1] USFWS (May 2010). Digest of Federal Resource Laws of Interest to the U.S. Fish and Wildlife Service – ESA. Accessed on October 1, 2018: https://www.fws.gov/international/laws-treaties-agreements/us-conservation-laws/endangered-species-act.html.

and woody vines. Trees near water and open fields provide habitat for rusty blackbird. Riparian areas provide suitable habitat for the prothonotary warbler and wood thrush.

Due to the presence of suitable habitat for three of the migratory birds listed by the USFWS as species of concern, precautions will need to be added to the construction contract of future projects to reduce the likelihood that inadvertent adverse impacts to migratory birds would occur. Specifically, clearing and grubbing activities would need to be scheduled during the non-breeding season to reduce the likelihood of impacting migratory bird nests. Therefore, the clearing of trees would not be allowed on the airport property between April 1 and September 1, which is the normal breeding season for the migratory birds likely to occur within the project study area.

Fish Communities

Future projects that would result in culverting or piping of streams would require fish passage consideration, which would likely require that the structure be installed and be buried approximately 20% to allow fish to easily pass through the structure.

Wetlands Waters of the U.S.

Wetlands and Surface Waters

A network of drainages and unnamed tributaries enter the airfield from beneath Hurricane Shoals Road northeast of the airport and beneath Hosea Road east of the airport as shown in **Figure 2-14**. This network of drainages flows east across airport property and into a culvert located south of Taxiway Z. These drainages then flow beneath the airport to a larger culvert that contains Cedar Creek (see **Figure 2**).

Cedar Creek and the Alcovy River are located on the east side of the airport. Cedar Creek flows southeast from beneath SR 316/US 29 near the northeast end of Taxiway Y before being contained in a culvert for approximately 1,500 linear feet beneath the east end of Taxiway Y and Runway 7-25. Cedar Creek discharges to an offsite outfall located south of the CSX railroad tracks that run along the southern border of the airport. The Alcovy River flows southeast across airport property, east of Cedars Road. The river enters the airfield from beneath SR 316/US 29 and exits offsite beneath a railroad trestle located east of Cedars Road. Cedar Creek discharges into the Alcovy River. The confluence of Cedar Creek and Alcovy River is located less than ¼ mile south of the east end of the airport's boundaries and east side of Cedars Road.

The main airport campus includes approximately 0.56 acres of wetlands and 6,000 linear feet of previously delineated streams. A parcel located east of Cedars Road includes a section of the Alcovy River. However, the extent of wetlands and waters in this area has not been delineated. Delineated streams, delineated wetlands, culverts, and streams that were mapped on public databases are depicted in **Figure 2-14**.

Future projects at the airport that would result in impacts to jurisdictional waters of the U.S. would require a permit issued by the U.S. Army Corps of Engineers in accordance with Section 404 of the Clean Water Act. In addition to permitting for impacts to wetlands and waters, non-exempt land disturbances in the 25-foot state-mandated Stream Buffers may require the submittal of a Buffer Variance Application through the Georgia Department of Natural Resource Environmental Protection Division.

Floodplains

Executive Order 11988, Floodplain Management, requires that efforts be made to avoid, to the extent possible, the long-and short-term adverse impacts associated with the occupancy and modification of floodplains. It also requires that efforts be made to avoid direct or indirect support of development in floodplains wherever there is a

practicable alternative. It also prohibits floodplain encroachments that would cause a substantial flood risk, a critical interruption of an emergency transportation facility, or an adverse impact on the floodplain's natural values.

According to the Federal Emergency Management Agency, any project in a floodway must be reviewed to determine if the project will increase flood heights. An engineering analysis must be conducted before a permit can be issued. The community's permit file must have a record of the results of this analysis, which can be in the form of a No-rise Certification. This No-rise Certification must be supported by technical data and signed by a registered professional engineer.

Based on a review of the FEMA floodplain maps and shown in **Figure 2-15**, there are Zone A and Zone AE floodplains associated with unnamed tributaries to Cedar Creek that are located between Taxiway Z and Runway 7-25, as well as the riparian areas adjacent to Cedar Creek and the Alcovy River. Future projects at the airport that result in the filling of floodplains that affect flooding would require a hydrologic and hydraulic (H & H) analysis, community coordination, and compliance with FEMA regulations.

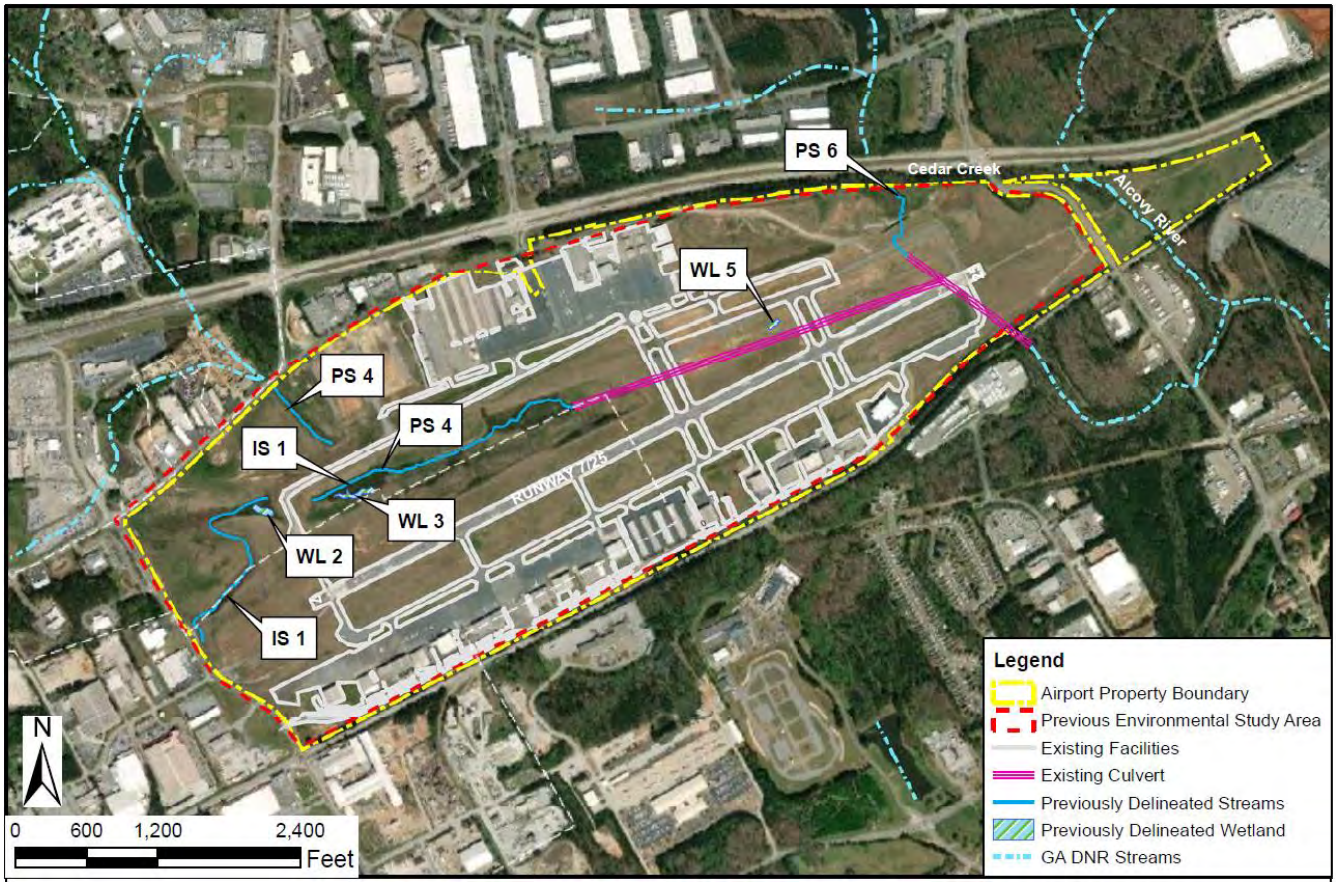
Groundwater

The Safe Drinking Water Act (42 U.S.C. 300 (f)-300j-26) prohibits federal agencies from funding actions that would contaminate a U.S. EPA-designated sole source aquifer or its recharge area. There are no aquifers or recharge areas on or adjacent to the airport property; therefore, any future project at the airport would not result in adverse impacts to groundwater sources or recharge areas.

Wild and Scenic Rivers

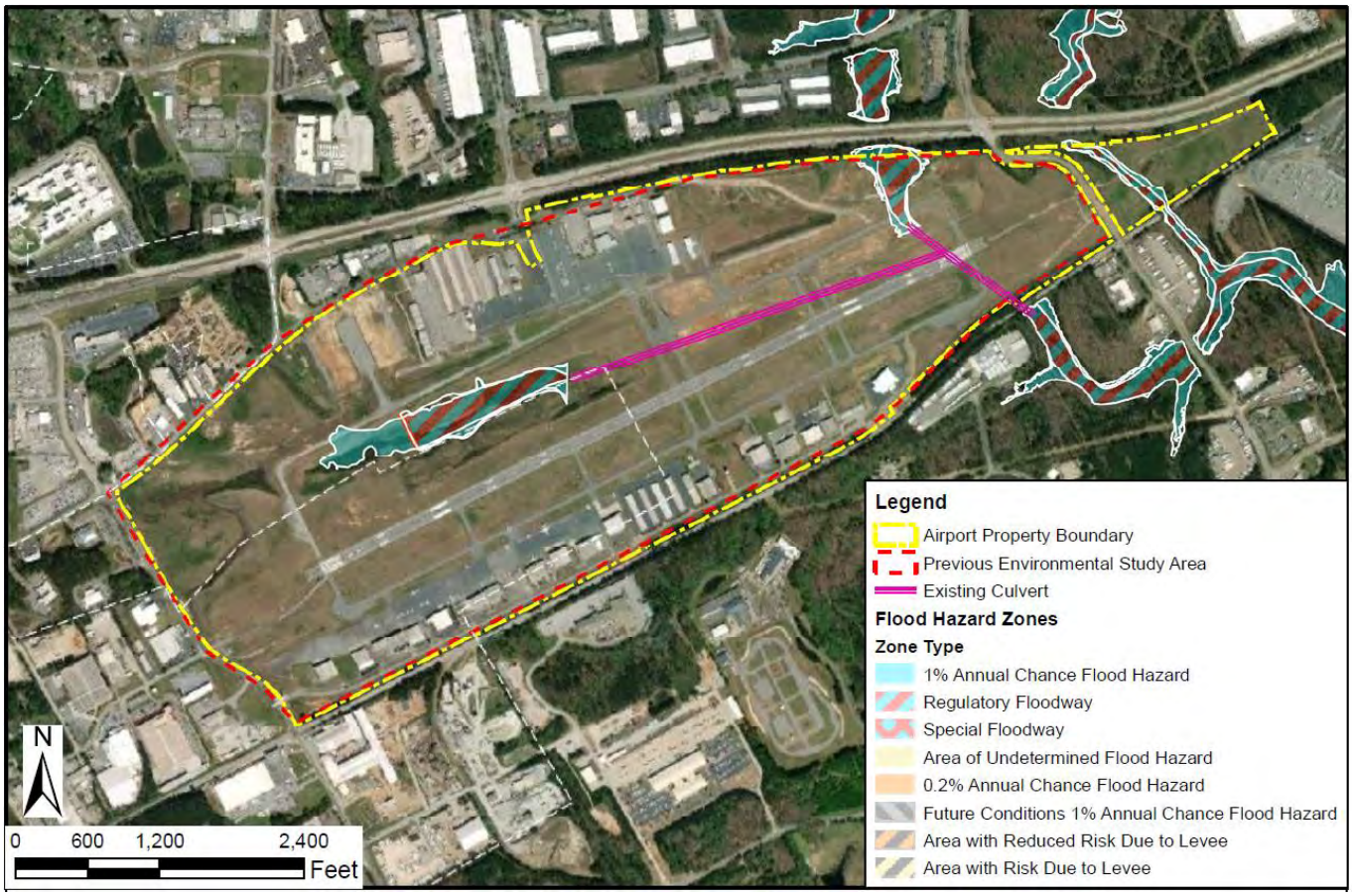
The National Wild and Scenic Rivers Act of 1968 (16 U.S.C. Parts 1271-1287) protects rivers that are listed as significant resources for their wild, scenic, or recreational values, along with those that are under consideration for inclusion on the list. In addition, under a 1979 Presidential Directive, federal agencies are required "… to take care to avoid or mitigate adverse effects on rivers identified in the Nationwide Inventory." There are no federally protected wild, scenic, or recreational rivers, nor are there any rivers listed on the Nationwide River Inventory in the airport vicinity. The Chattooga River is the only river within Georgia listed on the National Wild and Scenic River System. The southern limit of the protected portion of the Chattooga River is located approximately 105 miles northeast of the airport property; therefore, future projects at the airport would not result in adverse impacts to wild and scenic rivers.

Figure 2-14: Surrounding Waterways



Source: Michael Baker International, 2022

Figure 2-15: LZU Floodplains



Source: Michael Baker International, 2022

Farmlands

The Farmland Protection Policy Act, which is contained in the Agriculture and Food Act of 1981, is intended to minimize the impact that federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. It assures that to the extent possible federal programs (including airports because they are regulated by the FAA) are administered to be compatible with state, local units of government, and private programs and policies to protect farmland. The FPPA does not authorize the federal government to regulate the use of private or nonfederal land or to in any way affect the property rights of owners.

For the purposes of the FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance. Farmland subject to the FPPA can also be forest land, pastureland, cropland, or other land but not water or urban built-up land. Based on coordination with the United States Department of Agriculture – Natural Resources Conservation Service (USDA-NRCS) on November 21, 2022, the Gwinnett County Airport is within a U.S. Census Bureau designated urban area which is an exemption from the FPPA (USDA-NRCS coordination included in Agency Coordination).

Climate

Although there are no federal standards for aviation-related greenhouse gas emissions, it is well established that GHG emissions can affect climate. The Council on Environmental Quality has indicated that climate should be considered in NEPA analyses, and, in 2016, the CEQ released final guidance for federal agencies on how to consider the impacts of their actions on global climate change in their NEPA reviews. A Notice of Availability for that guidance was published on August 5, 2016 (81 Federal Register 51866). However, pursuant to Executive Order 13783, "Promoting Energy Independence and Economic Growth," as of March 28, 2017, the guidance has been withdrawn for further consideration. For future projects at the airport, GHG emissions from construction-related activities and aircraft operations should be considered.

Coastal Resources

The Coastal Zone Management Act of 1972, as amended, requires that projects located within the coastal zone comply to the maximum extent practicable with approved state coastal management programs. The Coastal Barrier Resources Act of 1982 designated various undeveloped coastal barrier islands for inclusion in the Coastal Barrier Resources System. The Coastal Barrier Improvement Act of 1990 included additional areas along the Great Lakes, Puerto Rico, the Florida Keys, and the Virgin Islands into the system. The CBRA was reauthorized by the Coastal Barrier Resources Reauthorization Act of 2005.

Gwinnett County is not located within the coastal zone of Georgia. Therefore, future projects at the airport would not result in direct, indirect, or cumulative impacts on coastal resources under the CZMA, CBIA, or CGRRA.

Department of Transportation Act, Section 4(F)

"Section 4(f) of the U.S. Department of Transportation (DOT) Act of 1966 prohibits federal agencies from using land from publicly owned parks, recreation areas (including recreational trails), wildlife and waterfowl refuges, or public and private historic properties unless there is no feasible and prudent alternative to that use and the action includes all possible planning to minimize harm to the property resulting from such a use."[2] There are no publicly owned parks located on the airport property. There are no recreation areas or trails located on or adjacent to the airport property. In addition, there are no wildlife or waterfowl refuges located in the vicinity of the airport property.

Section 4(f) prohibits the use of public and private historic properties unless there is no feasible and prudent alternative. Adverse impacts to historic properties can be visual or audible in nature, therefore future projects implemented at the airport may adversely affect historic properties even though they are contained entirely on the property. As a result, surveys for historic properties that may be eligible for listing on the National Register of Historic Places must be conducted before the implementation of future airport projects. These historic resources surveys will need to identify a project-specific Area of Potential Effects, identify any structures within the APE that are 50 years old or older and eligible for listing on the NRHP, and then a determination needs to be made.

Natural Resources and Energy Supply

In accordance with FAA guidelines, federal agencies must evaluate potential changes in energy requirements and the use of consumable natural resources at an airport for any proposed construction activities. Energy supply requirements typically fall into two categories: those that relate to changing demand from stationary facilities (e.g., major airfield lighting and terminal building heating demands) that might exceed local supplies or capacities, and those involving the increased movement of air and ground vehicles to the extent that demand exceeds energy supplies. An evaluation of potential impacts on natural resources includes considerations such as the local availability of construction materials and the use of scarce or unusual consumable natural resources for the construction of the proposed project.

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[2] Federal Transit Administration (March 166, 2016). *Section 4(f) of the Department of Transportation Act*. Accessed on October 1, 2018, at: https://www.transit.dot.gov/regulations-and-guidance/environmental-programs/section-4f-department-transportation-act.

Future projects at the airport are not likely to result in a permanent increase in demand for energy supplies. Construction activities typically result in a temporary increase in demand for petroleum products in the form of fuel to operate the construction equipment. However, this temporary increase in demand for petroleum products would not represent a significant increase in demand for energy resources. For any future project at the airport that would result in a change in aircraft fleet mix or the number of aircraft operations, an evaluation of the potential impacts on natural resources and energy supply would be necessary.

Hazardous Materials

Hazardous materials are substances defined and regulated by the Comprehensive Environmental Response, Compensation, and Liability Act, as amended by the Superfund Amendments and Reauthorization Act, and substances defined and regulated by the Toxic Substances Control Act. In general, hazardous materials are substances that, because of their quantity, concentration, physical, chemical, or infectious characteristics, may present substantial danger to public health or welfare or the environment when released or otherwise improperly managed.[3]

A search of available environmental records was conducted by Environmental Data Resources, Inc. in an Area/Corridor Report (EDR Report included as an Addendum). The EDR Report for the airport property revealed that there are two federal RCRA-Very Small Quantity Generators: Jimmy Smith, Inc. located at 699 Airport Road, and GA Jet AMX located at 530 Briscoe Boulevard; one RCRA Non-Generator, UK USA Helicopters at 570 Briscoe Boulevard; two underground storage tanks: High Roller LLC at 760 Briscoe Boulevard and Gwinnett Airport-BRI at GA Highway 316; and one aboveground storage tank: Landmark Aviation at 850 Airport Road.

Additionally, this report includes information on past spills, environmental enforcement activities, compliance history information, and historical records.

Solid Waste

The Republic Services Richland Creek Landfill is located approximately 14 miles south of the airport property, and the landfill accepts commercial waste such as concrete products. Therefore, future projects at the airport that would result in the generation of solid waste would be supported by the presence of the Republic Services Richland Creek Landfill, which would be capable of accepting any construction waste produced by the project.

Pollution Prevention

The Georgia Environmental Protection Division reissued the Industrial Stormwater General Permit (GAR050000) on May 20, 2022, and became effective June 1, 2022. The 2022 IGP is the state's general National Pollutant Discharge Elimination System Permit regulating stormwater runoff from industrial sites. The creation of this permit allowed many industries to be uniformly covered with specific requirements varying by industrial sector. Implementing preventative measures on site rather than trying to mitigate the pollutants once in the environment is the most effective and economical way to protect water quality. In addition to other requirements, this Industrial General Permit requires Stormwater Pollution Prevention Plan updates, quarterly inspections, an Annual Comprehensive Site Evaluation, employee training, and the submittal of an annual report.

The NPDES General Permit for Stormwater Discharges Associated with Construction Activity for Infrastructure Construction Projects (GAR100002) was reissued with an effective date of August 1, 2018. GAR100002 authorizes the discharge of stormwater to the waters of the state of Georgia from sites where construction activities will result in contiguous land disturbances equal to or greater than 1 acre. This permit complies with the anti-degradation requirements in the EPD Rules and Regulations for Water Quality Control, subparagraph 391-3-6-.03. Existing water quality will not be degraded by the issuance of this permit. The issuance of this permit will protect and improve existing water quality and is consistent with EPD's antidegradation policy. The proposed permits are being issued

[3] Resource Conservation and Recovery Act (RCRA) Subtitle C, 40 CFR Part 251.

pursuant to the authority contained in O.C.G.A. §§ 12-5-27. A Notice of Intent and Erosion Sedimentation and Pollution Control Plan is typically required to direct the design, installation, inspection, maintenance, and monitoring for stormwater discharges associated with infrastructure construction activity.

Gwinnett County Airport is within 1 linear mile and inside the watershed of two impaired streams listed on Georgia's most current 303(d) list — Alcovy River and Cedar Creek (see Table 6-4). The pollutant of concern for both impaired stream segments is Fecal Coliform Bacteria. This pollutant of concern is present at the airport but would not be exposed to stormwater as a result of current procedures at the facility. Therefore, no additional sampling is required under the airport's industrial stormwater permit, and additional BMPs are not required for construction stormwater permitting.

Air Quality

The management of air quality conditions at the airport is the responsibility of the U.S. Environmental Protection Agency, the Georgia Department of Natural Resources Environmental Protection Division, and the Capital Region Planning Commission under the federal Clean Air Act. The U.S. EPA establishes, enforces, and periodically reviews the National Ambient Air Quality Standards and approves state implementation plans that demonstrate compliance with the NAAQS.

The FAA is responsible for ensuring that air quality impacts associated with proposed airport projects adhere to the reporting and disclosure requirements of NEPA, as well as the General Conformity Rule of the CAA. The GDNR-EPD is also responsible for enforcing the CAA, including compliance with the National Ambient Air Quality Standards, issuance of air emission source permits, monitoring of air quality conditions, and assisting in the preparation of the State Implementation Plan. The CRPC is responsible for developing short-range and long-range transportation plans that conform to the air quality goals established in the State Implementation Plan.

NAAQS have been established for six common air pollutants, referred to as criteria pollutants: carbon monoxide (CO); lead (Pb); nitrogen dioxide (NO2); ozone (O3); particulate matter (PM), which includes particulates with diameters of 10 microns or less (PM10) and diameters of 2.5 microns or less (PM2.5); and sulfur dioxide (SO2). For all future projects at the airport, the analysis should also include nitrogen oxides (NOx) and volatile organic compound (VOC) emissions because they are precursors to ozone formation, as well as NOx and SO2 because they are precursors to PM2.5.

Each future project at the airport must be evaluated for its potential to result in increased emissions of the six common air pollutants. Specifically, each proposed action must be evaluated for its potential to result in increased air emissions from both a project construction standpoint and an airport operations standpoint. If the proposed action is determined to be below the de minimis thresholds established for each of the six criteria pollutants, then no mitigation is necessary. However, if it is determined that implementation of the proposed action would result in increased air emissions that exceed the de minimis thresholds, then mitigation measures must be considered to ensure that the proposed action is in compliance with the CAA.

Noise

Noise is considered unwanted sound that can disturb routine activities (e.g., sleep, conversation, student learning) and can cause annoyance. Aviation noise primarily results from the operation of fixed and rotary wing aircraft, such as departures, arrivals, overflights, taxiing, and engine run-ups.[4] FAA policy is that airports are to be constructed and operated such that they minimize current and future noise impacts on surrounding communities [49 U.S.C. §47101(a)(2)]. Accordingly, the FAA pursues a program of aircraft noise control in cooperation with the aviation community. The FAA has established several programs and activities aimed at addressing these constraints, which includes limiting the number of people exposed to significant noise levels.

[4] FAA. 2015. *FAA Order 1050.1F Desk Reference*. July 2015.

The FAA's significance threshold for noise is an action that would increase noise by a Day Night Average Sound Level by 1.5 dB or more for a noise-sensitive area that is exposed to noise at or above the DNL 65 dB noise exposure level, or that will be exposed at or above the DNL 65dB level due to a DNL 1.5dB or greater increase when compared to the no-action alternative for the same timeframe.[5] Noise control measures include noise reduction at the source; i.e., development and adoption of quieter aircraft, soundproofing and buyouts of buildings near airports, operational flight control measures, and land use planning strategies.

There are two types of noise impacts associated with airport construction noise impacts and aircraft noise impacts. Construction noise impacts occur when the equipment used during construction-related activities on the airport property produces enough unwanted sound that adjacent property owners are adversely affected. Aircraft noise impacts occur when the everyday operations at the airport create enough unwanted sound that adjacent property owners are adversely affected.

To prevent or reduce adverse noise impacts to the adjacent noise receptors (i.e., single-family, multi-family, and high-density multi-family communities), future projects at the airport should be evaluated for their potential to produce construction noise or aircraft noise that exceeds the 65 DNL or results in an increase of more than 1.5 dB or more from the existing condition. As part of the Airport Layout Plan update prepared for this master plan, noise contours based on the forecasted airport operations will be overlaid onto a land use drawing to aid in identifying potential land use compatibility concerns.

Land Use

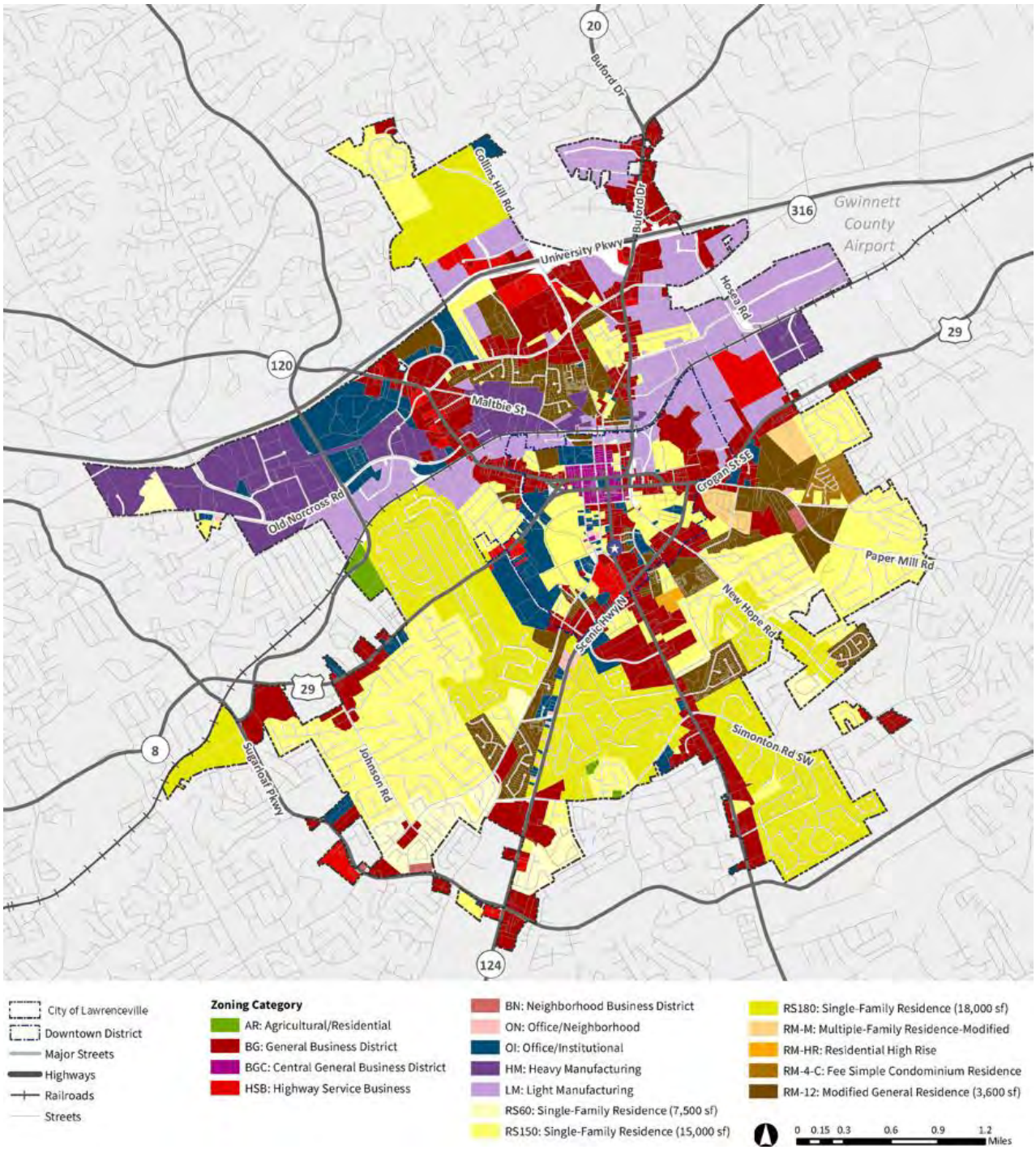
The area land use surrounding Gwinnett County Airport can have a significant impact on airport operations and growth. The following identifies baseline information related to the existing capability of existing and future land use in the airport vicinity. By understanding the land use issues surrounding the airport, more appropriate recommendations can be made for the future of the airport.

The city of Lawrenceville 2040 Comprehensive Plan (adopted December 2018) was reviewed to determine the existing zoning and future land use plans on and adjacent to the Gwinnett County Airport. Existing zoning shown in **Figure 2-16** includes the airport in Zone LM: Light Manufacturing. Industrial and commercial/mixed uses are clustered around the airport. The 2040 Comprehensive Plan describes the implementation of Policy LU3.5 and the city's vision to "encourage industrial development to locate in the northeastern part of the city, near the airport and away from Downtown." The 2040 Future Development Map identifies the airport area as "Production."

Gwinnett County's 2040 Unified Plan (adopted by the Gwinnett County Board of Commissioners in 2019) displays the land use surrounding LZU. This is illustrated in **Figure 2-16** and **Figure 2-17**. Much of the adjacent land bordering Gwinnett County Airport is not under the jurisdiction of Lawrenceville and thus is not zoned by the city. Existing land uses in the vicinity of the airport include light to heavy industrial in all quadrants, SR 316 to the north, low-density residential to the southeast, and a transportation rail facility to the east.

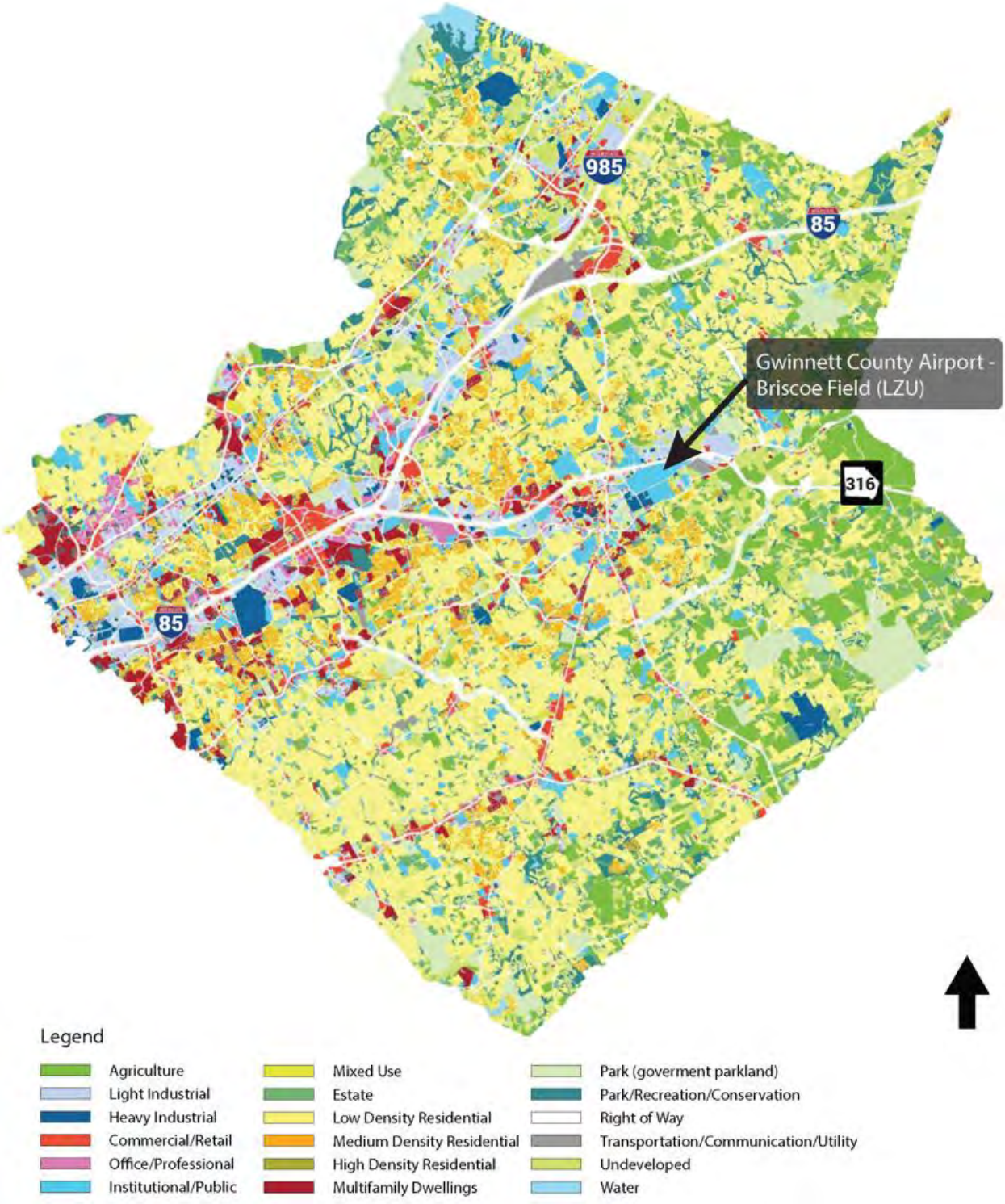
[5] *Ibid.*

Figure 2-16: Lawrenceville, GA Existing Land Use Map



Source: JACOBS, 2016

Figure 2-17: Gwinnett County Land Use



Source: Gwinnett County Unified Plan, 2019

Summary of Airport Facilities

In determining infrastructure improvements that may be necessary to meet future demand for aviation users, existing conditions must be assessed. A review of the facilities and services presented in this chapter is found in **Table 2-8**. A comparison with project future activity levels provides a method to evaluate the infrastructure improvements that may be necessary to meet the demand for airport users for the next planning horizon of 20 years.

Table 2-8: Summary of Existing Conditions

Airport Data	Description
Identifier	LZU
Owner	Gwinnett County
Acreage	520 ac.
Airport Elevation	1,061 AMSL
Max Mean Temp	88.0° F
City	Lawrenceville
Airport Facility	Description
Runways	RW 7-25: 6,001’ x 100’ asphalt grooved
Taxiways	1 parallel taxiways, 2 partial parallel taxiway, 6 connector
Aprons	North Ramp South Ramp
Tiedowns	310
Runway Markings	Precision
Pavement Strength	93,000 SW 120,000 DW
Pavement Condition	Good
Hangar Facilities	T-hangars: 11 (174 Units) Stand Alone T-hangar Units: 2 Corporate hangar: 2 Conventional Hangar: 19
Fuel Storage	Jet A 100LL (12,000 gal)
Lighting	HIRL
NAVAIDS	Beacon Segmented Circle PAPI-2 MALSR Localizer Glideslope Outer Marker
Instrument Approach	<1 mile
Weather Equipment	AWOS
FBO	Sheltair Aircraft Specialist Jet Center

Source: Michael Baker International, 2022

Chapter Three: Forecast

Introduction

This chapter presents forecasts of aviation activity at LZU that will be used as the basis for facility planning at the airport throughout the 20-year planning period.

Projections of activity are presented in 5-, 10-, and 20-year increments, where base year data for this analysis is 2022. The "study year" for developing the master plan update will be 2023, and the milestone planning years are 2024, 2029, 2034, and 2044. The development of forecasts includes the analyses of historical activity data, previous FAA and GDOT forecasts, and socioeconomic data from the region and the state of Georgia. This data was supplemented with information obtained from airport management, on-airport operators, and industry sources to obtain a comprehensive profile of operational activities, emerging trends, and the community's vision for the airport. The elements of this forecast are:

- Based Aircraft
    - Single-Engine
    - Multi-Engine (piston and turboprop)
    - Jet
    - Helicopter
- Aircraft Operations
    - Total Operations
    - Local/Itinerant
    - IFR/VFR
    - Engine Type
    - Critical Aircraft
    - Day/Night
    - Air Taxi/Commuter, General Aviation, Military
    - Peak Operations

External factors, including recent and ongoing aviation industry trends and projections, will be evaluated as to their impact on LZU.

Historical Aviation Activity

A review of historically based aircraft and operations data is valuable in determining future levels of activity. Previous forecasts and their accuracy over time were also considered to identify historical trends and their relationship to national, state, and local socioeconomic and aviation activities. These methods were applied to develop the most accurate forecasts possible at LZU.

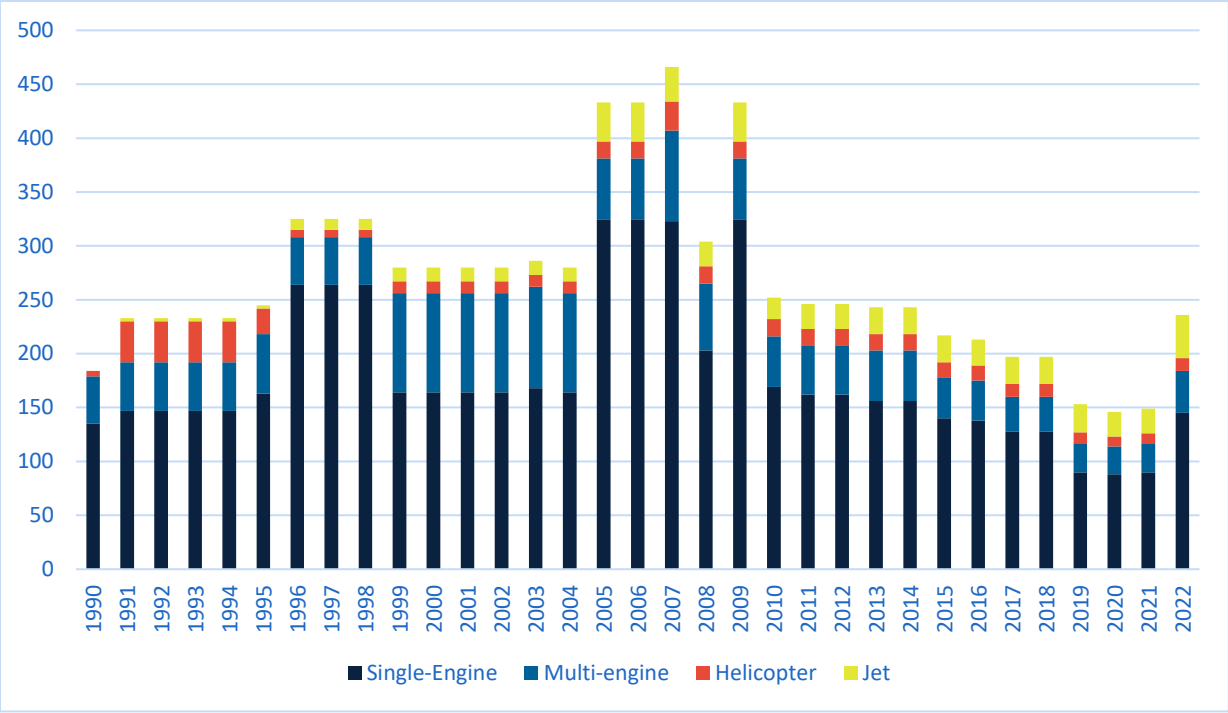
Historical based aircraft activity at LZU is presented in **Table 3-1** and **Figure 3-1.**

Table 3-1: Historical Based Aircraft

Year	Single-Engine	Multi-Engine	Helo	Jet	Other	Total	Single-Engine	Multi-Engine	Helo	Jet
1990	135	44	5	0		184	73.4%	23.9%	2.7%	0.0%
1991	147	45	38	3		233	63.1%	19.3%	16.3%	1.3%
1992	147	45	38	3		233	63.1%	19.3%	16.3%	1.3%
1993	147	45	38	3		233	63.1%	19.3%	16.3%	1.3%
1994	147	45	38	3		233	63.1%	19.3%	16.3%	1.3%
1995	163	55	24	3		245	66.5%	22.4%	9.8%	1.2%
1996	264	44	7	10		325	81.2%	13.5%	2.2%	3.1%
1997	264	44	7	10		325	81.2%	13.5%	2.2%	3.1%
1998	264	44	7	10		325	81.2%	13.5%	2.2%	3.1%
1999	164	92	11	13		280	58.6%	32.9%	3.9%	4.6%
2000	164	92	11	13		280	58.6%	32.9%	3.9%	4.6%
2001	164	92	11	13		280	58.6%	32.9%	3.9%	4.6%
2002	164	92	11	13		280	58.6%	32.9%	3.9%	4.6%
2003	168	94	11	13		286	58.7%	32.9%	3.8%	4.5%
2004	164	92	11	13		280	58.6%	32.9%	3.9%	4.6%
2005	324	57	16	36		433	74.8%	13.2%	3.7%	8.3%
2006	324	57	16	36		433	74.8%	13.2%	3.7%	8.3%
2007	323	84	27	32		466	69.3%	18.0%	5.8%	6.9%
2008	203	62	16	23		304	66.8%	20.4%	5.3%	7.6%
2009	324	57	16	36		433	74.8%	13.2%	3.7%	8.3%
2010	169	47	16	20		252	67.1%	18.7%	6.3%	7.9%
2011	162	45	16	23		246	65.9%	18.3%	6.5%	9.3%
2012	162	45	16	23		246	65.9%	18.3%	6.5%	9.3%
2013	156	47	15	25		243	64.2%	19.3%	6.2%	10.3%
2014	156	47	15	25		243	64.2%	19.3%	6.2%	10.3%
2015	140	38	14	25		217	64.5%	17.5%	6.5%	11.5%
2016	138	37	14	24		213	64.8%	17.4%	6.6%	11.3%
2017	128	32	12	25		197	65.0%	16.2%	6.1%	12.7%
2018	128	32	12	25		197	65.0%	16.2%	6.1%	12.7%
2019	90	27	10	26		153	58.8%	17.6%	6.5%	17.0%
2020	88	26	9	23		146	60.3%	17.8%	6.2%	15.8%
2021	90	27	9	23		149	60.4%	18.1%	6.0%	15.4%
2022	145	39	12	40		236	61.4%	16.5%	5.1%	16.9%

Source: FAA TAF 2022-2042; 2022 from National Based Aircraft Inventory Program

Figure 3-1: Historical Based Aircraft



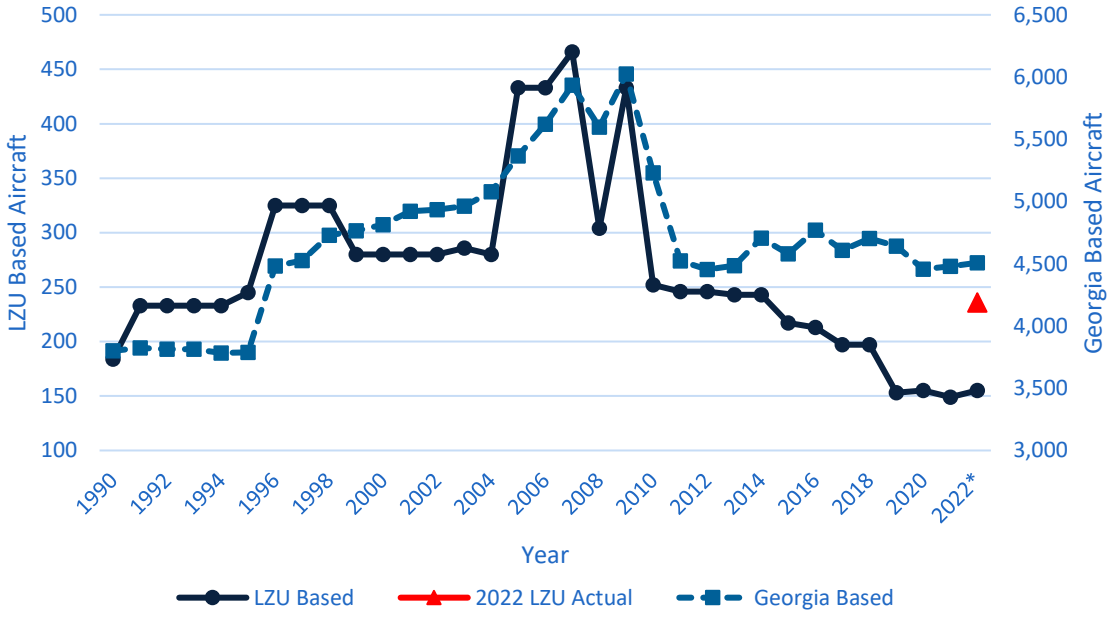
Source: FAA TAF March 2022 from 1990 through 2021; 2022 is from LZU National Based Aircraft Inventory Program.

This data indicates a very erratic step-function-like pattern in the total number of aircraft based at LZU since 1990. Single-engine aircraft exhibit a nearly level trend from 1991 to 1995, then increase from 1996 to1998, then drop from 1999 to 2004, increase 2005 to 2009 except for a drop in 2008, and then trend steadily downward until 2022. The 2022 data is from a detailed airport analysis of the tail numbers of all aircraft based at LZU and reported to the National Based Aircraft Inventory Program. The 2022 data most accurately represents the number of based aircraft at LZU.

While the total number of aircraft in 2022 is similar to the aircraft counts in early 2010, the fleet mix has changed. The number of jet aircraft has increased from 20 to 25 up to 40, increasing their share from 7.9% in 2010 to 16.9% in 2022. Multi-engine and helicopter categories have seen a decrease in their numbers. Single-engine aircraft have continued to represent the prime type of based aircraft present at LZU during these years.

Figure 3-2 presents LZU's reported historical based aircraft in comparison with based aircraft in the state of Georgia. LZU aircraft are graphed on the left axis, while Georgia based aircraft are graphed against the right axis. The trend in the number of aircraft based at LZU follows the trend in Georgia reasonably well from 1990 through 2013. Following 2009, LZU based aircraft appear to decline steadily, while the number of based aircraft in Georgia fluctuates around 4,500. Note that the FAA TAF March 2022 LZU based aircraft estimates for 2019, 2020, and 2021 from **Table 3-1** are 153, 146, and 149. The actual number of based aircraft supported by analysis of tail numbers in 2022 is 236. The precipitous decline in the number of based aircraft reported at LZU from 2013 through 2021 is not reflected in the state of Georgia figures. It is assumed in this study that the 2022 LZU based aircraft counts for 2022 are accurate and that the earlier data does not accurately reflect the number of based aircraft at LZU.

Figure 3-2: Historical Based Aircraft LZU & Georgia



Source: FAA TAF March 2022 from 1990 through 2021; 2022 is from LZU National Based Aircraft Inventory Program.

General Aviation Operations

General aviation operations include all non-commercial and non-military operations, such as personal and recreational flying, flight training, corporate travel, glider, ultralight flying, and other similar activities. Operations can be further categorized into local or itinerant. Local operations are typically performed by aircraft that are based at the airfield, practicing procedures, or engaging in flight training activities. Itinerant operations are those aircraft whose arrivals and departures, performed by either based or transient aircraft, do not remain within a 20 nm radius of the airfield.

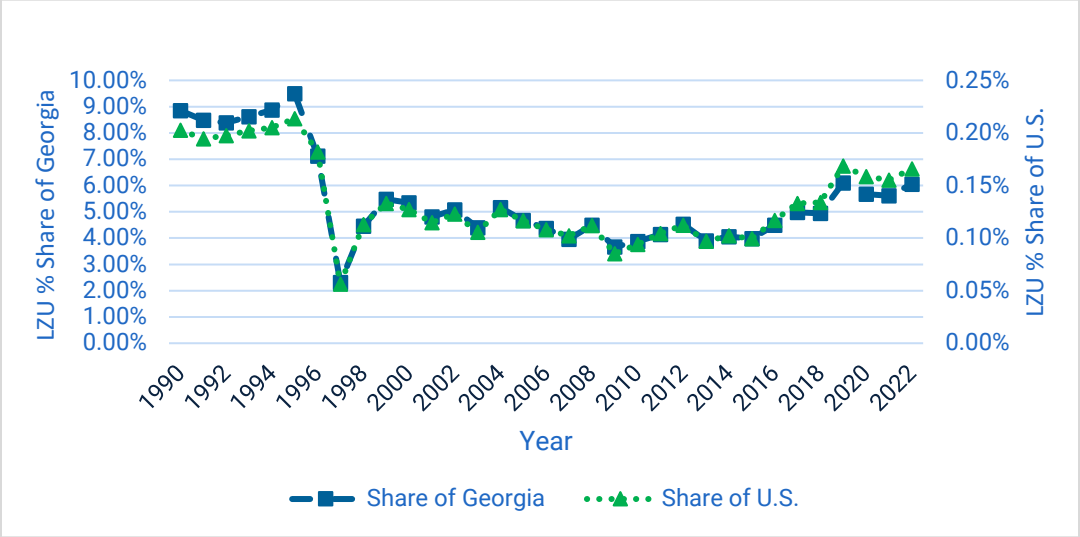
The operations history for this analysis was obtained from airport records combined with records from the FAA TAF and FAA Operations Network. **Table 3-2** and **Figure 3-3** present this historical data for LZU compared with the state of Georgia and total U.S. general aviation operations. This information is presented along with the airport's share of total operations in the state of Georgia and the total U.S. As the table and figure indicate, the LZU share of state and national general aviation operations has been drifting steadily upwards since the economic downturn in 2008. This indicates that operations activity at the airport is growing slightly faster than activity in the state or the nation.

Table 3-2: Historical General Aviation Operations

Year	LZU	Georgia	United States	LZU % Share of	
				Georgia	United States
1990	156,500	1,769,315	77,187,152	8.85%	0.20%
1991	161,800	1,906,642	83,139,073	8.49%	0.19%
1992	161,800	1,927,832	81,948,319	8.39%	0.20%
1993	161,800	1,876,579	80,020,058	8.62%	0.20%
1994	161,800	1,822,476	78,816,726	8.88%	0.21%
1995	164,200	1,728,857	76,856,458	9.50%	0.21%
1996	142,945	2,006,971	78,599,277	7.12%	0.18%
1997	44,812	1,941,058	79,574,538	2.31%	0.06%
1998	94,785	2,124,921	83,871,860	4.46%	0.11%
1999	113,097	2,062,423	85,045,279	5.48%	0.13%
2000	110,468	2,065,011	86,774,935	5.35%	0.13%
2001	98,038	2,037,355	85,547,980	4.81%	0.11%
2002	105,134	2,068,993	85,481,325	5.08%	0.12%
2003	87,804	1,999,251	83,116,484	4.39%	0.11%
2004	104,700	2,026,095	82,354,216	5.17%	0.13%
2005	94,415	2,018,855	80,891,331	4.68%	0.12%
2006	86,460	1,976,379	79,916,895	4.37%	0.11%
2007	81,664	2,063,543	79,963,864	3.96%	0.10%
2008	87,174	1,942,783	77,790,100	4.49%	0.11%
2009	62,439	1,705,627	73,371,613	3.66%	0.09%
2010	66,751	1,723,726	71,003,965	3.87%	0.09%
2011	72,807	1,757,572	69,687,334	4.14%	0.10%
2012	77,915	1,720,487	69,361,715	4.53%	0.11%
2013	66,657	1,711,951	68,610,860	3.89%	0.10%
2014	69,507	1,712,810	67,983,738	4.06%	0.10%
2015	67,800	1,705,263	68,093,289	3.98%	0.10%
2016	78,774	1,753,690	67,361,230	4.49%	0.12%
2017	89,346	1,792,779	67,183,699	4.98%	0.13%
2018	91,017	1,840,996	67,905,853	4.94%	0.13%
2019	116,144	1,902,396	68,836,990	6.11%	0.17%
2020	105,153	1,853,483	66,286,570	5.67%	0.16%
2021	106,411	1,897,857	68,573,571	5.61%	0.16%
2022	115,867	1,913,150	69,824,611	5.72%	0.16%

Source: FAA TAF March 2022 1990-2021; 2022 Airport tower records

Figure 3-3: LZU Share of Georgia & U.S. General Aviation Operations



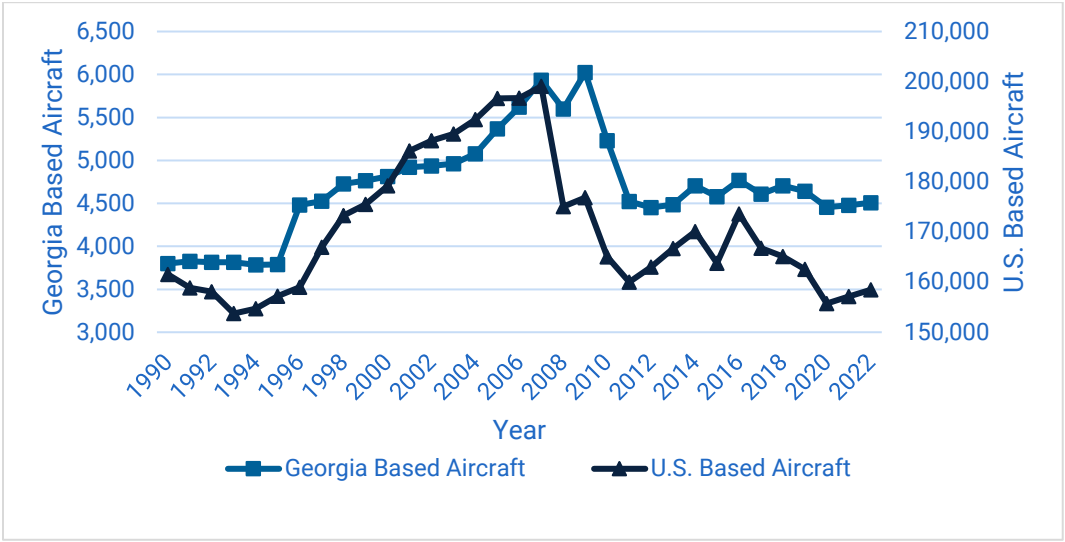
Source: Mary A. Lynch analysis

General Aviation Industry and Local Economy

General Aviation Industry

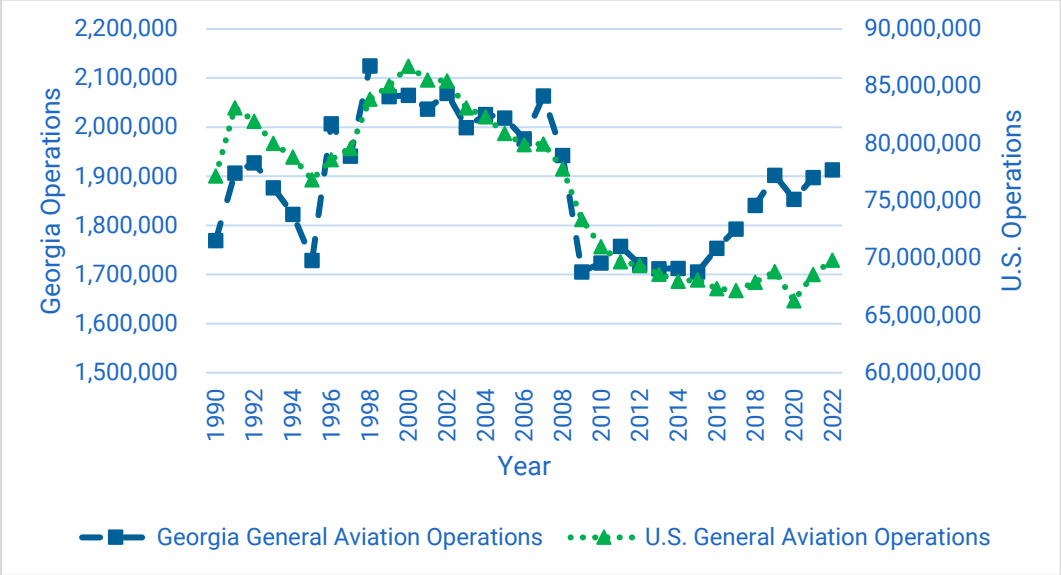
General aviation activity, as measured by both based aircraft and general aviation operations, has been very volatile over the last 25 years. The history of based aircraft and operations in both the United States and the state of Georgia, according to the 2022 FAA TAF, are presented in **Figure 3-4** (based aircraft) and **Figure 3-5** (operations).

Figure 3-4: Historical Georgia and U.S. Based Aircraft



Source: FAA TAF March 2022

Figure 3-5: Historical Georgia & U.S. General Aviation Operations



Source: FAA TAF March 2022

Figure 3-4 presents based aircraft in the state of Georgia (on the left vertical axis) and the total United States (on the right vertical axis). From 1990 through the middle of the decade, the number of based aircraft was stagnant or declining. In 1994, President Bill Clinton signed the General Aviation Revitalization Act into law. The manufacture of general aviation aircraft began again, and the number of based aircraft grew steadily through 2007. The economic downturn subsequent to 2007 caused another decline in the number of active based aircraft. In 2012 and 2013, the number of Georgia based aircraft leveled off somewhat, and U.S. based aircraft increased. The fluctuations over the last several years could be affected by the FAA's 2010 Rule for Re-Registration and Renewal of Aircraft Registration. After 2010, the number of based aircraft in Georgia leveled off, while U.S. based aircraft increased and then again fell off.

Figure 3-5 presents general aviation aircraft operations in the state of Georgia (on the left vertical axis) and the United States (on the right vertical axis). The trends are generally similar. Prior to 1995 and the signing of the GARA, operations were declining. After 1995 to 1996, the level of general aviation operations increased significantly through 2000, and then leveled off. The decline in the early 2000s coincided with increases in fuel costs, making training and other general aviation activity more expensive. After 2015, U.S. operations activity leveled off, while the state of Georgia experienced strong growth. General aviation operations at LZU have followed the trends in the state of Georgia, growing a bit more quickly from 2019 through 2022.

Table 3-3 presents historical U.S. based aircraft and operations by fleet type with trends during the last 11 years. The number of active aircraft and the number of hours flown have both declined over this time period. The experience at LZU with the based aircraft fleet mix changes is similar to that in the U.S. There have been declines in the numbers of single-engine, multi-engine, and helicopter aircraft, while jet aircraft have increased.

Table 3-3: Historical U.S. Active General Aviation & Air Taxi Aircraft and Hours Flown

				Turbine			Rotorcraft			Other	Total General Aviation Fleet
	Single Engine	Multi Engine	Total	Turbo-prop	Jet	Total	Piston	Turbine	Total		
U.S. Based Aircraft Fleet											
2010	139,519	15,900	155,419	9,369	11,484	20,853	3,588	6,514	10,102	36,996	223,370
2021	123,105	11,865	134,970	10,275	15,755	26,030	2,920	6,900	9,820	33,585	204,405
CAAGR	-1.1%	-2.6%	-1.3%	0.8%	2.9%	2.0%	-1.9%	0.5%	-0.3%	-0.9%	-0.8%
U.S. Hours Flown											
2010	12,161	1,818	13,979	2,325	3,375	5,700	794	2,611	3,405	1,718	24,802
2021	11,546	1,421	12,967	2,493	3,879	6,372	568	2,036	2,604	1,438	23,381
CAAGR	-0.5%	-2.2%	-0.7%	0.6%	1.3%	1.0%	-3.0%	-2.2%	-2.4%	-1.6%	-0.5%

Source: FAA TAF March 2022

Another factor to consider in the general aviation industry is the potential development of an electric vertical take-off and landing, or eVTOL, segment of aviation activity. This segment is developing rapidly with numerous manufacturers developing prototypes and various factions of a future eVTOL industry structure evolving.

- Numerous companies have developed prototypes of eVTOL aircraft. The specifications range from two- to four-passenger aircraft, traveling at speeds from 68 to 200 miles per hour with ranges from 22 to 180 miles.
- One manufacturer has partnered with the city of New York to establish a high school curriculum to train eVTOL aircraft technicians.
- United Airlines and Archer Aviation have partnered to provide eVTOL commuter service between EWR and downtown Manhattan in New York City, aiming for a 2025 start.
- The FAA has released a draft notice of proposed rulemaking moving toward the development of the regulatory structure necessary for eVTOLs to enter service.
- Archer Aviation, one of the companies at the forefront of eVTOL aircraft development, has entered into a partnership with international carmaker Stellantis to build a production facility for its Midnight eVTOL aircraft in Covington, GA, just 30 miles from LZU. The facility is planning to begin manufacturing in 2024.

In conversation with operators at LZU, none expressed an interest in becoming engaged in eVTOL flying, training, or service. However, several acknowledged that in the longer term, if development of the eVTOL concept proves successful, there could be a role for some eVTOL activity at LZU.

Gwinnett County Economy

The state of Georgia benefits significantly from the aviation community. According to the General Aviation Manufacturers Association, the state ranks fourth in the country in total GDP impact and in jobs attributable to general aviation. Gwinnett County is a dynamic locale currently experiencing significant development and growth. According to Woods & Poole Economics, it is the second largest county in Georgia in population and employment and third in total personal income. Projections by Woods & Poole Economics, Inc. indicate that Gwinnett County will grow faster than the United States in population, employment, and total personal income throughout the forecast period, and at rates comparable to the state of Georgia. These growth rates are presented in **Table 3-4**.

Table 3-4: Gwinnett County vs. Georgia & United States

	Population	Employment	Total Personal Income
Gwinnett County	1.5%	1.7%	2.5%
Georgia	0.9%	1.8%	2.5%
United States	0.6%	1.4%	2.1%

Source: Woods & Poole Economics, Inc. 2022

Interviews with Gwinnett Economic Development and Partnership Gwinnett, two county agencies engaged in attracting, developing, and supporting business in Gwinnett, generated information about specific developments that will support the continued growth of Gwinnett County and will also generate traffic for the airport. Among the specific developments are:

- **Rowen** – A 2,000-acre mixed-use community with the goal of bringing together entrepreneurs, researchers, and innovators in the fields of agriculture, medicine, and the environment and many supportive technologies. Rowen is poised to be a global leader in knowledge, innovation, and collaboration while leveraging Gwinnett and metro Atlanta's diverse workforce and unique location. The site will eventually include more than 22 million square feet of lab, office, and civic spaces alongside a mix of multi-family residential, cafes, start-up hubs, parks, and public trails. The project will create 18,500 jobs by 2035 and up to 100,000 jobs at full buildout. The project is also estimated to generate $1.7 billion of economic impact to the county by 2035. Travel related to the research and technology development orientation of the companies expected to populate Rowen will support general aviation activity at the airport.
- **The Water Tower Institute** – The Water Tower Institute is a hub for solutions in research, technology, training, and engagement for water utilities ensuring access to safe, affordable, and resilient water services. It is a site for testing and demonstrating new technologies in an active demonstration space. With a focus on digital technologies, which have enormous potential to positively impact water utility efficiencies, The Water Tower can visually display results from technologies being demonstrated. The

Water Tower Institute supports workforce development, technology innovation, and applied research to organizations across the United States and internationally.

- **Curiosity Lab** – This is an economic development initiative that is a living laboratory for startups and established companies to deploy and prove out developing technologies in a real-world testing environment with no roadblocks. It is an innovation center for Artificial Intelligence, and two Level 5 autonomous vehicle companies have located in Gwinnett to test vehicles at the center.
- As mentioned earlier, Archer Aviation is partnering with carmaker Stellantis to build a construction site for its Midnight eVTOL aircraft in Covington, GA, just 30 miles from LZU. Construction was scheduled to begin in December 2022, with hiring in 2023 and manufacturing beginning in 2024. The effort is expected to generate 1,000 jobs.

Among the recent company relocation/recruitment success of Gwinnett County Economic Development are the companies listed in **Table 3-5.**

Table 3-5: Gwinnett County Economic Development Successes

Company	Investment	Jobs
Assurant	$2.2 million	335
OFS	$63.2 million	94
Wallace Graphics	$1.2 million	134
Ricoh Electronics	$27.3 million	50
TTEC	$2 million	500
Hapag Lloyd	$5.5 million	543
OS National	$15 million	1,000
Birchwood Foods	$33 million	80
Amazon	$237 million	1,000
CarMax	$5 million	324

Source: Gwinnett County Economic Development

Forecasts of Aviation Activity

General aviation growth relies on many factors including the level of services offered at an airport, competitive pricing, airfield and FBO facilities, local area attractiveness, and pilots' perception of services. As a result, these forecasts assume that airport management, the fixed base operator, and other tenants will actively support all aviation activity and initiate the appropriate measures to either maintain or extend activity at the airport. The forecasts developed in this master plan provide a framework to guide the analysis for future development needs

and alternatives. It should be recognized that there are always fluctuations in an airport's activity due to various factors that cannot be anticipated.

Projections of aviation activity for LZU were prepared for the 20-year planning horizon including the near-term (2022 to 2029), mid-term (2029 to 2034), and long-term (2034 to 2044) timeframes.

Companies and individuals with an interest in activities at the airport were interviewed to obtain insight into operations not available in published data sources. Flight training schools, hangar lessors, aircraft fleet managers, local pilots, aviation organizations, and operators of company aircraft were all among those contacted. A list of those interviewed is presented in **Table 3-6**.

Table 3-6: Gwinnett County Airport Stakeholders Interviewed for Forecast

Airport Management	Air Harbor, Inc
Airline Transport Professionals	Experimental Aircraft Association
Flight School of Gwinnett	Rajan Holdings, LLC
Blue Ridge Helicopters	Control Tower
Quest Diagnostics	Partnership Gwinnett
Georgia Jet	Gwinnett County Office of Economic Development
Aircraft Specialists	Georgia DOT
Gwinnett Aero	Federal Aviation Administration

Source: Mary A. Lynch

Quantitative methods used in developing the forecasts include socioeconomic regression analysis, trend analysis, and share of market analysis. The forecasts developed in this effort were also compared to previous forecasts, such as the FAA TAF, the Georgia State System Plan, and the previous Gwinnett County Master Plan.

Forecast of Based Aircraft

The socioeconomic data presented in the previous section were analyzed to determine if there could be any significant statistical relationship established between the number of based aircraft at LZU and the socioeconomics of Gwinnett County or the state of Georgia. Annual data for the last 20 years on population, employment, total income, and Per capita Personal Income for Gwinnett County was analyzed. Absolute levels of each variable and the percentage changes in each variable were compared to absolute levels of based aircraft and the percentage changes in based aircraft. No significant statistical relationships could be established. This was not surprising given that the historical based aircraft data for recent years was deemed unreliable, as discussed earlier in this report.

The historical LZU percent shares of Georgia and U.S. aircraft are presented in **Table 3-7**. As discussed earlier in the report, recent based aircraft data is not reliable. However, before the reported decline in the number of based aircraft, LZU represented approximately 4% to 5% of Georgia based aircraft and approximately 0.14% to 0.15% of U.S. based aircraft. Therefore, the 2022 shares of U.S. and Georgia based aircraft represented by the current number of based aircraft — 5.2% of Georgia and 0.15% of the U.S. — were used to project Gwinnett County airport

based aircraft. The average of these two estimates was used as the forecast, as presented in **Table 3-8** and **Figure 3-6**.

Table 3-7: LZU Historical Share of Georgia and U.S Based Aircraft

Based Aircraft				LZU % Share of Based Aircraft	
Year	LZU	Georgia	U.S.	Georgia	U.S.
2010	252	5,230	165,031	4.8%	0.15%
2011	246	4,523	160,008	5.4%	0.15%
2012	246	4,453	163,012	5.5%	0.15%
2013	243	4,486	166,685	5.4%	0.15%
2014	243	4,706	170,122	5.2%	0.14%
2015	217	4,579	163,797	4.7%	0.13%
2016	213	4,770	173,632	4.5%	0.12%
2017	197	4,609	166,806	4.3%	0.12%
2018	197	4,704	165,097	4.2%	0.12%
2019	153	4,641	162,579	3.3%	0.09%
2020	155	4,457	155,758	3.5%	0.10%
2021	149	4,479	157,150	3.3%	0.09%
2022	236	4,507	158,508	5.2%	0.15%

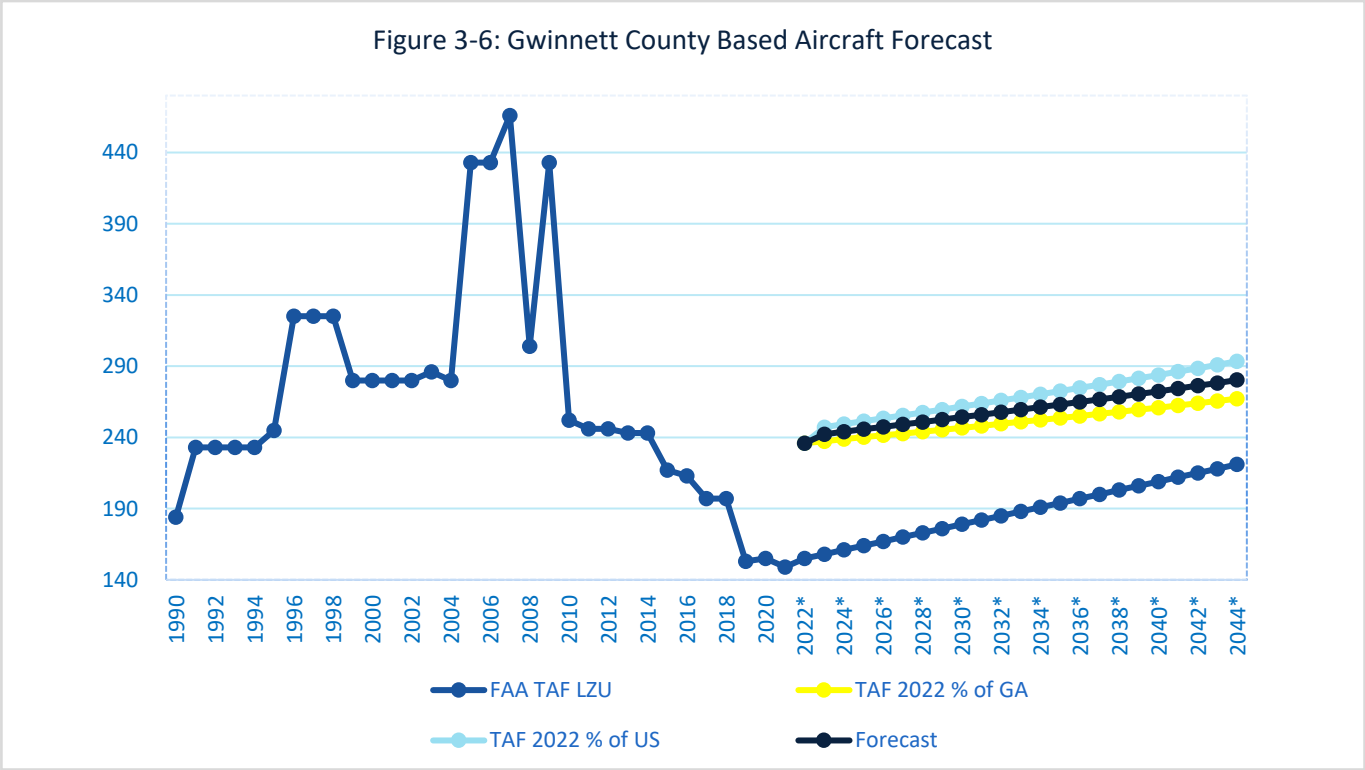
Source: FAA TAF

Table 3-8: Based Aircraft Forecast

Year	LZU Estimate as Share of		Chosen Forecast: Average
	Georgia	U.S.	
	5.2%	0.15%	
2022	236	236	236
--	--	--	--
2024	239	249	244
2029	245	260	252
2034	252	270	261
2044	267	293	280

Source: Mary A. Lynch analysis

Figure 3-6: Gwinnett County Based Aircraft Forecast



Source: FAA TAF March 2022; Mary A. Lynch analysis

The detailed tail number data for 2022 submitted by the airport to the National Based Aircraft Inventory Program enables a breakdown of currently based aircraft by engine type. The forecasts by engine type are presented in **Table 3-9**. The projections by aircraft type were developed using FAA TAF guidance and input from current LZU tenants.

The FAA TAF indicates that there will be significant growth in jet aircraft over the forecast period. The current based aircraft analysis at LZU indicates this is currently true at the airport. Conversations with current airport tenants also support the belief that jet growth at LZU will continue. Single-engine aircraft are forecast to decline in the FAA TAF. However, at LZU there are four flight schools that all indicate they see growth in their activity in the future. Therefore, single-engine aircraft are projected to increase at LZU, albeit at fewer than one aircraft per year. Multi-engine aircraft are projected to remain relatively stable at LZU. Helicopter aircraft are forecast to increase consistently with the FAA TAF outlook and due to the presence of a helicopter flight school at LZU.

Table 3-9: Based Aircraft Forecast by Engine Type

Year	Single-Piston	Single-Turbo	Multi-Piston	Multi-Turbo	Jet	Helicopter	Other	Total
2022	139	6	33	6	40	12		236
--	--	--	--	--	--	--	--	--
2024	143	10	33	6	40	12		244
2029	146	11	33	6	43	13		252
2034	149	12	33	6	46	14		261
2044	155	13	33	7	54	17	2	280

Source: Mary A. Lynch analysis

Forecast of Operations

Forecasts of operational activity in this study have been divided into general aviation operations, total operations, itinerant and local, IFR and VFR, engine type, identification of critical aircraft, day and night, and operations peaking.

General Aviation Operations

The socioeconomic data presented earlier was analyzed to determine if there could be any significant statistical relationship established between the number of general aviation operations at LZU and the socioeconomics of Gwinnett County. Annual data for the last 20 years on population, employment, total income, and Per capita Personal Income for Gwinnett County was analyzed. Absolute levels of each variable and the percentage changes in each variable were compared to absolute levels of aircraft operations and the percentage changes in aircraft operations. As was the case with based aircraft, no significant statistical relationships could be established.

In 2022, Gwinnett County general aviation operations as reported by the tower were within 6% of the operations forecast estimate included in the FAA TAF forecast issued in March 2022. The forecast for general aviation operations at LZU was estimated by applying the FAA TAF March 2022 forecasted annual growth rates for LZU to the tower operations reported for 2022.

The results of this projection are presented in **Table 3-10**. The FAA TAF forecasted Gwinnett County general aviation operations to grow faster than both the U.S. and Georgia, so the LZU share of these markets increased over the forecast period. This is also presented in the table.

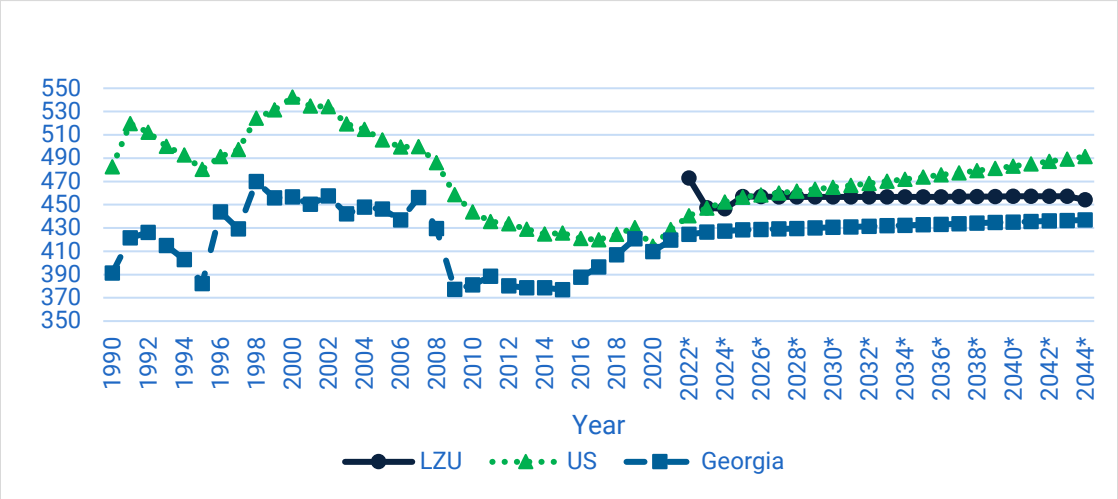
The LZU operations per based aircraft derived from these forecasts position Gwinnett County at a level between the U.S. and Georgia operations per based aircraft throughout the forecast period, as shown in **Figure 3-7.**

Table 3-10: General Aviation Operations Forecast

Year	LZU	FAA TAF LZU CAAGR	U.S.	Georgia	LZU % Share of	
					U.S.	Georgia
2022	115,867		69,824,611	1,913,150	0.17%	6.06%
--	--	--	--	--	--	--
2024	117,952	0.9%	71,710,729	1,925,998	0.16%	6.12%
2029	124,534	1.1%	73,424,920	1,938,152	0.17%	6.43%
2034	128,507	0.6%	74,794,098	1,948,189	0.17%	6.60%
2044	136,995	0.6%	77,861,232	1,969,348	0.18%	6.96%

Source: FAA TAF March 2022: Mary A. Lynch analysis

Figure 3-7: General Aviation Operations Per Based Aircraft

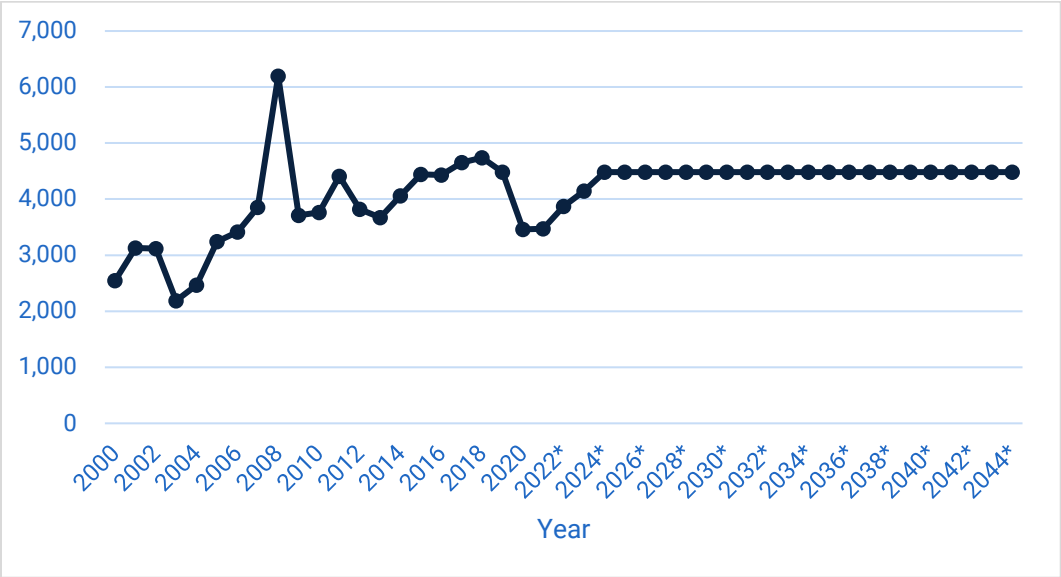


Source: FAA TAF March 2022; Mary A. Lynch analysis

Total Operations

Total operations at LZU include air taxi, military, and general aviation operations. Air taxi operations are private unscheduled commercial operations such as charters or paid business transports handled at the FBO facilities. Since 2000, air taxi operations at LZU have been gradually increasing until experiencing a slight drop during the COVID pandemic. The FAA TAF March 2022 estimated 2022 air taxi operations at 3,809. Tower operations reported 3,874 actual operations. As the FAA TAF appears to be on target, that forecast is accepted here and is presented in **Figure 3-8**. The "Commuter" category is also included here but such operations rarely occur at LZU.

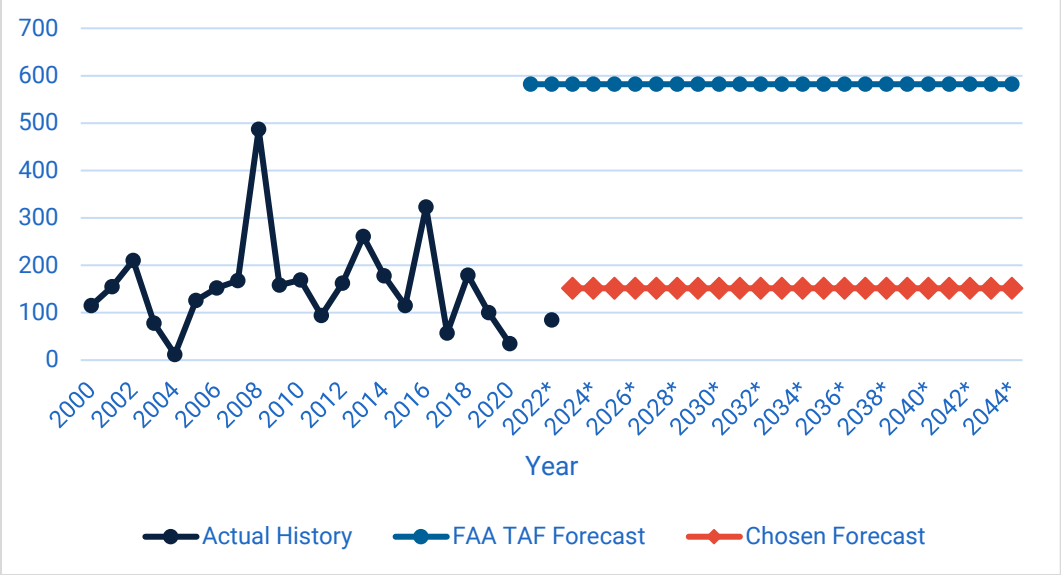
Figure 3-8: LZU Air Taxi Operations



Source: FAA TAF March 2022; Mary A. Lynch analysis

Military operations at LZU have fluctuated between 100 and 200 annual operations since 2000, with a few higher years and a few lower years. The FAA TAF projected military operations to increase to 582 annually throughout the forecast period. In conversations with airport stakeholders, there was no evident reason for such a jump. Therefore, the military forecast is set at the average number of actual annual operations since 2000, which is 156. This is presented in **Figure 3-9**.

Figure 3-9: Historical and Forecast Military Operations



Source: FAA TAF March 2022; Mary A. Lynch analysis

Total operations at LZU throughout the forecast period are presented in **Table 3-11**.

Table 3-11: Total Operations Forecast

Year	General Aviation	Air Taxi	Military	Total Operations
2022	115,867	3,874	95	119,836
--	--	--	--	--
2024	117,952	4,480	156	122,588
2029	124,534	4,480	156	129,170
2034	128,507	4,480	156	133,143
2044	136,995	4,480	156	141,631

Source: FAA TAF March 2022: Mary A. Lynch analysis

Itinerant and Local, IFR/VFR Operations

The split between itinerant and local operations somewhat represents the level of flight training that occurs at an airport. Local operations largely represent touch-and-go operations or operations of a training aircraft moving about totally within the airport's airspace.

There are four flight schools at the airport. Training operations declined significantly during the economic downturn. Conversations with the operators of the schools indicate that training was somewhat negatively affected by the pandemic but has started to increase in the past year. These operators feel that training at LZU will remain strong given the demand for pilots. Therefore, local operations as a share of total activity are projected to remain strong and to increase slightly over the forecast period. This trend is in the FAA TAF forecast for the LZU percentage of aircraft operations, and the FAA TAF percentages are used in this forecast. This is presented in **Table 3-12** and **Figure 3-10**.

Table 3-12: Itinerant and Local Operations

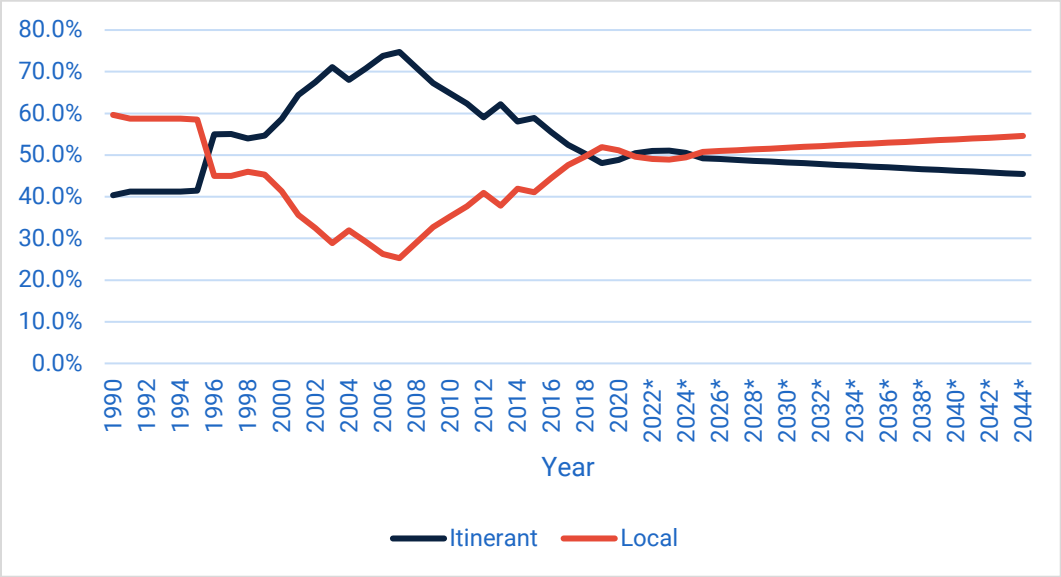
Year	Itinerant	Local	Total	Itinerant %	Local %
2022	60,366	59,470	119,836	50.4%	49.6%
--	--	--	--	--	
2024	61,975	60,614	122,588	50.6%	49.4%
2029	62,568	66,602	129,170	48.4%	51.6%
2034	63,159	69,984	133,143	47.4%	52.6%
2044	64,358	77,273	141,631	45.4%	54.6%

Source: FAA TAF March 2022; Mary A. Lynch analysis

Instrument flight rules and visual flight rules reflect the degree of control the FAA airspace system has over an aircraft operation. A pilot flying VRF is operating without any mandated contact with air traffic control guidance. A pilot flying IFR has filed a flight plan and follows air traffic control directives throughout the trip.

In 2022, the LZU tower indicated that 15.1% of its operations were operating under IFR. This percentage is applied to the forecast of total operations in this forecast. **Table 3-13** presents the IFR/VFR split of traffic in the forecast. The resulting 0.8% average annual growth of IFR operations matches the FAA TAF expected growth rate of national IFR general aviation operations.

Figure 3-10: Itinerant and Local Operations Split



Source: FAA TAF March 2022

Table 3-13: IFR/VFR Operations

Year	IFR	VFR	Total	IFR %	VFR %
2022	18,133	101,703	119,836	15.1%	84.9%
--	--	--	--	--	--
2024	18,549	104,039	122,588	15.1%	84.9%
2029	19,545	109,625	129,170	15.1%	84.9%
2034	20,147	112,996	133,143	15.1%	84.9%
2044	21,431	120,200	141,631	15.1%	84.9%
CAAGR 2022 – 2044	0.8%	0.8%			

Source: Airport tower records; FAA TAF March 2022; Mary A. Lynch analysis

Operations by Engine Type

The forecast for total operations was disaggregated by:

- Single-engine piston
- Single-engine turboprop
- Multi-engine piston
- Multi-engine turboprop
- Jet
- Helicopter
- Other

The TFMSC data provide data at this level of detail for IFR flights. The IFR data was used and the following assumptions were made:

- All jet aircraft file flight plans, so all jet operations at LZU would be included in this recorded data.
- Initially, IFR operations by equipment type in these categories will increase at the same rates as in the FAA TAF March 2022 hours flown by equipment type. Since hours flown are not the same measure as operations, the total operations will be adjusted to the figures previously forecast for total IFR and VFR airport activity.
- VFR operations by equipment type will be assumed to occur with the same distribution as the based aircraft at the airport. This will not include jet aircraft as all jet aircraft are assumed to be IFR.

These assumptions result in the forecast of operations by equipment type presented in **Table 3-14**.

Table 3-14: Operations by Engine Type

Year	Single-Piston	Single-Turbo	Multi-Piston	Multi-Turbo	Jet	Helicopter	Other	Total
2022	76,293	7,852	18,843	3,991	6,884	5,973		119,836
--	--	--	--	--	--	--	--	--
2024	77,619	8,451	18,951	4,030	7,361	6,177		122,588
2029	80,778	9,281	19,403	4,187	8,700	6,821		129,170
2034	81,836	9,975	19,368	4,313	10,283	7,368		133,143
2044	82,535	10,843	19,202	4,744	14,366	8,482	1,460	141,631

Source: Mary A. Lynch analysis

The 1,460 operations that appear in the "Other" category represent eVTOL activity at LZU by 2044. At least one current operator at the airport could possibly embed an eVTOL aircraft into its fleet, and there might be Uber-type operations from local business centers in the Atlanta area.

Identification of the Critical Aircraft

For planning and design purposes, the FAA uses two primary criteria related to the operational and physical characteristics of the airplane types that will operate at a particular airport. The Aircraft Approach Category (AAC), depicted by a letter, relates to aircraft approach speed. The Airplane Design Group (ADG), depicted by a Roman

numeral, relates to airplane wingspan and/or tail height. Generally, aircraft approach speed applies to runways and runway length-related features. Airplane wingspan primarily relates to separation criteria and width-related features. The Critical Aircraft is typically the most demanding aircraft (in terms of an airport's physical features) that conducts at least 500 annual operations at the airport, which is considered by the FAA to be "Regular Use."

The TFMSC data for 2022 provided information on IFR operations by AAC and ADG categories. This data was used for estimating AAC and ADG operations through the forecast period. The data includes information only on IFR operations. As mentioned in the previous section, it is assumed that all jet aircraft are recorded in the TFMSC data, as it is assumed that all jets are operating under IFR. For non-jet operations that are not included in TFMSC, it was assumed that the distribution of operations across aircraft categories was similar to the distribution observed for the non-jet aircraft that were in TFMSC. **Table 3-15** presents the identification of critical aircraft throughout the operations forecast

Table 3-15: Identification of the Critical Aircraft

2022				
	I	II	III	Total AAC
A	49,361	22,682		72,043
B	24,914	20,207	46	45,167
C	817	1,191	173	2,181
D	263	129	32	424
Total ADG	75,355	44,208	252	

2024				
	I	II	III	Total AAC
A	49,756	22,864		72,620
B	25,998	21,085	48	47,131
C	884	1,289	188	2,361
D	280	140	35	455
Total ADG	76,918	45,377	271	

2029				
	I	II	III	Total AAC
A	50,453	23,184		73,637
B	28,743	23,312	53	52,109
C	1,069	1,558	227	2,854
D	334	169	42	545
Total ADG	80,600	48,223	322	

2034				
	I	II	III	Total AAC
A	49,938	22,947		72,885
B	31,020	25,159	57	56,236
C	1,258	1,833	267	3,357
D	389	198	50	637
Total ADG	82,604	50,137	374	

2044				
	I	II	III	Total AAC
A	48,659	22,360		71,019
B	35,204	28,414	66	63,684
C	1,712	2,495	363	4,571
D	525	270	68	863
Total ADG	86,100	53,539	497	

Source: FAA TFMSC; Mary A. Lynch analysis

In 2022 and 2024, C-II operations, on aircraft such as the Astra 1125 and the Bombardier Challenger 300, represent the Critical Aircraft category. In 2029 and 2034, D-II operations, such as the Gulfstream IV/G400, move into regular use and represent the Critical Aircraft. In 2044, D-III operations are close to being considered Critical Aircraft. This includes aircraft like the Gulfstream G500/G550/G650, which are becoming leaders in corporate aviation. Therefore, it is recommended that LZU master plan protects and preserves the requirements to accommodate D-III aircraft operations in the future.

Day/Night Operations and Peaking

Daytime operations at an airport are considered to be those that occur from 7:00am to 10:00pm. Nighttime operations occur from 10:00pm to 7:00am. The airport tower is staffed from 7:00am to 9:00pm daily. However, operations occur 24 hours per day even when the tower is not staffed.

One operator at the airport conducts nightly operations five nights per week. Flight training requires experience in night flying, and this occurs regularly according to the flight schools at the airport. Private aircraft owners occasionally operate at night as their travel schedules require according to conversations with airport tenants.

A system called 1200.aero supports airports, FBOs, and flight schools by automatically collecting operational data at airports. This system reports that 7% of LZU operations occur at night. The operator that routinely schedules activity at night would account for approximately 60% of these operations. Jet operations at night are currently minimal according to conversations with airport tenants. Night operations are forecast to be 7% of total operations as presented in **Table 3-16**.

Table 3-16: Day/Night Operations

Year	Total	Day	Total Night	Night Jet	Night Non-Jet
2022	**119,836**	**59,470**	**8,389**	**365**	**8,024**
--	--	--	--	--	--
2024	122,588	114,007	8,581	730	7,851
2029	129,170	120,128	9,042	1,095	7,947
2034	133,143	123,823	9,320	1,460	7,860
2044	141,631	131,717	9,914	1,825	8,089

Source: 1200.aero: Mary A. Lynch analysis

Airport records indicate that the monthly peak level of operations is 10.6% and the hourly peak is 8.6% from 11:00am to noon. The average day of the peak month and peak hour operations are presented in **Table 3-17.**

Table 3-17: Peak Operations

Year	Total	Peak Month	Avg. Day Peak Month	Peak Hour
2022	119,836	12,663	408	35
--	--	--	--	--
2024	122,588	12,954	418	36
2029	129,170	13,649	440	38
2034	133,143	14,069	454	39
2044	141,631	14,966	483	42

Source: 1200.aero: Mary A. Lynch analysis

Comparison with Previous Forecasts

The most recent Georgia Statewide Aviation System Plan was published in 2018. The most recent Gwinnett County Airport-Briscoe Field Airport Master Plan was published in 2006. The forecasts of based aircraft and airport operations activity in these studies are presented in **Figure 3-11** and **Figure 3-12**. Also included for comparison purposes are the forecasts developed in this current study.

Figure 3-11: Based Aircraft Forecast Comparison

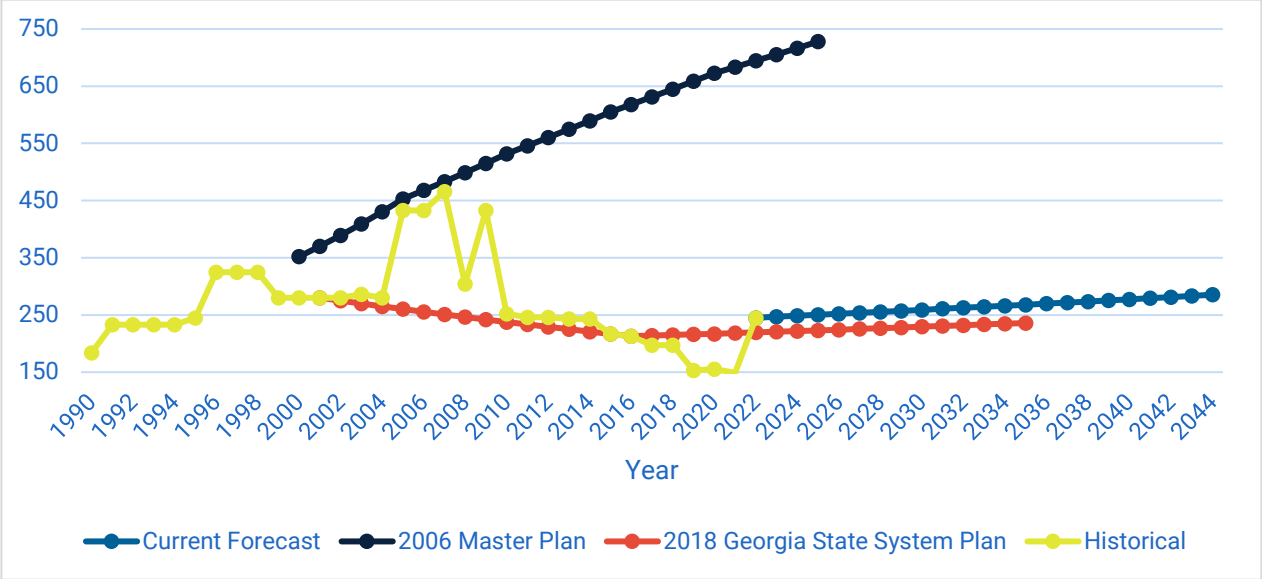
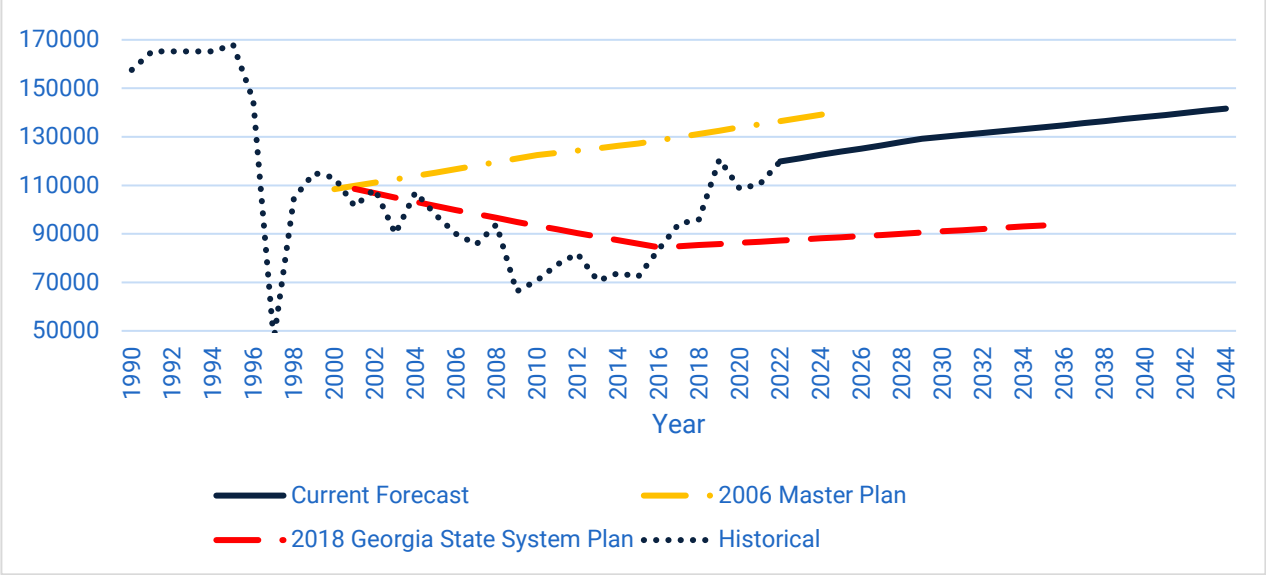


Figure 3-12: Total Operations Forecast Comparison



Prior to 2000, based aircraft at LZU ranged from 233 to 325 according to the FAA TAF, settling at 280 in 1999 and 2000. The 2006 master plan started from a based aircraft count of 352 in 2000 and proceeded to grow this number at 2.9% annually, reaching a forecast of 728 based aircraft in 2025. Needless to say, this did not happen. The 2018 Georgia State System Plan used a 2016 number of based aircraft of 213 and grew that at 0.5% annually to 2035 to reach 236 based aircraft. The current number of based aircraft at LZU is 236, well below the 2006 master plan expectation and slightly above the system plan estimate.

The previous master plan projected operations to increase at 1% annually from 2000 to 2025. However, from 2000, operations declined until 2019 when they regained the 2000 level. The forecast for operations in 2022 in the 2006 master plan was 14% above actual 2022 operations. The 2018 system plan projected an annual growth of 0.5% annually in operations from 2016 through 2035. However, actual operations at LZU grew at 6.2% annually from 2016 through 2022. Total operations at LZU exceeded the 2035 forecast level by 2017 and have continued to grow. In light of this experience, the current operations forecast seems much more reasonable than the earlier estimates.

Table 3-18 compares the March 2022 FAA TAF forecast of based aircraft to the forecast in this master plan report. As discussed earlier in this chapter, the recent history of based aircraft reported at LZU is not considered reliable. The 2022 NBAIP reported 236 aircraft currently based at LZU. The FAA TAF reports only 155 aircraft in 2022. Airport management does not believe the low levels of based aircraft in the FAA TAF over the past few years. The FAA forecast projects based aircraft to grow at an average rate of 1.8% annually, while the master plan forecast grows at a more conservative 0.8%.

Table 3-18: Master Plan Forecast and FAA TAF Based Aircraft

Year	Master Plan	March 2022 FAA TAF	% Difference
2010		252	
2011		246	
2012		246	
2013		243	
2014		243	
2015		217	
2016		213	
2017		197	
2018		197	
2019		153	
2020		155	
2021		149	
2022	236	155	52.3%
--	--	--	--
2024	244	161	51.6%
2029	252	176	43.5%
2034	261	191	36.8%
2044	280	221	26.8%
CAAGR 2022 – 2044	**0.8%**	**1.6%**	

Source: FAA TAF March 2022; Mary A. Lynch analysis

Table 3-19 compares the master plan operations forecast to the March 2022 FAA TAF. Actual total tower operations for 2022 at the airport were 5.4% above the 2022 forecast of operations in the FAA TAF. LZU operations were forecast to grow at the same rate as the FAA TAF forecast subsequent to 2002, so that 5.4% difference persists throughout the forecast period.

Table 3-19: Master Plan Forecast and FAA TAF Total Operations

Year	Master Plan	March 2022 FAA TAF	% Difference
2010	70,807	70,807	
2011	77,319	77,319	
2012	81,896	81,896	
2013	70,592	70,592	
2014	73,746	73,746	
2015	72,365	72,365	
2016	83,528	83,528	
2017	94,055	94,055	
2018	95,933	95,933	
2019	120,724	120,724	
2020	108,650	108,650	
2021	110,466	110,466	
2022	119,836	113,733	5.4%
--	--	--	--
2024	122,588	116,372	5.3%
2029	129,170	122,583	5.4%
2034	133,143	126,332	5.4%
2044	141,631	134,342	5.4%
CAAGR 2022 – 2044	**0.8%**	**0.8%**	

Source: FAA TAF March 2022; Mary A. Lynch analysis

Chapter Four: Facility Requirements

Introduction

This chapter establishes the general facility requirements of the Airport Master Plan update to ensure that Gwinnett County Airport-Briscoe Field will adequately accommodate forecasted aviation demand over the 20-year planning period. Identifying future facility requirements with respect to capacity, safety standards, security, efficiency, and demand for facilities sets the starting point for creating airport development alternatives. Some requirements are driven by regulations and FAA guidance documents, whereas other requirements are defined by the master plan objectives identified in Chapter 1.

The facility requirements chapter includes an assessment of the aviation and non-aviation components of LZU, including the runway and taxiway system, navigational aids and approaches, aircraft storage facilities, general aviation needs, and supporting infrastructure. Because LZU is included in the FAA's NPIAS, it is necessary for the airport to comply with FAA design standards and current guidance documents such as AC 150/5300-13B, *Airport Design*. In 2022, the FAA completely updated AC 150/5300-13B from its previous version, AC 150/5300-13A. With the changing design standards and renewed aeronautical forecast in Chapter 3, it is important to conduct a comprehensive evaluation of the needs throughout the 20-year planning period that extends to 2044.

An analysis of the following airport components is presented:

- Airfield Design Standards Analysis
- Runway Strength Analysis
- Taxiway and Taxilane System
- Airfield Lighting, Marking, Signage, and Navigational Aids
- Transient Apron and Based Aircraft Storage
- Airport Support Facilities
- Summary

Georgia Aviation System Plan Requirements

The Georgia Aviation System Plan was published by the Georgia Department of Transportation Aviation Programs in 2019. The plan provides the state with a top-down analysis of its airports and provides recommendations to improve the overall state system. The plan recommends facility improvements at each public airport in Georgia, including LZU, which is classified by GDOT as a Level III airport, a Business Airport of Regional Impact, and of significant importance to the state's aviation needs.

Table 4-1 displays the Georgia Aviation System Plan objectives for a Level III airport and the existing conditions at LZU. These objectives will be further evaluated in later sections of this chapter.

Table 4-1: Georgia Statewide Aviation System Plan – Level III Objectives

Facility Requirement	Actual	Minimum Objective	Objective Met
Runway Length	6,001 feet	5,500 feet	Yes
Runway Width	100 feet	100 feet	Yes
Taxiway	Full parallel	Full parallel	Yes
Primary Runway Pavement Strength	93,000 lb. SW 130,000 lb. DW	20,000 lb. SW 50,000 lb. DW	Yes
Primary Runway PCI	>90[Note 1]	70 or greater	Yes
Primary Runway Safety Area (RSA)	1,000 feet x 500 feet	1,000 feet x 500 feet	Yes
Runway to Taxiway Separation	400 feet	400 feet	Yes
Lighting System			
Runway	HIRL	HIRL (for precision approaches or MIRL)	Yes
Taxiway	MITL	MITL	Yes
Approach Lighting System	MALSR	ALS	Yes
Approach Type	Precision (ILS)	Near-precision	Yes
Weather Reporting	AWOS-3PT	AWOS or ASOS	Yes
Navigation Aids			
Rotating Beacon	Rotating beacon	Rotating beacon	Yes
VGSI	VASIs/PAPIs	PAPIs	Yes
Segmented Circle	Segmented circle	Segmented circle	Yes
Wind Cone	Wind cone	Wind cone	Yes
Airfield Signage	Hold position, location, guidance	Hold position, location, guidance	Yes
Fencing	Full perimeter	Full perimeter	Yes
Hangar Storage	206	70% of based aircraft fleet	Yes
Apron Parking/Storage	227	30% of based aircraft fleet plus an additional 75% for transient aircraft	Yes
General Aviation Terminal/Administration	16,000 SF with restrooms, conference area, pilot's lounge	2,500 SF of public use space including restrooms, conference area, and pilot's lounge	Yes
Fuel	AvGas and Jet A	AvGas and/or jet fuel	Yes
FBO	Full service	Full service	Yes
Maintenance	Full service	Full service	Yes
Rental	Onsite	Available	Yes

Note 1: Runway was overlaid since previous PCI study.
Source: 2019 Georgia Aviation System Plan

Planning Horizon

The time frame for addressing development needs includes near-term (zero to five years), intermediate-term (six to 10 years), and long-term (11 to 20 years) planning periods. The short-term analysis focuses on the immediate action items. The intermediate term focuses on the more detailed analysis. The long term primarily focuses on the ultimate role of the airport in the local area and in the aviation system.

As presented in the forecast chapter, actual activity at the airport may vary over time and may be higher or lower than the forecasted demand. Using the time frames as milestones, **Table 4-2** provides the airport the flexibility to make decisions and develop facilities according to the need generated by actual demand levels.

Table 4-2: Planning Horizon

	Existing (2022)	2024 Base Year	2029 Near Term	2034 Intermediate Term	2044 Long Term
Total Based Aircraft	236	224	252	261	280
Total Operations	119,836	122,588	129,170	133,143	141,631

Source: Michael Baker International, 2023

Airfield Capacity Analysis

This section evaluates whether the existing airfield configuration can accommodate forecasted levels of demand over the planning period. According to the FAA, airfield capacity is defined by the number of aircraft operations conducted at the airfield over a defined period at an acceptable level of delay. An acceptable level of delay is essentially a policy decision about the tolerability of delay being longer than some specified amount, considering the technical feasibility and economic practicality of available remedies.

Estimates of airfield capacity were developed in accordance with the methods presented in FAA AC 150/5060-5, *Airport Capacity and Delay*. This methodology — generally known as the "handbook methodology" — does not account for every possible situation at an airport but rather the most common situations observed at U.S. airports at the time the advisory circular was adopted. FAA AC 150/5060-5 provides a methodology for determining the hourly capacity, Annual Service Volume, and aircraft delay. FAA Order 5090.3C, *Field Formulation of the National Plan of Integrated Airport Systems,* recommends that the handbook methodology be used where capacity is not a constraining factor.

The hourly capacity and ASV were calculated for existing conditions and the last year of the planning period at LZU. The results are used for planning purposes to determine if airfield capacity improvements are needed.

- **Hourly Airfield Capacity** – An airport's hourly airfield capacity represents the maximum number of aircraft that can be accommodated under conditions of continuous demand during a one-hour period. Using peak hour forecasts, the hourly airfield capacity is determined for both visual flight rules and instrument flight rules activity.
- **Annual Service Volume** – The annual service volume estimates the annual number of operations that the airfield configuration should be capable of handling with minimal delays. Consistent with FAA Order 5090.3C, *Field Formulation of the National Plan of Integrated Airport Systems*, a delay may be considered minimal when the average delay per operation is four minutes or less. The ASV accounts for peaking characteristics in its calculation of 12-month demand and periods of low-volume activity.

- **Delay** – The average anticipated delay is based on a ratio of forecast demand to the calculated ASV. According to the FAA AC 150/5060-5, "as demand approaches capacity, individual aircraft delay is increased. Successive hourly demands exceeding the hourly capacity result in unacceptable delays."

Capacity Factors

Fundamental to any airfield, capacity analysis entails the following eight factors.

Characteristics

The configuration and number of runways, parallel taxiways, and exit taxiways directly influence an airfield's ability to accommodate various types of aircraft in a given time frame. The type of navigational aids, lighting, radar, and other instrumentation is extremely important to runway capacity, particularly during inclement weather.

Runway Use – Configuration

At airports equipped with two or more runways, it is not uncommon for more than one configuration to be used under normal operating conditions. Inadequate runway instrumentation and poor visibility may also require changes in runway use. Ultimately, the airfield should use a configuration that affords the highest hourly capacity. However, due to varying conditions, this configuration cannot be used 100% of the time. The airport's estimated annual service volume becomes a function of the time period used on an average annual basis.

Meteorological Conditions

Runway capacity is highest during good weather when visibility is at its best and visual flight rules are in effect. When visibility and ceilings are below specific minimums (3 miles visibility and 1,000-foot ceiling), instrument flight rules are imposed resulting in greater separations between aircraft and longer runway occupancy times. Meteorological factors such as fog, intense storms, strong crosswinds, and excessive water on the runways have a major impact on runway capacity and may even cause closure of the airfield at times.

Aircraft Fleet Mix Index

The fleet mix affects airfield capacity because an aircraft's size, weight, approach speed, and braking ability affect the length of time the aircraft occupies the runway and the manner in which air traffic control personnel direct activity. Individual aircraft operating at the airport are differentiated into categories based on weight (A, B, C, and D), which in turn are used to estimate the overall "mix index" for the airport. Larger aircraft (C and D) require more airspace, thus decreasing capacity to some degree.

Taxiway Configuration

Similar to runways, taxiways can restrict the level of traffic and airfield they may accommodate. Proper placement of exit taxiways based on the airport's fleet mix can reduce runway occupancy times and preserve optimum capacity levels.

"Touch and Go" Operations

Practice landings and takeoffs are normally associated with pilot training and may significantly affect runway capacity. A runway will typically accommodate more of these types of operations in a given time period than the normal landing and takeoff activity.

Arrival/Departures

The percentage of the time that a runway is used for landings will also have a significant impact on capacity. Since departures can be handled typically at a faster rate than landings, runway capacity will be reduced when arrival demand increases.

Airspace

The location of the airport with respect to neighboring airports and various natural and made-made obstructions (trees, towers, buildings, etc.) may restrict the way in which aircraft arrive and depart from an airport. Operations at one airport can conflict with operations at another, thereby causing the capacity of both airports to suffer.

Annual Service Volume

The determination of the annual service volume is simplified by identifying one of the several runway configurations applicable to the airport. Using the airport's estimated aircraft mix index, which is the percentage of the airport's Class C aircraft plus three times the percentage of Class D aircraft, it is possible to identify an approximate optimal operational limit for the airfield.

Class C aircraft are defined as large aircraft more than 12,500 pounds but less than 300,000 pounds, while heavy aircraft exceed more than 300,000 pounds. As the weight category of the aircraft increases, particularly as the mix between large and heavy aircraft increases, the wake turbulence separation standards increase. Therefore, the capacity of the airfield decreases. The calculated aircraft mix index using 2022 operational estimates is approximately 2%. **Table 4-3** shows the hourly capacity and the annual serve volume for a "single runway" configuration. The row highlighted shows the hourly capacity. LZU's theoretical ASV is 230,000 operations.

Table 4-3: Annual Service Volume

Runway Configuration	Mix Index	Hourly Capacity Operations/Hour		Annual Service Volume (ASV)
		VFR	IFR	
	0 to 20	**98**	**59**	**230,000**
	21 to 50	74	57	195,000
	51 to 80	63	56	205,000
	81 to 120	55	53	210,000
	121 to 180	51	50	240,000

Source: Adapted from AC 150/5060-5, Change 2

According to Chapter 3, Aeronautical Forecast, LZU may see approximately 141,631 annual operations by the end of the 20-year study period. The ASV of an airport is used primarily as a tool in the airport planning process to identify the need for advanced planning of airfield capacity relief. Airport capacity may be affected by the following factors: runway configuration, aircraft mix index, taxiway configuration, airfield operational characteristics, and prevailing meteorological conditions. By comparing existing and projected annual operations (demand) to the ASV (capacity), the planning, design, and construction of the new facilities may be timed more effectively. Towards this effort, the following guidelines are typically used during master planning:

- **60% ASV** – This level of activity is considered the threshold at which planning for capacity improvements should begin.
- **80% ASV** – This level of activity is considered the threshold at which planning for capacity improvements should be complete and construction of these capacity-enhancing improvements should be initiated.
- **100% ASV** – This is the total number of operations that the facility is capable of accommodating. In order to avoid extensive delays, capacity-enhancing improvements should be completed before this point.

Based on the forecast versus the calculated ASV, an ASV is highly dependent on current aviation activity and the layout of the airfield. LZU is nearing the 52% threshold of operational capacity in 2022 and may reach 61.5% by 2044. LZU's ASV should be used only as a benchmark for operational characteristics and should be recalculated and examined periodically.

In practice, LZU would never experience round-the-clock peak hourly demand. Based upon the 60% criteria, planning for capacity improvements should begin as the airport reaches 138,000 annual operations; however, the airport is not expected to reach 80% capacity until well beyond the 20-year planning period.

Aircraft Delay
It should be noted that actual capacity enhancements should not be implemented prior to a detailed examination of aircraft delay, which normally becomes a factor when the airfield reaches 80% of its estimated ASV which equates to roughly one minute of delay incurred per aircraft operation. As the demand/capacity ratio approaches and exceeds 1.0 (100% ASE), delay per aircraft increases exponentially. By comparing the existing and projected annual operations with the theoretical ASV for LZU, it is not evident that the airport will observe significant aircraft delay during the 20-year planning period.

Hourly Capacity
Using similar planning guidelines, long-range hourly VFR and IFR capacities were determined for LZU. Depending on the runway use configuration — "parallels plus single runway" — the hourly capacity is estimated to be 98 and 59 operations under VFR and IFR weather minima, respectively. These long-range estimates assume arrivals equal departures, full-length parallel taxiway capability is provided, no airspace conflicts exist, and the airport is equipped with at least one precision instrument approach. A more detailed analysis of hourly VFR and IFR capacities may reveal either higher or lower marginally different capacities; however, the percent variation should not exceed ±5%.

Airfield Design Requirements

Airfield design standards indicate required runway and taxiway widths, as well as separations between and clearances from these pavements, and are based upon the critical design aircraft. The standards that apply to LZU are discussed in this section.

As discussed in Chapter 3, Forecast, determining the critical aircraft is an important aspect of airport planning and design. It sets dimensional requirements such as the distance between taxiways and runways and the size of safety areas. An accurate determination of the critical aircraft helps ensure the proper development of airport facilities and appropriate federal investments in airport facilities. Critical design aircraft is defined by the FAA as the most demanding aircraft (in terms of wingspan length and aircraft approach speed), or grouping of aircraft with similar characteristics, that make regular use of the airport. Regular use is 500 annual operations, excluding touch-and-go operations. Although FAA criteria are established in terms of wingspan/tail height and approach speed, aircraft weight should also be considered when assessing the adequacy of pavement strength.

In the case of LZU, the primary runway, Runway 7-25, is 6,001 feet long and 100 feet wide. This runway is used by a variety of sized aircraft including pistons, turbine aircraft, and jets. A review of the aviation forecasts presented in Chapter 3 indicates that the existing critical aircraft for LZU is the Astra 1125 and Bombardier Challenger 300 grouping of similar aircraft, the future critical aircraft is the Gulfstream IV and similar aircraft, and the ultimate critical aircraft is the Gulfstream G550/650 and similar aircraft.

Runway Design Code

Once the critical aircraft has been determined, the runway design code for Runway 7-25 is established based on the specific characteristics of the aircraft. The RDC is a code signifying the design standards to which the overall runway and parallel taxiway are designed to. The RDC is based upon existing and planned development and does not have any operational application.

The RDC is comprised of three components: the aircraft approach category, the aircraft design group, and visibility minimums expressed by runway visual range values.

Aircraft Approach Category

The Aircraft Approach Category is a grouping of aircraft related to aircraft approach speed (operational characteristics) of critical aircraft. The AAC falls into one of the categories presented in **Table 4-4**.

Table 4-4: Aircraft Approach Categories

Aircraft Approach Category (AAC)	VREF/Approach Speed
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 AC 150/2300-13B, Airport Design

Aircraft Design Group

The Aircraft Design Group is a grouping of aircraft with similar wingspan or tail height, whichever is most restrictive. Refer to **Table 4-5.**

Table 4-5: Airport Design Group

Airplane Design Group (ADG)	Tail Height	Wingspan
I	< 20 ft (< 6.1 m)	< 49 ft (< 14.9 m)
II	20 ft to < 30 ft (6.1 m to < 9.1 m)	49 ft to < 79 ft (14.9 m to < 24.1 m)
III	30 ft to < 45 ft (9.1 m to < 13.7 m)	79 ft to < 118 ft (24.1 m to < 36 m)
IV	45 ft to < 60 ft (13.7 m to < 18.3 m)	118 ft to < 171 ft (36 m to < 52 m)
V	60 ft to < 66 ft (18.3 m to < 20.1 m)	171 ft to < 214 ft (52 m to < 65 m)
VI	66 ft to < 80 ft (20.1 m to < 24.4 m)	214 ft to < 262 ft (65 m to < 80 m)

Source: FAA AC 150/2300-13B, Airport Design

Visibility Minimums

The visibility minimums for instrument approaches are based on the type of approach and the height of objects in the vicinity of the airport that could be considered obstructions to the approach. A visibility minimum is the minimum visual distance a pilot must have when flying a published instrument approach to a runway. Pilots desire to have lower approach minimums to access the airport during inclement weather conditions. Approach visibility minimums to a runway have a significant effect on runway design standards and related infrastructure. The lower

the visibility minimums, the more demanding airport design standards are. The RVR values and associated flight visibility categories are summarized in **Table 4-6**.

Table 4-6: Visibility Minimums

RVR (ft)	Instrument Flight Visibility Category (Statute Mile)
5,000	Not lower than 1 mile
4,000	Lower than 1 mile but not lower than ¾ mile
2,400	Lower than ¾ mile but not lower than ½ mile
1,600	Lower than ½ mile but not lower than ¼ mi
1,200	Lower than ¼ mile

Source: FAA AC 150/5300-13B

The RDC for LZU is summarized in **Table 4-7**.

Table 4-7: LZU Critical Aircraft with Associated AAC, ADG, and VIS

Timeframe	Runway 7-25			
	Critical Aircraft	AAC	ADG	VIS
Existing	Astra/Bombardier 300	C	II	2400
Future	Gulfstream IV	D	II	2400
Ultimate	Gulfstream 550/650	D	III	2400

Source: FAA AC 150/5300-13B, FAA TFMSC Data, FAA ADIP

Table 4-8: Existing Demand Aircraft at LZU

Items	Existing Critical Aircraft	
Critical Aircraft		
Aircraft Type	Medium Jet	
Aircraft Approach Category (AAC)	C	
Airplane Design Group (ADG)	II	
Aircraft Model	**Astra 1125**	**Bombardier 300**
Wingspan	54.5’	63.8’
Tail Height	18.1’	20.0’
Length	55.5’	68.7’
Approach Speed (VREF)	130 Kts	125 Kts
Max Takeoff Weight (MTOW) in lb.	24,650	38,850

Source: FAA Aircraft Characteristics Database, February 2023

Table 4-9: Future Demand Aircraft at LZU

Items	Future Critical Aircraft
Critical Aircraft	
Aircraft Type	Medium Jet
Aircraft Approach Category (AAC)	D
Airplane Design Group (ADG)	II
Aircraft Model	**Gulfstream IV**
Wingspan	78’
Tail Height	24.4’
Length	88.3’
Approach Speed (VREF)	150 Kts
Max Takeoff Weight (MTOW) in lb.	73,200 lb.

Source: FAA Aircraft Characteristics Database, February 2023

Table 4-10: Ultimate Demand Aircraft at LZU

Items	Ultimate Critical Aircraft		
Critical Aircraft			
Aircraft Type	Medium Jet		
Aircraft Approach Category (AAC)	D		
Airplane Design Group (ADG)	III		
Aircraft Model	**G500**	**G550**	**G650**
Wingspan	86.3’	93.5’	99.5’
Tail Height	25.5'	25.8’	25.6’
Length	91.1’	96.4’	99.7’
Approach Speed (VREF)	150 Kts		145 Kts
Max Takeoff Weight (MTOW) in lb.	TBD	91,400 lb.	100,000 lb.

Source: FAA Aircraft Characteristics Database, February 2023

Airfield Design Standards

Table 4-11 presents the current and ultimate FAA design standards for Runway 7-25.

Table 4-11: Evaluation of Existing versus Ultimate Airfield Design Standards (in feet)

Design Standard	Existing			Future			Ultimate		
Runway Design Code (RDC)	C-II			D-II			D-III		
Runway End	7	25	Meets Standard	7	25	Meets Standard	7	25	Meets Standard
RW Approach Visibility Minimums	1 Mile	½ Mile	--	¾ Mile	½ Mile	--	¾ Mile	½ Mile	--
Runway (RW) Width	100	100	✓	100	100	✓	100	100	✓
RW Safety Area (RSA) Width	500	500	✓	500	500	✓	500	500	✓
RSA Length Beyond RW End	1,000	1,000	✓	1,000	1,000	✓	1,000	1,000	✓
RW Object Free Area (ROFA) Width	800	800	✓	800	800	✓	800	800	✓
ROFA Length Beyond RW End	1,000	1,000	✓	1,000	1,000	✓	1,000	1,000	✓
RW Obstacle Free Zone (ROFZ) Width	400	400	✓	400	400	✓	400	400	✓
ROFZ Length Beyond RW End	200	200	✓	200	200	✓	200	200	✓
RW Protection Zone (RPZ) Inner Width	500	1,000	✓	**1,000**	1,000	**Expand RW 7 RPZ**	**1,000**	1,000	**Expand RW 7 RPZ**
RW Protection Zone (RPZ) Outer Width	1,010	1,750	✓	**1,510**	1,750		**1,510**	1,750	
RPZ Length	1,700	2,500	✓	**1,700**	2,500		**1,700**	2,500	
RW Centerline to Holdline	250	250	✓	250	250	✓	250	250	✓
RW to Parallel TW/TL	300	300	✓	400	300	✓	400	400	✓
TW Centerline to Fixed or Movable Object	62	62	✓	62	62	✓	85.5	85.5	✓

Source: FAA AC 150/5300-13B, Michael Baker International, 2022
Note 1: ADG III Taxiway and Taxilane Protection requirements

Runway System Requirements

The most important part of the airfield is the runway. The runway must be of the proper length, width, and strength to safely accommodate the critical aircraft. The FAA through AC 150/5324-4B, *Runway Length Requirements for Airport Design*, dictates the runway design and construction standards for runways.

Runway Length

Airplanes today operate on a wide range of available runway lengths. Various factors govern the suitability of those available runway lengths, most notably airport elevation above mean sea level, temperature, wind velocity, airplane operating weights, takeoff and landing flap settings, runway surface condition, effective runway gradient, and noise abatement restrictions. Of these factors, certain ones have an operational impact on available runway lengths. The forecast operational fleet mix indicates the Astra 1125 aircraft series is the existing design aircraft and Gulfstream 500/550/650 series for the ultimate design aircraft for Runway 7-25. The future critical aircraft, the Gulfstream IV, was excluded from the analysis. Presently, the existing length of Runway 7-25 is 6,001 feet.

AC 150/5325-4B, *Runway Length Requirements for Airport Design,* outlines a five-step procedure to determine recommended runway lengths. This procedure was used and is detailed in the following section. The planning factors that went into this analysis include:

- **Aircraft type** – Family grouping of large airplanes, Astra 1125/Bombardier 300, and individual aircraft performance of the Gulfstream G500/550/650 series.
- **Aircraft weight** – Aircraft weight is the single most important factor when conducting a runway length analysis. As the weight of a particular model of aircraft increases, so does the runway length requirement for a given condition.
- **Temperature** – The runway length requirements reflect aircraft performance characteristics at a mean max temperature of 89.5° F.
- **Airport Elevation** – Aircraft performance is affected by the elevation of the airfield. The runway length requirements are reflective of the aircraft performance characteristics at 1,061 feet mean sea level.

Step 1 – Identification of Critical Airplane(s)

Step 1 states, "Identify the list of critical design airplanes that will make regular use of the proposed runway for an established planning period of at least five years." Evaluations of both existing and ultimate critical aircraft were prepared. While the 1125 Astra/Bombardier 300 is the existing most demanding aircraft, as identified earlier in this chapter, the ultimate critical aircraft over the next 20 years is the Gulfstream 500/550/650 series aircraft.

Step 2 – Aircraft Requiring the Longest Runway Length at MTOW

Step 2 states, "Identify the airplanes that will require the longest runway lengths at maximum certificated takeoff weight (MTOW)." When the MTOW of listed airplanes is 60,000 pounds or less, the recommended runway length is determined according to a family grouping of airplanes having similar performance characteristics and operating weights. The MTOW for the Astra 1125/Bombardier 300 is 24,650 to 38,850 pounds. The MTOW for the Gulfstream G500/550/650 is roughly 100,000 pounds and 90,000 pounds, respectively.

Step 3 – Recommend Runway Length Method

In Step 3, the AC states, "Use Table 1-1 and the airplanes identified in Step 2 to determine the method that will be used for establishing the recommended runway lengths." For reference, **Table 4-12** reflects the information identified in Table 1-1 of the AC.

Table 4-12: Airplane Weight Categorization

Airplane Weight Category Maximum Certified Takeoff Weight (MTOW)			Design Approach
12,500 pounds (5,670 kg) or less	Approach speeds less than 30 knots		Family grouping of small airplanes
	Approach speeds of at least 30 knots but less than 50 knots		Family grouping of small airplanes
	Approach speeds of 50 knots or more	With less than 10 passengers	Family grouping of small airplanes
		With 10 or more passengers	Family grouping of small airplanes
Over 12,500 pounds (5,670 kg) but less than 60,000 pounds (27,200 kg)			**Family grouping of large airplanes**
60,000 pounds (27,200 kg) or more or Regional Jets 1			**Individual large airplane**

Note: All regional jets regardless of their MTOW are assigned to the 60,000 pounds (27,200 kg) or more weight category.

Since the Astra 1125/Bombardier 300 aircraft have an MTOW of less than 60,000 pounds but more than 12,500 pounds, an analysis of a family grouping of large airplanes is required for the existing condition. Since the Gulfstream G500/550/650 series of aircraft weighs over 60,000 pounds, the individual large airplane approach is required for the ultimate condition.

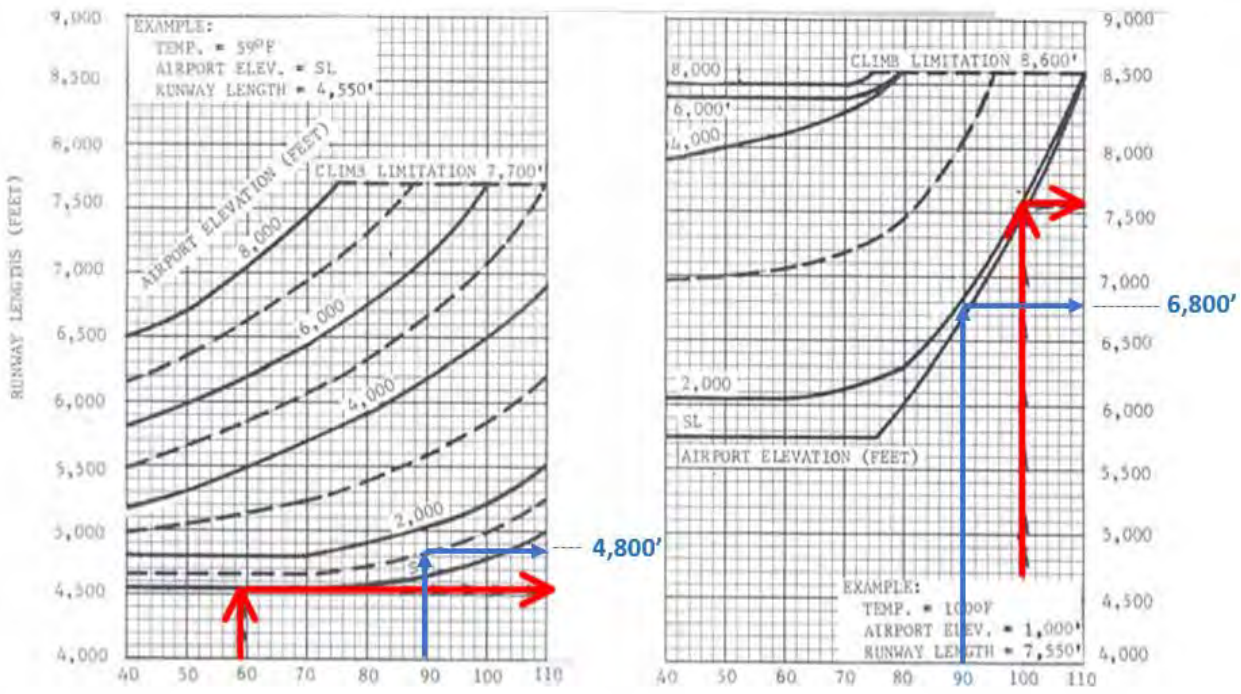
Steps 4 and 5 – Determine Recommended Runway Length

Family Grouping of Large Airplanes

The family grouping of large airplanes is divided into two categories — percent of fleet at 60 or 90% useful load and 100% of fleet at 60 or 90% useful load. The family grouping of large airplanes is broken down by fleet percentage and useful load percentage. The runway length curves are based on 75% and 100% of the fleet. Within the 75% category are aircraft such as the Cessna Citation V, Citation Sovereign, Bombardier Challenger 300, Dassault Falcon 20, and the Learjet 45. The remaining 25% that makes up 100% of the fleet includes the Bombardier Challenger 600, Cessna Citation X, Dassault Falcon 900/2000, and the Learjet 60.

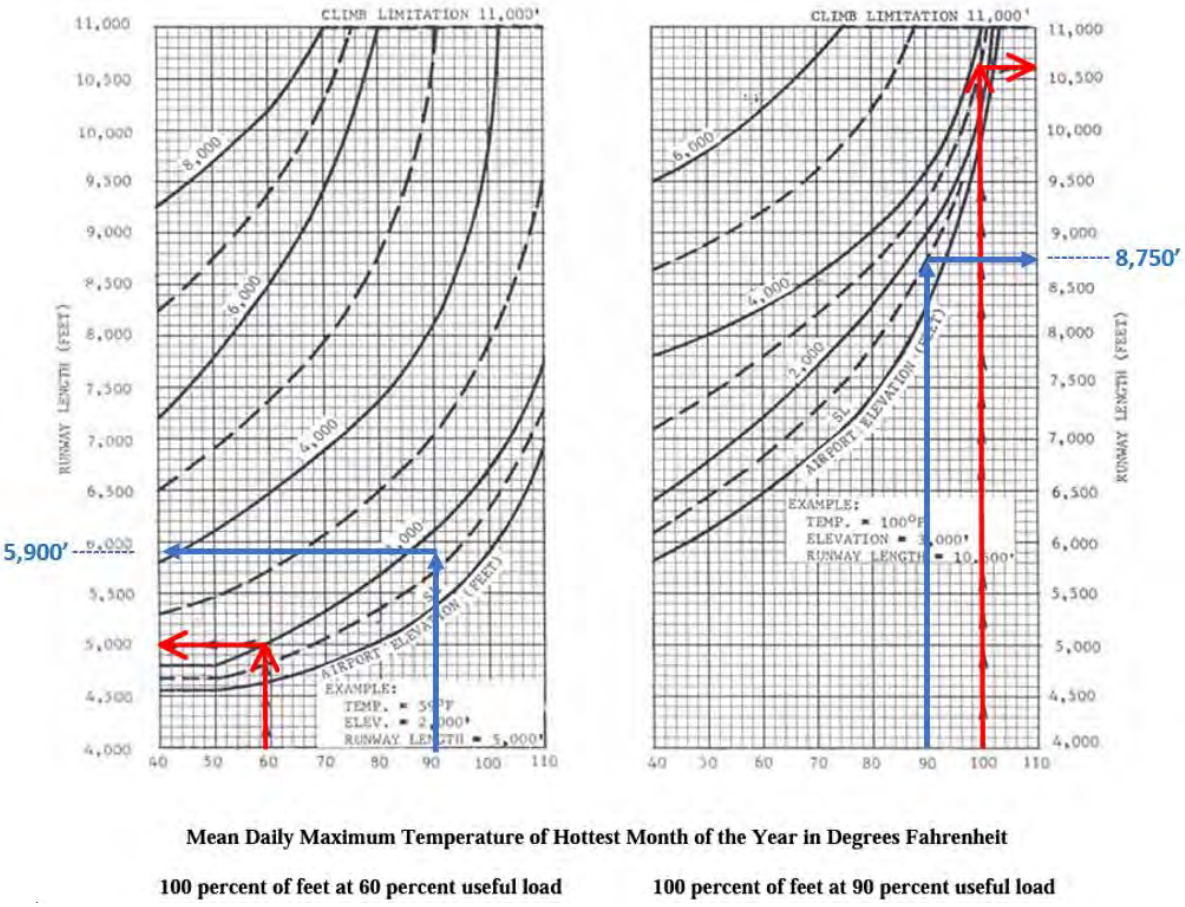
Within the 75% and 100% fleets, the curves are further broken down by two useful load percentages — 60% useful load and 90% useful load. Curves are not developed for operations at 100% useful load because many of the airplanes used to develop the curves were operationally limited in the second segment of climb. That is, the allowable gross takeoff weight is often limited by ambient conditions of temperature and elevation to an operating weight that is less than their maximum structural gross weight. **Figure 4-1** and **Figure 4-2** (Figures 3-1 and 3-2 in the AC) reflect the runway length requirements for the family grouping of small airplanes.

Figure 4-1: Percent of Fleet at 60 or 90% Useful Load



Source: FAA AC 150/5325-4B

Figure 4-2: 100% of Fleet at 60 or 90% Useful Load



Source: FAA AC 150/5325-4B

As shown in the figures above, 4,800 feet is required for 75% of fleet at 60% useful load, and 6,800 feet is required for 75% of fleet at 60% useful load. Furthermore, 5,900 feet is required for 100% of fleet at 60% useful load, while 8,750 feet is required for 100% of fleet at 90% useful load. LZU currently has sufficient runway length to accommodate 75% and 100% of the large airplane fleet at 60% useful load; however, to accommodate these fleets at 90% useful load, LZU needs 6,800 feet for the 75% fleet and 8,750 feet for the 100% fleet.

Gulfstream G650

For the purpose of this study, the G650 was used for this analysis. Because the aircraft has a MTOW greater than 60,000 pounds, the procedures outlined in Chapter 4 of the FAA AC will be used to determine the runway length required to operate at LZU. The design procedure for this weight category requires the following information — the critical design airplanes under evaluation and their APMs, the maximum certificated takeoff weight, airport elevation above mean sea level, effective runway gradient, and the mean daily maximum temperature of the hottest month at the airport.

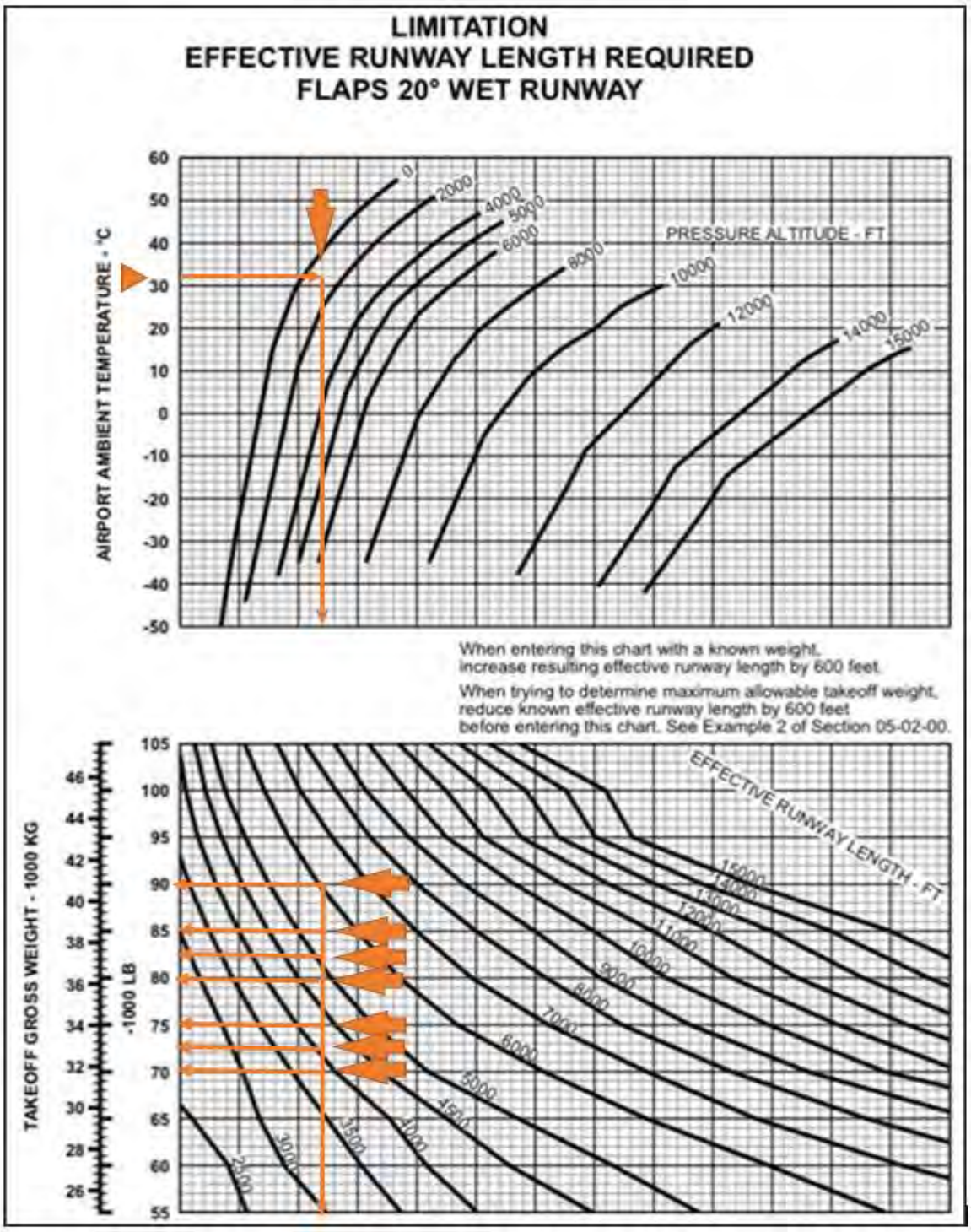
After finding the takeoff length requirements using the MTOW, airport elevation, and airport temperature in the APMs, the runway length is adjusted according to the effective runway gradient.

The takeoff length required was reviewed using the *Gulfstream 650ER Flight Planning Manual*. The following variables were considered in the calculation:

- Mean maximum temperature of hottest month: 89.5° F (31.9° C) which equals +18.5 °C ISA
- Average 12-month mean maximum temperature: 72.4° F (22.3° C) which equals +8.9° C ISA
- Maximum payload and passengers
- IFR and alternate airport fuel reserve
- Takeoff weight based on haul lengths in 500 nm increments up to 90,000 pounds MTOW
- Flaps 20^0, wet and slippery runway
- Fuel burn: 3,074 pounds per hour
- Average enroute cruise speed: 566 kts

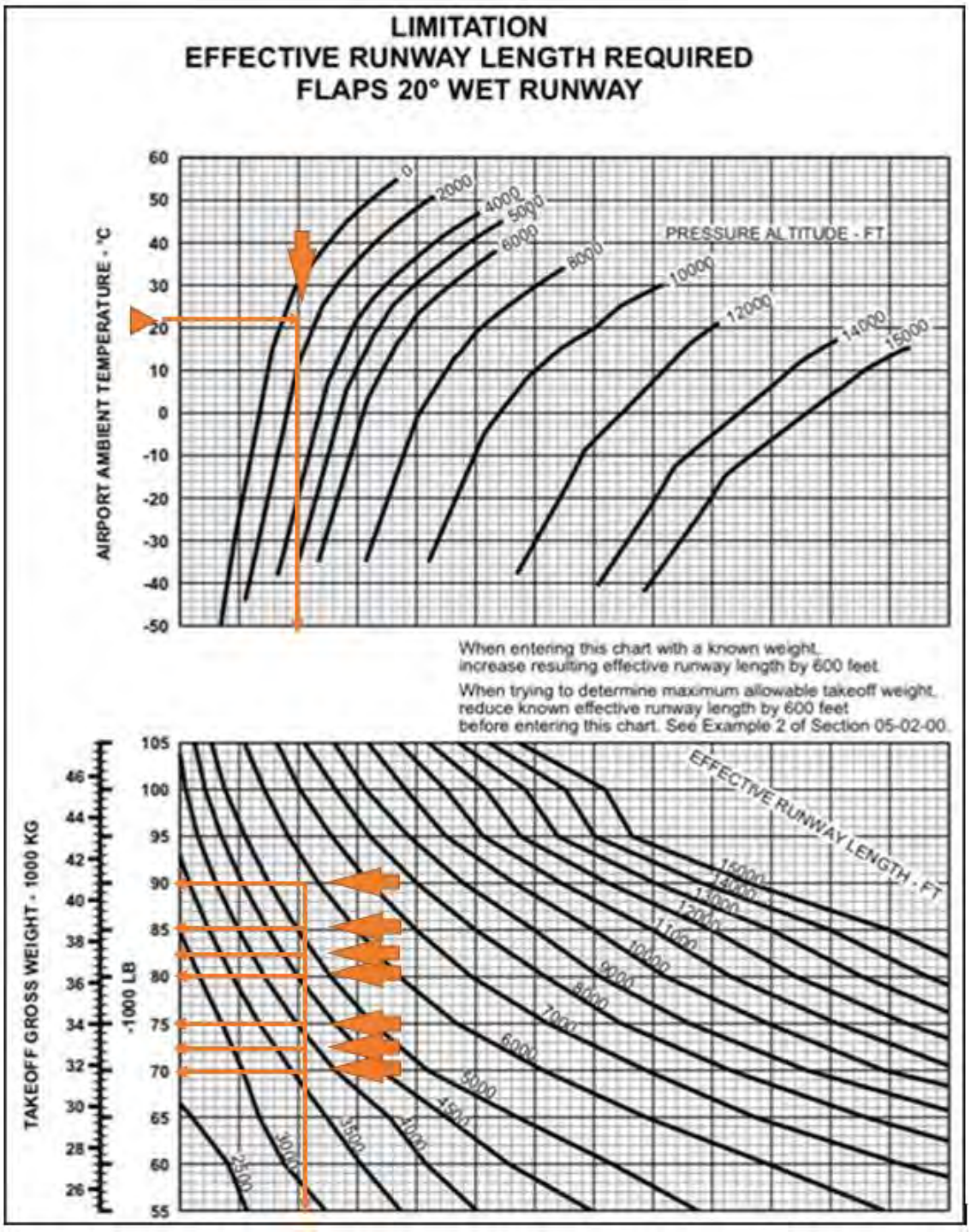
Figure 4-3 and **Figure 4-4** provide the takeoff length required at estimated takeoff weights for haul lengths ranging from 70,000 pounds to 90,000 pounds. 90,000 pounds represents the maximum landing weight should the aircraft abort takeoff ascent and return to the airport. **Figure 4-3** calculates (follow orange arrow) these lengths using mean maximum temperature of hottest month. **Figure 4-4** calculates (follow orange arrow) these lengths using average 12-month mean maximum temperature. **Table 4-13** illustrates the results.

Figure 4-3: Runway Length Planning Chart – Based on Haul Lengths and Mean Maximum Temperature



Source: Gulfstream 650ER Flight Planning Manual and analysis by Michael Baker International, 2023

Figure 4-4: Runway Length Planning Chart - Based on Haul Length and Average Temperature



Source: Gulfstream 650ER Flight Planning Manual and analysis by Michael Baker International, 2023

Table 4-13: Runway Length Requirements Based on Takeoff Weight

Takeoff Weight (lb.)	Required Takeoff Length (ft)	
	Average Temperature (22.3° C)	Mean Max Temperature of Hottest Month (31.1° C)
70,000	3,600	3,900
73,000	3,850	4,050
75,000	4,100	4,400
80,000	4,550	4,900
82,000	4,750	5,050
85,000	5,050	5,500
90,000	5,900	6,000

Source: Gulfstream 650ER Flight Planning Manual plus takeoff weight calculations by Michael Baker International, 2023

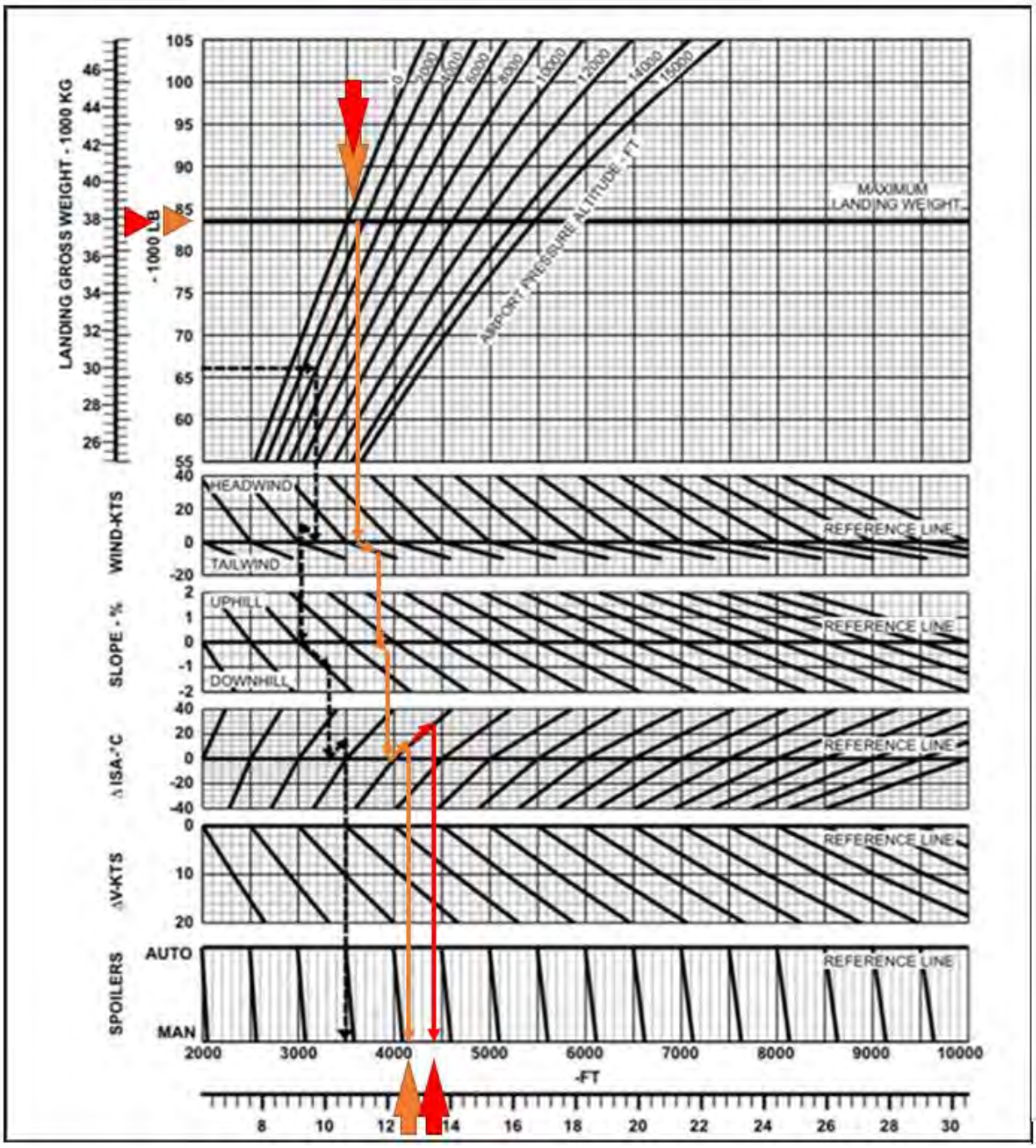
Landing Length Required

Using the standard landing distance chart found in the *Gulfstream 650ER Flight Planning Manual*, the landing length requirements of the critical aircraft were evaluated. Landing lengths were calculated for both average monthly mean maximum temperature and mean maximum temperature of the hottest month. The following variables were considered in the calculations:

- Maximum landing weight of 90,000 pounds
- Wind: 5 kts tailwind
- Slope/runway gradient: .50% downhill
- Temperature: Mean maximum of the hottest month (+31.1^0 C) and average monthly mean maximum temperature (+17.5^0 C)
- Spoilers: Auto deployed
- Flaps: Normal landing configuration
- Threshold Crossing Height: 50 feet
- Approach Angle: 3^0
- Approach Speed: Normal V^{ref}
- Operating Status: Part 91, Part 135

Figure 4-5 presents the results of the runway length analysis for both mean maximum temperature of the hottest month (follow the orange arrow) and the average mean maximum monthly temperature (follow the red arrow). The mean maximum of the hottest month landing distance was found to be 4,250 feet. The average monthly mean maximum landing distance was found to be 4,100 feet. These lengths must be adjusted for operational factors described in the following paragraph.

Figure 4-5: G650ER Manufacturer's Landing Distance Chart



Operational Factors

According to the manufacturer, Gulfstream Aerospace, the calculation of landing distance requires an operational factor adjustment based on the operational status of the aircraft. Operational status refers to the regulations the aircraft crew is operating under. These regulations fall into Federal Aviation Regulations Part 121, Part 135, and Part 91. Subsets of these regulations include non-eligible on-demand (EOD), Part 135 EOD and Part 91K EOD refers to specific regulations pertaining to on-demand charter operations. Part 91 "K" refers to fractional ownership arrangements.

Most aircraft at LZU operate under Part 91 or Part 135 regulations related to private ownership and charter activities. The airport does not serve Part 121 operations which involve scheduled air carriers. For grooved runways such as LZU, the manufacturers recommended landing distance adjustment factor for Part 91 operations is 1.0. The manufacturers recommended for Part 135 operations is 1.25. These operational factors result in increased landing distances of 25% for Part 135 operations. Therefore, the resulting landing distances required increase to 5,312 feet for mean maximum temperatures of the hottest month and 5,125 feet for average monthly mean temperature.

Conclusion

The runway length analysis analyzed requirements of the critical aircraft using criteria outlined in FAA AC No. 150/5325-4A, *Runway Length Requirements for Airport Design*. The final recommended runway length is the longest resulting length based on criteria for regular use. Based on these criteria described, the existing runway length of 6,001 feet supports 75% of the large aircraft fleet, including the Astra 1125/Bombardier 300, at 60% useful load and exceeds the takeoff and landing requirements of the Gulfstream 500/550/650 up to 90,000 MTOW during both mean maximum temperature and the average monthly mean temperature.

Runway Width

The width of the runway is a function of the RDC for the runway. Runway 7-25 is forecast to ultimately upgrade to RDC D-III. The runway width design standard for RDC D-III is 100 feet for airports serving airplanes with an MTOW of 150,000 pounds or less. Runway 7-25 meets D-III standards.

Runway Strength

The current published runway strength for Runway 7-25 is 93,000 pounds single wheel and 120,000 pounds double wheel loading. As established previously in this chapter, the ultimate critical aircraft is the Gulfstream 500/550/650 series aircraft. The most conservative MTOW from the Gulfstream 650 series is 100,000 pounds double tandem wheel loading. The pavement strength is adequate for the existing and ultimate critical aircraft.

Runway Protection and Separation Requirements

Runway protection areas include areas designed to protect the aircraft in case of an excursion from the runway. The dimensional boundaries, grading, and object clearance requirements of these areas are defined by the RDC. Runway separation requirements define the minimum distances between the runway centerline and parallel runways, taxiways, aprons, and fixed objects. The sections below describe the runway protection and separation requirements.

Runway Safety Area

The runway safety area is a surface centered along the runway designed to reduce the risk of damage to aircraft in the event of an undershoot, overshoot, or excursion from the runway. In addition to the dimension requirements shown in **Table 4-11,** the runway safety area must be:

- Cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations

- Drained by grading or storm sewers to prevent water accumulation
- Capable, under dry conditions, of supporting snow removal equipment, aircraft rescue and firefighting equipment, and the occasional passage of aircraft without causing structural damage to the aircraft Free of objects, except for objects that need to be located in the RSA because of their function

For existing C-II, future D-II, and ultimate D-III runways, the RSA is 500 feet wide with a length that extends from 600 feet prior to the runway threshold to 1,000 feet beyond the runway end. The current RSAs at LZU meet these required standards.

Runway Object Free Area

The runway object free area must be clear of ground objects protruding above the RSA edge elevation. The purpose of the runway object free area is to enhance the safety of aircraft operations by having the area free of objects, except for objects that need to be located in the ROFA for air navigation or aircraft ground maneuvering purposes. C-II and future D-II and ultimate D-III standards require 600 feet prior to the threshold, 1,000 feet beyond the runway end, and 800 feet wide. The existing ROFAs meet the current airfield design standard.

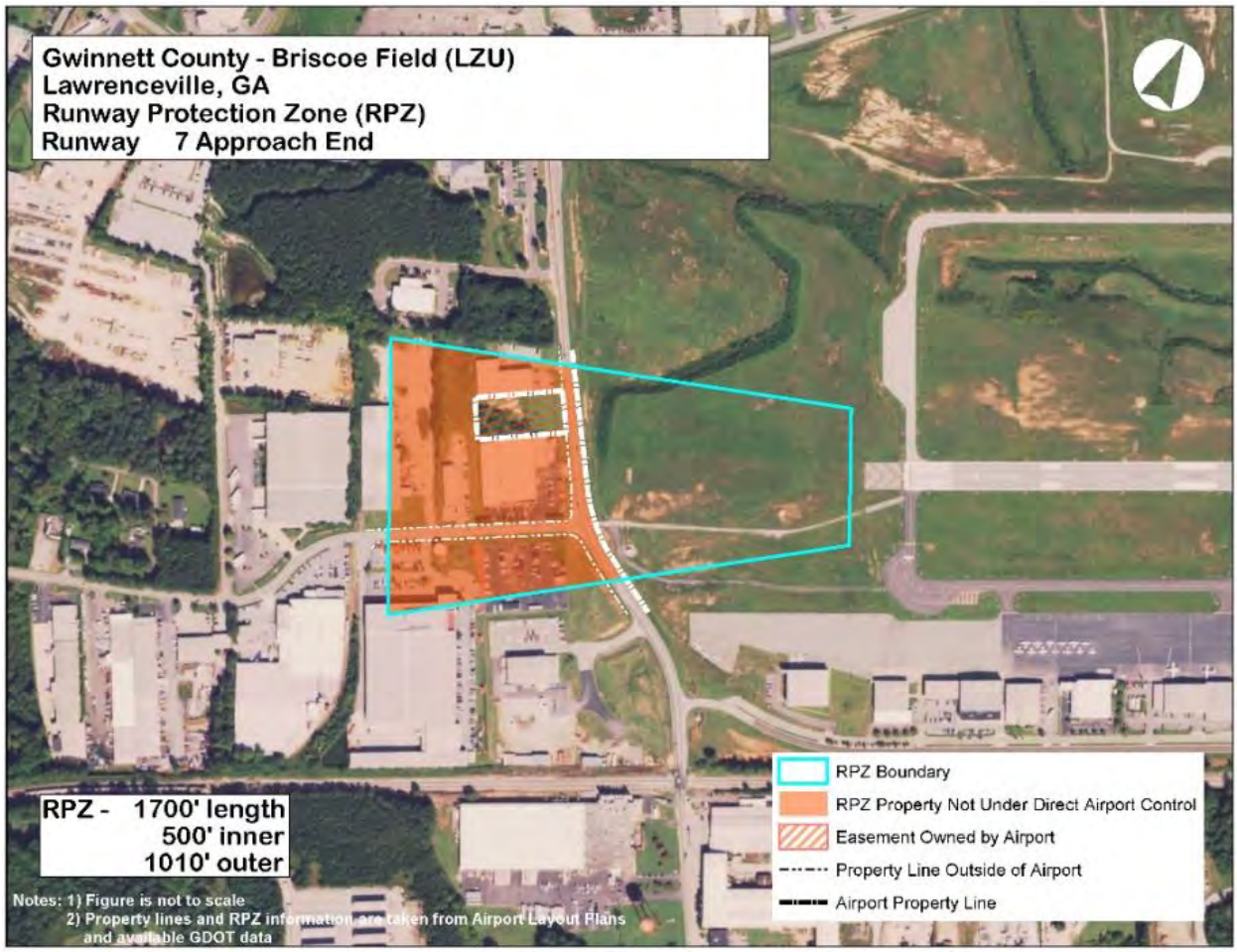
Runway Obstacle Free Zone

The runway obstacle free zone is a defined volume of airspace centered above the runway centerline, above a surface whose elevation at any point is the same as the elevation of the nearest point on the runway centerline. The runway obstacle free zone is a design surface but also an operational surface and must be kept clear during operations. The shape is dependent on the approach minimums for the runway end and the aircraft on approach, meaning that the ROFZ for a particular operation may not be the same shape as that used for design purposes. The ROFZ extends 200 feet beyond each end of the runway. For large aircraft, the width of the OFZ is 400 feet.

Runway Protection Zone

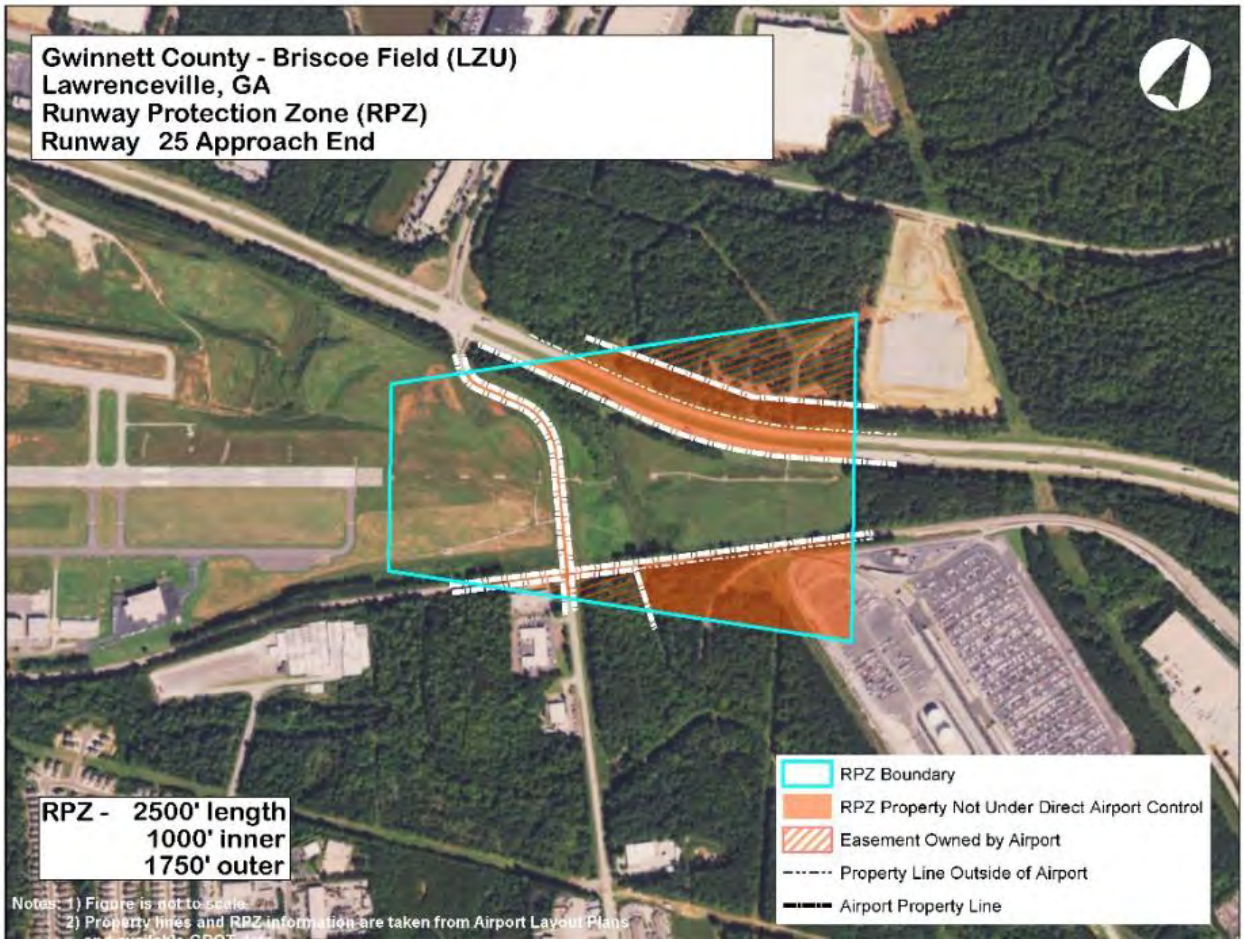
As noted in the inventory chapter, the runway protection zone is an area on the ground used to enhance the protection of people and property near the runway approach. In accordance with AC 150/5300-13B, RPZs should be maintained and clear of residences and places of public assembly, including churches, schools, hospitals, shopping centers, office buildings, and other uses with a similar concentration of people. In order to ensure that the RPZs are kept clear of incompatible objects and activities, it is recommended that the land within the RPZ be owned by the airport or protected through an avigation easement. **Table 4-11** provides a comparison of today's RPZ design standards to existing conditions. **Figure 4-6** and **Figure 4-7** on the following page illustrate the existing RPZs at LZU.

Figure 4-6: Runway 7 Approach RPZ



Source: GA Statewide System Plan, 2019 – Gwinnett County Airport-Briscoe Field

Figure 4-7: Runway 25 Approach RPZ



Source: GA Statewide System Plan, 2018 – Gwinnett County Airport–Briscoe Field

Figure 4-6 and **Figure 4-7** depict the RPZs and the airport property line. The airport does not control approximately 15.5 acres within Runway 7. With exception to the major right of way of Runway 25 (i.e., Cedars Road and SR 316), the land within the RPZ is owned by Gwinnett County.

Runway Separation Standards

Runway separation standards, like the previously mentioned standards, are based on AAC, ADG, and visibility minima. The requirements for an existing C-II, future D-II, and ultimate D-III runway are shown in **Table 4-14**.

Table 4-14: Existing C-II and Future D-II Runway Separation Standards

Separation Standard	C-II and D-II	D-III	Existing Condition
Runway Centerline to Parallel Taxiway Centerline	300	400	✓+
Runway Centerline to Aircraft Parking	See Note 1	See Note 1	✓
Runway Centerline to Aircraft Holding Position	250	250	✓

Source: FAA AC 150/5300-13B

1) Locate aircraft parking positions in a manner that ensures aircraft components do not conflict with the object free area (OFA) for adjacent runways, taxiways, or taxilanes.
2) ✓+ Exceeds FAA standard, ✓ Meets FAA standard

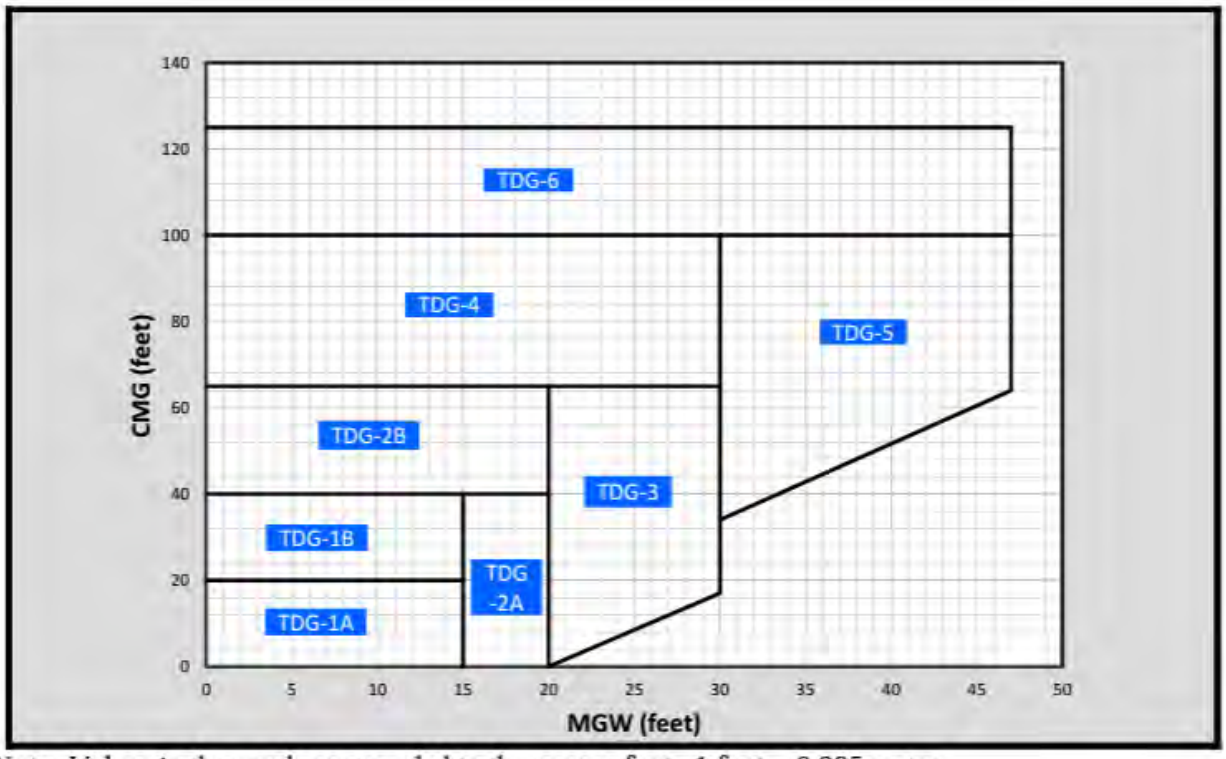
Runway 7-25 at LZU meets the required runway standards.

Taxiway Configuration Requirements

The current guidance described in FAA AC 150/5300-13B, *Airport Design*, is based on the Taxiway Design Group which takes into account the undercarriage dimensions. The undercarriage dimensions are derived from the aircraft main gear width and the cockpit to main gear distance. Taxiways should be designed for "cockpit over centerline" taxiing with sufficient pavement to provide a small amount of error. The error allowance is considered by providing a taxiway edge safety margin, which is measured from the outside of the main landing gear to the taxiway edge.

Taxiway design requiring "judgmental oversteering" where the pilot must internally steer the cockpit outside the marked centerline should be eliminated whenever feasible. Appropriate taxiway design ensures that the required TESM is maintained for all aircraft taxi maneuvers. This can be achieved by designing the taxiway with the width and fillet dimensions corresponding to the TDG of the design aircraft. In addition, it is important to consider a notable update within the current version of FAA advisory circular 150/5300-13B, separating TDG 2 into TDG 2A and TDG 2B. **Figure 4-8** illustrates the TDG classifications.

Figure 4-8: Taxiway Classifications



Note: Values in the graph are rounded to the nearest foot. 1 foot = 0.305 meters.

The taxiway requirements analysis is summarized in **Table 4-14**, **Table 4-15**, and **Table 4-17**.

Table 4-15: Taxiway Design Group Requirements based on Existing, Future, and Ultimate Critical Aircraft

Taxiway Design Group				
	Critical Aircraft	Cockpit to Main Gear	Main Gear Width	Taxiway Design Group
Existing	Astra 1125	24.08	11.08	TDG-1B
Future	Gulfstream IV	38.10	15.67	TDG 2A
Ultimate	Gulfstream 650ER	45.00	16.00	TDG 2B

Table 4-16: Taxiway Design Standard Analysis

Design Standard	Existing/Future Required Dimensions	Taxiway							
		B	C	D	E	F	G	W	Z
Taxiway Width (feet)	35	✓+	✓+	✓+	✓+	✓+	✓+	✓+	✓+
Taxiway Edge Safety Margin (TESM) (feet)	7.5	✗							
Taxiway Shoulder Width (feet)	15	✗							
Taxiway Fillet Dimensions	Table 4-3 in AC 150/5300-13B	Taxiway centerline markings and/or taxiway lead-in fillets for taxiway segments used by the critical aircraft should be designed to TDG 2B requirements							

Source: FAA AC 150/5300-13B, Airport Design. Michael Baker International, 2022

✓+ Exceeds FAA standards, ✗ Does not meet FAA standards

Although TDG 1B taxiway design standards apply for the Astra 1125, the present taxiways are designed for TDG 2A and 2B in terms of taxiway width required for the ultimate design aircraft, Gulfstream 650-ER. Each entrance and exit taxiway at LZU must be evaluated to determine compliance with Table 4-3 of AC 150/5300-13B, *Airport Design*.

According to FAA Advisory Circular 150/5300-13B, *Airport Design*, the minimum recommended runway-to-taxiway centerline separation for a runway is shown in **Table 4-17**. LZU meets the runway-to-parallel taxiway separation requirement.

Table 4-17: Existing and Ultimately Runway to Parallel Taxiway Separation

Taxiway Design Group				
	Critical Aircraft	ARC	Lowest Minimums	Runway to Parallel Taxiway Separation
Existing	Astra 1125	C-II	1/2 mile	400’
Future	Gulfstream IV	D-II	1/2 mile	400’
Ultimate	Gulfstream 650ER	D-III	1/2mile	400’

Airfield, Lighting, Markings, and Signage

The following sections describe the requirements for airfield lighting, markings, signage, and navigational aids at LZU.

Airfield Lighting and Signage

The airfield lighting at LZU consists of high intensity runway lights along the edges of Runway 7-25. Most taxiways on the airfield are equipped with medium intensity taxiway lights to permit night activity on that runway. Due to the age and condition of the existing incandescent lighting, there are ongoing improvements to upgrade airfield taxiway lighting to LEDs. This includes Taxiway Z and any future taxiways.

Airfield signage compliments pavement markings by providing locational and directional information for pilots and ground vehicle operators maneuvering on an airfield. Signage at the airfield includes runway hold position signs, taxiway location signs, and destination location signs. Airfield signage should be maintained properly across the planning period, including an eventual upgrade of LED-style lighting to reduce energy and maintenance costs.

While most signs on the airfield have the proper look and location, others do not. Similarly, some signage is not lit. FAA AC 150-5340-18G recommends "holding position signs for runways, ILS critical areas, approach areas, and their associated taxiway location signs should be illuminated when the associated runway lights are illuminated." The FAA AC also states that other taxiway guidance signs should be illuminated when the associated taxiway lights are illuminated. Airfield signage south of Runway 7-25 is unlit and therefore should be upgraded to provide enhanced safety to pilots during the night or inclement weather.

Airfield Marking

Runway pavements are marked with painted lines and numbers to aid in the identification of the runways from the air and to provide information to the pilot during the approach to a runway phase of flight. Runway markings are designed according to the type of instrument approach available on the runway. There are three standard sets of markings used depending on the runway type.

- **Basic** – For runways with only visual or circle to land procedures. These markings consist of runway designation markers and a centerline stripe.
- **Non-precision** – For runways to which a straight-in, non-precision instrument approach has been approved. These markings consist of runway designation markers, a centerline stripe, threshold bars, threshold markings, and aiming point markers.
- **Precision** – For runways with a precision instrument approach. These markings consist of non-precision markings plus touchdown zone stripes and side strips.

Runway 7-25 markings are precision and appropriate for the approach procedures that are currently available. The taxiways at LZU are equipped with centerline stripes and holding position markings. Runway 7-25 taxiway holding position markings follow the designated RDC of D-III.

Navigational Aid System

The term NAVAIDS generally refers to ground- or satellite-based equipment that can communicate position information, approach guidance, and surface weather conditions to aircraft while in flight. This includes all non-precision and precision instrument approach procedures to runways and weather equipment. NAVIDS are visual or electronic devices that provide information or position data to aircraft in flight to ground-based equipment that the pilot can see while in flight to determine the correct approach slope to a runway and wind conditions. This section will address the potential need for enhanced facilities in the future. The key objective is to enhance operational

flexibility and safety at the airport during all weather conditions while being cognizant of the cost/benefit relationship of each potential improvement option.

Based on the current standard instrument procedures available at LZU, both runway ends are provided with the lighting and navigational aids necessary to comply with FAA requirements. The existing navigational aids such as approach lighting systems and instrument landing systems meet the requirements for the currently established approaches at LZU. In the future, improved GPS approaches to Runway 7 may be desired. Currently, Runway 7 only provides GPS non-vertically guided approaches. The next chapter will evaluate the feasibility of improved approaches to Runway 7.

Automated Weather Observing System
The current AWOS at the airport is located in the far northeast area of the airport property. Due to the location of the system and its proximity to the runway, inconsistent wind reporting has been a result. Thoughts to either relocate the AWOS or install a wind sensor closer to the runway end have been discussed with airport management. Chapter 5 will explore potential remedies.

Airport Traffic Control Tower

The Airport Traffic Control Tower facility opened in the late 90s. During design, the existing tower structure and cabin were modeled after lighthouses. Since then, the ATCT has required a number of retrofits over the years to comply with FAA standards. Moreover, many of the components that make up this facility need to be upgraded. Although many improvements are necessary, none should be made to the existing facility. This is because the airport truly needs a new ATCT facility.

The current ATCT line of sight, with an approximate floor height of 40 feet above ground level, places concern with growing vegetation and apron expansion. Currently, controllers cannot see a significant portion of the aircraft parking apron located just west of the South Ramp. These obstructions prevent controllers from seeing the aircraft parked in this area. A major concern for this particular line of sight issue concerns the development of future facilities. This line of sight will only worsen once the new intermodal general aviation terminal facility is constructed and aircraft movements on this side of the airfield increase.

Subject to federal funding, different sites on airport property are being considered for the new location of the ATCT shown in **Figure 4-9**.

Figure 4-9: ATCT Possible Relocation Site

Source: Michael Baker International, 2023

General Aviation Facilities

Landside facilities are those necessary for the handling of aircraft and passengers while on the ground. These facilities provide the essential interface between the air and ground transportation modes. The capacity of the various components of each element was examined in relation to projected demand to identify future landside facility needs. This includes components for general aviation needs such as:

- Aircraft storage
- Tiedowns and aprons
- Auto parking and access

Aircraft Storage Requirements

Apron and hangar storage areas for based aircraft include corporate hangars, conventional hangars, T-hangars, and designated apron tie-down locations. It was assumed that a certain percentage of based aircraft, mostly single and multi-engine pistons, would desire apron tie-down parking because it is the lowest cost storage option. However, previous studies indicated that most owners want to be able to protect their aircraft from poor weather and therefore opt for hangar storage.

At LZU, most fixed-winged aircraft are parked on the GA Ramp, although some aircraft park within the FBO hangar. Although some of the existing facilities and tenants at LZU may be able to accommodate additional based aircraft, they are mostly occupied and it would be preferential for new facilities to be developed. For this analysis, it was assumed that all forms of aircraft storage are full at LZU. Therefore, new hangar construction will be needed in the future to accommodate demand.

The following section evaluates the need for based aircraft hangar storage at the airport throughout the 20-year planning period. Hangar requirements were calculated in consideration of the airport's existing and forecast based aircraft mix parking demands. The following section and **Table 4-18** identify the based aircraft parking preferences used to determine future based aircraft storage demands.

Table 4-18: Aircraft Storage Type Preference Distribution

Storage Type	Single-Engine (Piston)	Single-Engine (Turbo)	Multi-Engine (Piston)	Multi-Engine (Turbo)	Jet	Helicopter	Other (Evotl)
Apron Tie-Down	10%	10%	0%	0%	0%	10%	10%
T-Hangars	80%	80%	20%	0%	0%	0%	0%
Conventional	10%	10%	80%	40%	20%	90%	90%
Corporate	0%	0%	0%	60%	80%	0%	0%
Total	100%	100%	100%	100%	100%	100%	100%

Source: Michael Baker International, 2023

The aircraft storage preference was applied to the based aircraft forecast for the 20-year planning period to identify the storage needs at the five-year benchmarks. **Table 4-19** and **Table 4-20** illustrate the 2044 based aircraft capacity requirements for based aircraft. Conventional hangar space is based on a standard of 1,200 square feet for single-engine aircraft and helicopters, 1,400 square feet for multi-engine aircraft, and 1,800 feet for all multi-engine turbine and jet aircraft. Corporate hangar size is determined by the individual organizations constructing these facilities. Therefore, no specific hangar size was calculated, only the number of spaces required.

All T-hangar units are based on an area of 1,400 square feet. Tie-down parking areas are based on Table E-1 in AC 150/5300-13B. The area calculations were then applied to the assumption of based aircraft distribution to determine overall hangar area requirements.

Table 4-19: Tie-down and T-Hangar Requirements

Tie-downs	2022 (Existing)		2024		2029		2034		2044	
Aircraft Type	Units	Area (sf)	**Units**	**Area (sf)**	**Units**	**Area (sf)**	**Units**	**Area (sf)**	**Units**	**Area (sf)**
Single-Engine (Piston)	11	23,541	0.4	826	0.0	0	0.0	0	1.0	2,065
Single-Engine (Turbo)	1	1,858.5	0.4	1,180	0.0	0	0.0	0	0.0	0
Multi-Engine (Piston)	0	0	0.0	0	0.0	0	0.0	0	0.0	0
Helicopter			0.0	0	0.1	295	0.1	295	0.3	420
Other "Evotl"	0	0	0.0	0	0.0	0	0.0	0	0.0	0
Subtotal	12	25,399.5	**1**	**2,006**	**0.1**	**295**	**0.1**	**295**	**1.3**	**2,485**
T-Hangar	**2022 (Existing)**		**2024**		**2029**		**2034**		**2044**	
Aircraft Type	Units	Area (sf)	**Units**	**Area (sf)**	**Units**	**Area (sf)**	**Units**	**Area (sf)**	**Units**	**Area (sf)**
Single-Engine (Piston)	91	127,680	3	4,480	2	2,800	2	2,800	5	6,720
Single-Engine (Turbo)	7	10,080	3	4,480	1	1,400	1	1,400	1	1,400
Multi-Engine (Piston)	0	0	0	0	0	0	0	0	0	0
Other "EVTOL"		0	0	0		0	0	0	0	0
Subtotal	0	137,760	**6**	**8,960**	**3.0**	**4,200**	**3.0**	**4,200**	**6.0**	**8,120**

Note 1: All values are rounded up to the nearest whole number.
Note 2: Tie-down square footage is based on Table E-1, AC 150-5300-13B.
Source: Michael Baker International, 2023

Table 4-20: Conventional and Corporate Hangar Requirements

Conventional Hangars	2022 (Existing)		2024		2029		2034		2044	
Aircraft Type	**No. of Spaces**	**Area (sf)**	**No. of spaces**	**Area (sf)**	**No. of spaces**	**Area (sf)**	**No. of spaces**	**Area (sf)**	**No. of spaces**	**Area (sf)**
Single-Engine (Piston)	11	13,680	0.4	480	0	0	0	0	1.0	1,200
Single-Engine (Turbo)	1	1,080	0.4	480	0	0	0	0	0.0	0
Multi-Engine (Piston)	27	38,080	0	0	0	0	0	0	0.0	0
Multi-Engine (Turbo)	2	4,320	0	0	0	0	0	0	0.0	0
Jet	8	14,400	0	0	1	1,800	1	1,800	2.0	3,600
Helicopter	11	15,120	0	0	1	1,400	1	1400	3.0	4,200
Other "EvotI"									2.0	2,800
Subtotal	61	86,680	**1.0**	**960**	**2.0**	**3,200**	**2.0**	**3,200**	**8.0**	**11,800**
Corporate Hangars	**2022 (Existing)**		**2024**		**2029**		**2034**		**2044**	
Aircraft Type	**No. of Spaces**	**Area (sf)**	**No. of Spaces**	**Area (sf)**	**No. of Spaces**	**Area (sf)**	**No. of Spaces**	**Area (sf)**	**No. of Spaces**	**Area (sf)**
Multi-Engine (Turbo)	**4**	--	**0**	--	**0**	--	**0**	--	**1**	--
Jet	**32**	--	**1**	--	**2**	--	**2**	--	**6**	--
Helicopter	**0**	--	**0**	--	**0**	--	**0**	--	**0**	--
Other "EvotI"										
Subtotal	36	--	**1.0**	--	**2.0**	--	**2.0**	--	**7.0**	--

Note 1: All values are rounded up to the nearest whole number.
Note 2: Tie-down square footage is based on Table E-1, AC 150-5300-13B.
Note 3: Conventional hangar quantities are based on 80'x80' hangar dimensions.
Source: Michael Baker International, 2023

Based on the projected growth of based aircraft using the formulas provided in **Table 4-19** and **Table 4-20**, LZU would need to accommodate two additional marked tie-downs and 18 additional T-hangar units, amounting to approximately 25,480 square feet, 13 parking spaces within conventional-sized hangars amounting to three 80'x 80' conventional hangars, and 12 corporate hangar spaces by the end of the planning horizon. The existing tie-down spaces at LZU are plentiful, therefore no additional spaces are required. Hangar space, however, is at a premium and the master plan should seek to accommodate the minimum demand noted above plus additional capacity if available.

Airport Support Facilities

Additional facility requirements to support the operations at LZU are included in the following sections. These address the requirements for airport administration, airport maintenance, emergency services, security, airport access, etc.

Airport Administration Building

According to Statewide Aviation System Plan, LZU has a 16,000 square feet General Aviation Administration Building. For airports of this size and role, Georgia Statewide Aviation System Plan requires 2,400 square feet of general aviation terminal/administration building. There are no immediate plans to move or renovate the Airport Administration Building.

Airport Maintenance Facility

Presently, there is not a dedicated airport maintenance facility at the airport. Instead, maintenance equipment occupies unit(s) in one of the T-hangars on the South Ramp. Consideration should be given to developing a maintenance facility for maintenance equipment storage and providing work areas for maintenance personnel. The Airport Layout Plan should identify a suitable location for a dedicated maintenance facility.

Emergency Services

Because LZU is a general aviation airport, not a certificated commercial service airport under 14 CFR Part 139, the airport is not required to provide ARFF services or facilities. ARFF services are only required at FAA-certified airports providing scheduled passenger service with greater than nine passenger seats. Unless federal regulations change, there will not be a regulatory requirement for ARFF facilities at the airport. Gwinnett County Fire Station 31 is located approximately 3 miles from LZU and provides sufficient coverage to LZU operations.

Security

Perimeter fencing is used at airports to primarily secure the aircraft operations area. LZU operations areas are completely enclosed by a chain link fence topped by three-strand barbed wire and varying in height from 6 feet to 8 feet. The fence does not always follow the airport property line due to the layout of physical features and actual boundary lines. There are currently several keypad-access gates around the perimeter of the airport located at the airport to provide enhanced security for the airfield. The master plan should consider continued maintenance and improvement to security fencing.

Aviation Fueling Facilities

As noted in the inventory chapter, Aircraft Specialists and Sheltair provide FBO services to the public including two varieties of fuel — 100-Low Lead (AvGas) and Jet A fuel. Decisions for fuel storage requirements are made by the leaseholders themselves. Recently, the FAA has moved forward with initiatives to certify unleaded AvGas in general aviation aircraft, therefore there may be a need to install separate tanks to store this type of fuel. Further, as the industry moves towards NextGen electric-powered aircraft and e-VTOL aircraft, the FBOs may require electrical infrastructure to offer this new form of aviation fuel. The master plan will consider potential improvements to assist with the implementation of unleaded and electric fuels.

Airport Access

Ground access and terminal roadways serve passengers, employees, visitors, and anyone who travels to and from LZU. The roadway system must be able to accommodate peak levels of activity without creating excessive or unwarranted delays. Surface access into the airport includes access roads into the facility and automobile parking spaces available.

According to Georgia's Statewide System Plan, LZU has approximately 529 vehicular parking spaces. Most auto parking at LZU is designed and maintained by individual airport tenants. No major concerns related to auto parking have been expressed by airport stakeholders. Parking requirements for future facilities depend on the intended use of the facility.

The primary access to Airport Administration, ATCT, and FBO is Briscoe Boulevard by way of Hosea Road. Tenants in the North Terminal Area are provided access via Airport Road. Highway access to LZU is convenient to SR 316 via Hurricane Shoals Road NE and Hosea Road. Outside of this study, two separate roadway projects have been highlighted in connection to vehicular access to LZU. One project relates to at-grade access to SR 316 north of LZU while the other pertains to the railroad crossing south of LZU.

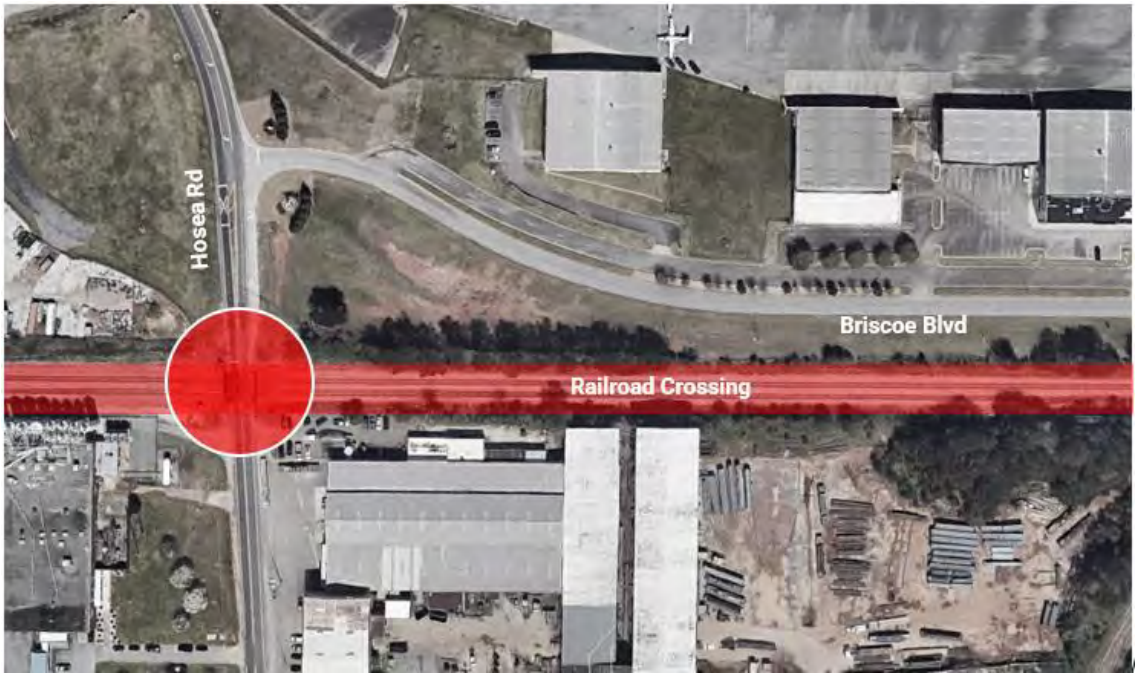
A number of roadway reconstruction projects are being planned by the Georgia Department of Transportation along SR 316, which extends from SR 20 in Gwinnett County to SR 10 in Oconee County displayed in **Figure 4-10**. Due to the multiple at-grade intersections along the highway, the primary challenges to be addressed are high collision rates and traffic congestion that need to be solved. The planned upgrades aim to enhance operations and movement throughout the corridor while reducing possible collision frequency and severity.

There have been occasional reports of trains blocking the railroad crossing at Hosea Road causing tremendous delays for those commuting to and from the airport. The area is shown in **Figure 4-11**. Outside of this study, GDOT has since advocated and put in for a grant to separate by raising or lowering the intersection of Hosea Road and the railroad to allow for uninterrupted access to the airport.

Figure 4-10: Northern Access via SR 316

Source: Michael Baker International, 2023

Figure 4-11: Southern Access and Railroad Crossing



Source: Michael Baker International, 2023

Summary

The following table presents a summary of the recommended facility requirements. Several improvements are necessary to bring the airport in compliance with safety and design standards in addition to other improvements to attract new tenants and airport-related businesses. Chapter 5, Alternative Development, will identify alternatives to meet these requirements.

Ultimately, the facility requirements will transform into the Airport Layout Plan and an airport capital improvement plan for the 20-year planning period. **Table 4-21** provides a summary of the facility requirements that will be evaluated in the alternative development.

Table 4-21: LZU's Requirements/Needs

Category	Requirement/Need
Critical Aircraft Assessment	• Existing: Astra 1124/Bombardier 300 and similar • Future: Gulfstream IV • Ultimate: Gulfstream 500/550/650 and similar
Runway Design Code (RDC)	• Existing: C-II • Future: D-II • Ultimate: D-III
FAA Design Standards Determination	• ROFZ, RSA, OFA, Holdlines, Runway-to-Taxiway dimensions meet standards. Increase Blast Pad with from 100'x150' to 140'x200'. Ensure exit/entry taxiway filet dimensions meet TDG 2B standards.
Airfield Capacity Analysis	• Begin capacity evaluation when airport reaches 138,000 operations
Runway Length/Width	• Sufficient for the planning period
Wind Coverage Analysis	• Existing runway provides sufficient crosswind coverage
Airfield Marking and Lighting	• Consider routine rubber removal, pavement, and marking maintenance
Runway Protection Zone	• Ensure land use control through existing and proposed easements • Consider changes to Runway 7 RPZ if instrument approach upgrades occur
Visual and Navigational Aids	• Evaluate instrument approach upgrades to Runway 7 • Consider relocation of existing AWOS
Aircraft Storage (Minimum Needs Based on Forecast)	• 18T-hangar units • 13 conventional hangars • 12 corporate hangars • Seek additional storage capacity greater than minimum requirements if feasible
Apron Space	• Add additional capacity for itinerant parking during surge events • Evaluate the suitability of pavement strength for itinerant parking
Fuel Storage	• Consider future transition to unleaded AVgas and need for electrical servicing of Nextgen aircraft
Airport Support Facilities	• Airport Administration – No major improvements planned. • ATCT Relocation — Continue to preserve options for a relocation of the ATCT facilities • Maintenance – Identify a suitable location for airport maintenance • Surface access — Incorporate improvements (by others) to SR 316 and Hosea Road • Interior access — Consider controlled-access interior perimeter road, if feasible

Source: Michael Baker International, 2023

Chapter Five: Airport Alternatives

Introduction

The airport alternatives, development, and analysis component of this master plan update consider the facility requirements determined in the previous section, accepted airport standards, and the ultimate goals of the Gwinnett County Airport to produce long-range development concepts. This process is iterative in nature in that it includes evaluation, in some cases, of multiple alternatives to identify the best overall improvement program for the airport.

Once the long-range development program has been determined, short-range improvements can be readily implemented in the Capital Improvement Plan without jeopardizing the ultimate concept. The program will evaluate how to best expand and improve existing airport facilities in terms of overall efficiency and aesthetic quality, meeting demand and the airport's goals and visions while accommodating the logical and efficient development of a future expanded airport facility. The goal of this alternatives analysis is to optimize on-airport land use, maximize the capacity and economic viability of the existing facilities, and identify the facilities and practical stages of future development.

Although the projects outlined in this chapter are designed to meet demand over the next 20 years, they provide growth opportunities beyond the planning period. The following key areas will be addressed in this section of the report:

- Airfield development options
- General aviation improvements
- Support facilities

Design Standards

The FAA has established design criteria to define the physical dimensions of runways and taxiways, as well as the imaginary surfaces surrounding them which protect the safe operation of aircraft at the airport. These design standards also define the separation criteria for the placement of landside facilities. The applicable design standards for LZU fall into existing ARC C-II, future D-II, and ultimate D-III. While taxiways are designed according to the applicable runway and landside facilities, in general the Taxiway Design Group for LZU complies with 2B design standards.

Airfield Improvement

Airfield facility developments (runways and taxiways) create the most impact on the overall airport layout since they generally account for the largest land use and serve as the focal point for all other developments. Therefore, it is important to first identify the possible airfield alternatives while keeping in mind other needed improvements, such as hangar developments and supporting facilities. Doing so leads to an airport layout that enhances the general working environment at the airport. This section presents a couple of airfield improvements that address the efficiency and safety requirements identified in Chapter 4, Facility Requirements.

No Action

The "no action" alternative essentially considers keeping the airport in its present condition and not providing for any type of improvement to the existing facilities to accommodate future demand. This alternative would primarily

result in the airport's inability to satisfy the projected aviation demands of the airport service area and experience additional economic growth through the development of viable parcels of land. Moreover, many airport facilities, such as the airport traffic control tower, have neared the end of their useful life and will need to be replaced in the near future.

The airport's aviation forecasts and the analysis of facility requirements indicated a potential need for certain facilities at the airport. Without these improvements to the airport facilities, regular and potential users of the airport would be constrained from taking maximum advantage of the airport's air transportation capabilities. The unavoidable consequences of the "no action" alternative would involve the airport's inability to attract potential airport users and expand economic development in Gwinnett County. Corporate aviation plays a major role in the transportation of business leaders. Thus, an airport's facilities are often the first impression many corporate officials will have of the community. If the airport does not have the capability to meet the terminal, hangar, apron, or airfield needs of the potential users, the airport's capabilities to accommodate businesses that rely on air transportation will be diminished.

Runway 7-25 Improvements

Currently, Runway 7-25 is 6,001 feet long and 100 feet wide and meets the operational requirements of both the existing, future, and ultimate critical aircraft expected to operate at the airport. The last two master plans recommended a parallel runway that will be examined in this section. In addition, the blast pads on both runway ends are 100 feet by 150 feet and do not meet standards, as mentioned in **Table 4-21*: LZU's Requirements/Needs***. With improperly sized blast pads at the end of each runway, ground erosion by the wind forces produced by airplanes at the initiation of takeoff operations is more prone.

Parallel Runway

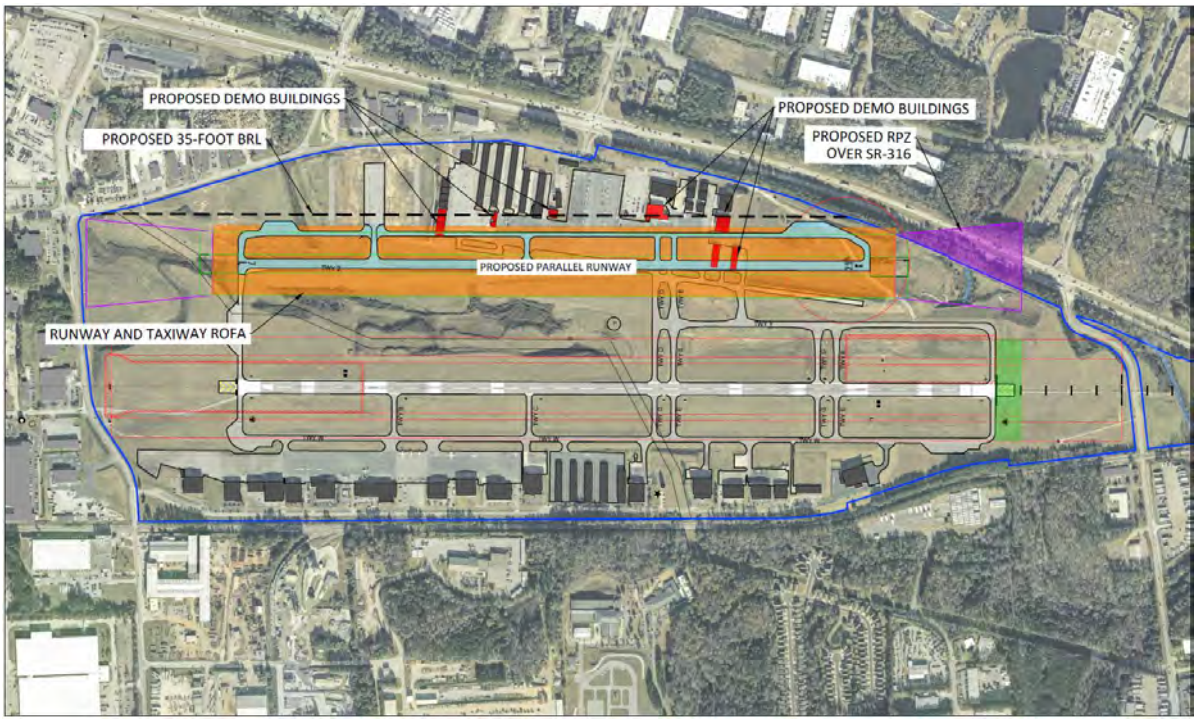
The previous master plan anticipated that operations (takeoffs and landings) would exceed the operational capacity at the airport today. Therefore, identified changes to the airfield system would be required to increase future capacity needs. The primary recommendation was to construct a parallel runway approximately 940 feet north of Runway 7-25. The proposed parallel runway extended 5,000 feet long and 75 feet wide and was expected to manage small aircraft and flight school training operations in efforts to increase operational capacity shown in **Figure 5-1**.

Based on the previous master plan, a great portion of the North Ramp, Taxiway Z, Taxiway X, two rows of T-hangars, and two box hangars would have to be cleared to accommodate the proposed parallel runway safety areas. In addition, due to the runway placement, the airspace will be impacted, rendering a new building restriction line traversing the North Ramp. The 35-foot building restriction line would interfere with additional facilities on the North Ramp including three box hangars to the west, two FBO (Sheltair) terminal hangars, and a 100-foot by 120-foot storage hangar on the eastern side of the ramp. The proposed parallel runway would also eliminate the opportunity for aeronautical development on the northeast side of the airport.

Since the previous master plan, the FAA *Memorandum, Interim Guidance on Land Uses Within a Runway Protection Zone* published in September 2012 provides guidelines related to RPZ land use compatibility. This guidance clarifies physical features that are considered incompatible land uses. Among the list was the avoidance of new transportation facilities such as railroads, public roads, and highways. As shown in **Figure 5-1**, the proposed RPZ for 25R crosses over SR 316 and is not recommended from a land use perspective.

The parallel runway from the previous master plans is also not supported by the projected capacity needs discussed in Chapter 4. The airport is not expected to exceed the 80% capacity threshold, at which point the airport would begin implementing capacity projects. It is also likely the airport could improve taxiway geometry to increase capacity rather than construct a second runway.

Figure 5-1: Previous Master Plan Proposed Parallel Runway

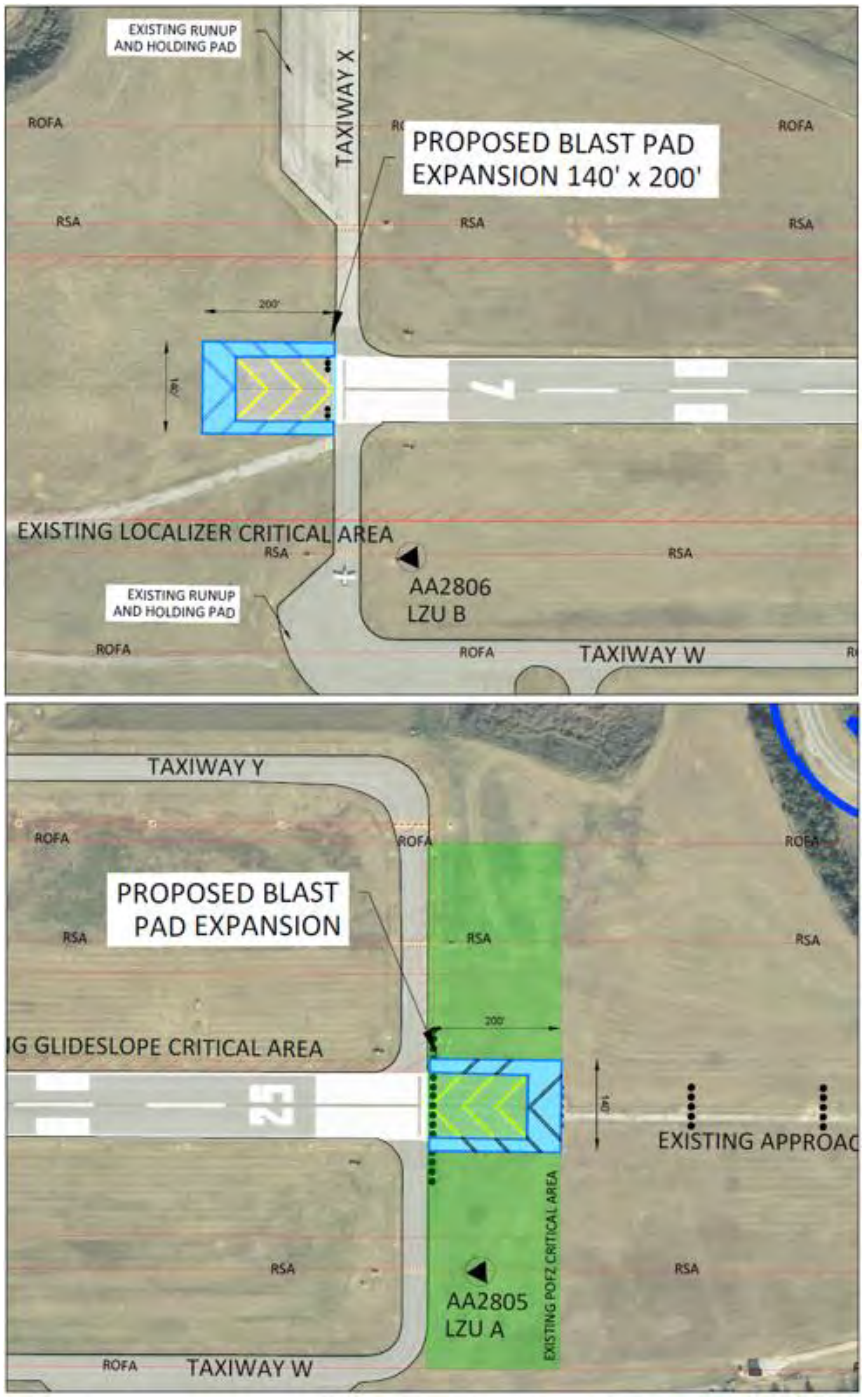


Source: Michael Baker International, 2023

Correction of Blast Pads for Runway 7-25

As mentioned, a runway blast pad is a surface adjacent to the end of the runway provided to reduce the erosive effect of jet blast. Currently, the blast pads do not meet C-II design standards. Future planning considers constructing blast pads as shown in **Figure 5-2**. The future blast pads will be improved to meet the 140-foot wide by 200-foot-long requirements as part of the preferred development plan.

Figure 5-2: Runway 7-25 Blast Pads



Source: Michael Baker International, 2023

Taxiway Development

In 2021, LZU underwent a significant infrastructure upgrade with the extension of Taxiway Y, marking the latest major taxiway project at the airport. Recommendations for the taxiway, as mentioned in the Taxiway Configuration Requirements section in Chapter 4, include improvements at taxiway intersections throughout the airfield to meet future taxiway fillet geometry standards. According to AC 150/5300-13B, fillet design is based on the Taxiway Design Group of the most demanding aircraft.

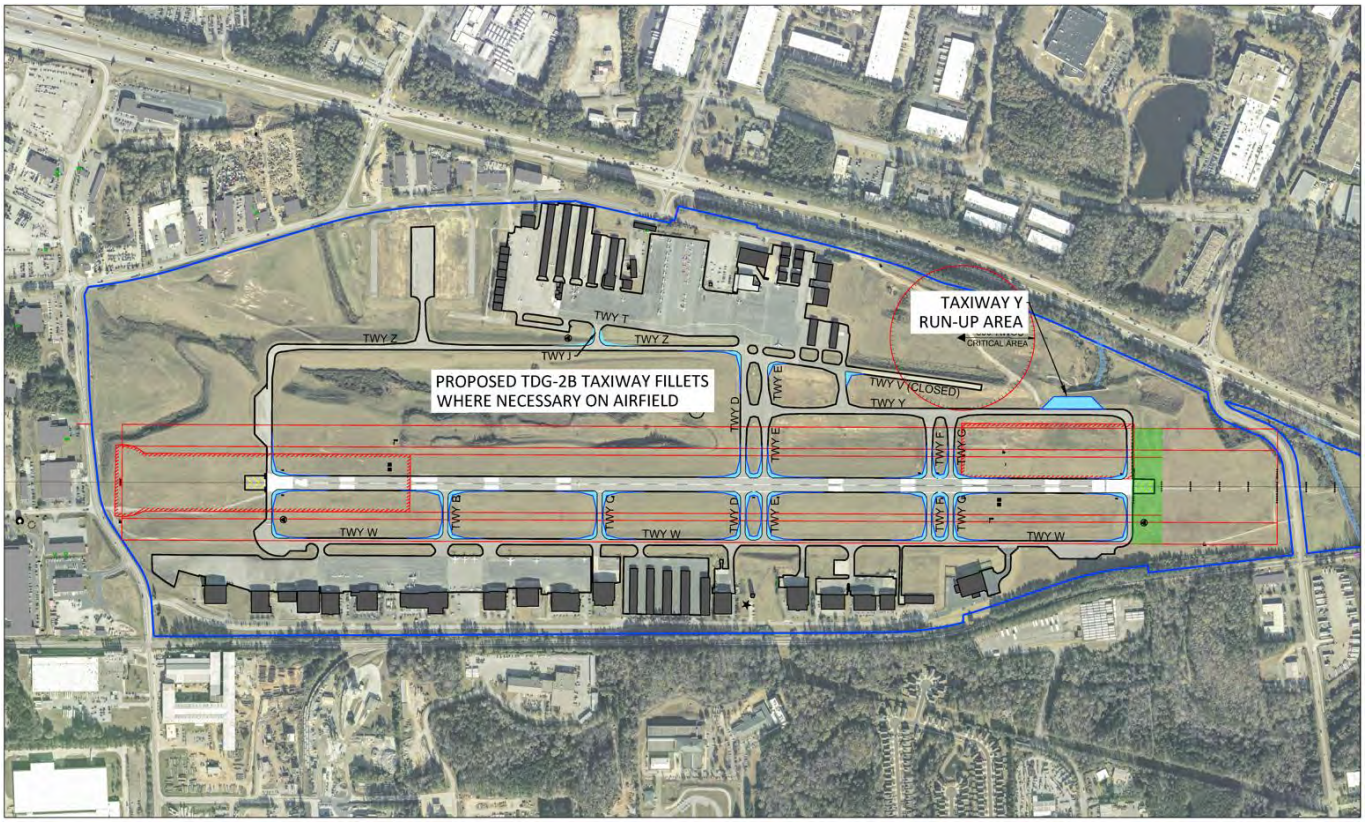
At LZU, the existing critical aircraft is the Astra 1125 which requires TDG-1B design standards. However, future taxiway dimensions will need to comply with TDG 2B standards that correlate to the ultimate critical aircraft, Gulfstream 650, and similar aircraft. The taxiway lead-in fillets associated with parallel Taxiways W and Z, as well as connector Taxiways D and E, should be reconfigured in accordance with TDG-2B as the critical aircraft changes. As such, new pavement should be added to meet the pavement fillet requirements of the critical aircraft displayed in **Figure 5-3**. In addition, a run-up area for Runway 25 is recommended for Taxiway Y to aid in streamlining aircraft operations.

Currently, there are eight entrance/exit taxiways on the south side of Runway 7-25. This includes the one entrance/exit taxiway at each runway end, two pairs of dual connector taxiways, Taxiway D and E and Taxiway F and G on the eastern portion of the runway, and two connector taxiways — one midfield and the other adjacent to Runway 7 touchdown zone marking.

The master plan concept includes the construction of two additional exit taxiways in the form of high-speed exits eliminating Taxiway B. The design of these taxiways allows aircraft to exit the runway at a higher speed, thus reducing the amount of time an aircraft occupies the runway. The high-speed exit taxiways are proposed approximately 1,900 feet from Runway 7 end and 2,069 feet from Runway 25 end shown in **Figure 5-4**.

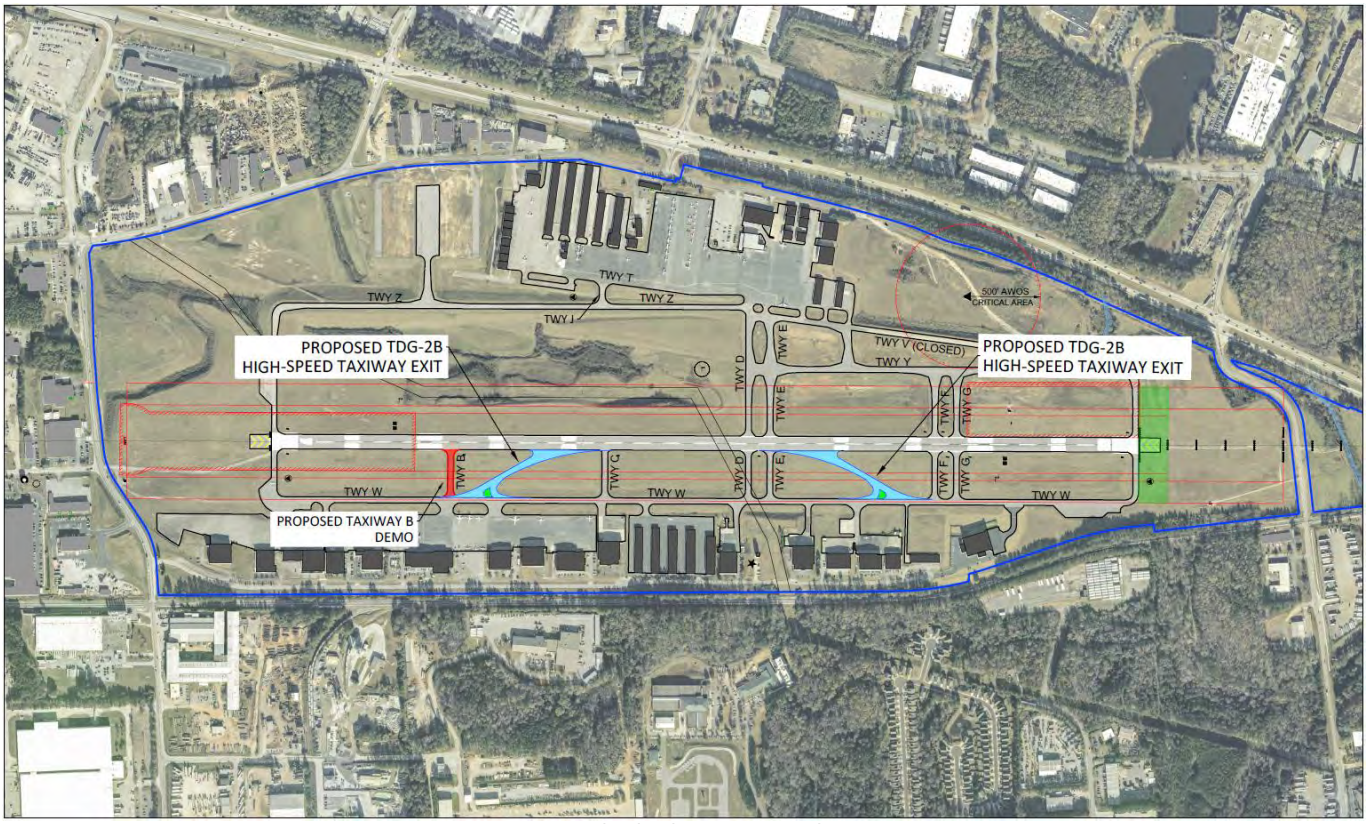
Based on operational projections, these highspeed taxiways would be planned during the 20-year planning period but would not be constructed during the planning period since the airport will not reach 80% capacity until after the planning period.

Figure 5-3: Taxiway Fillet Upgrade



Source: Michael Baker International, 2023

Figure 5-4: Possible High-Speed Taxiway



Source: Michael Baker International, 2023

Airfield Lighting and Signage

In 2021, the airport upgraded many of its airfield lights from incandescent to LED including Runway 7-25 and north portions of Taxiways D, E, F, G, H, Y, V, and Z. Airfield signage is also in the process of being upgraded along the south Taxiways W, B, C, D, E, F, and G. Upon completion in the 2024 timeframe, the entire airfield will have been upgraded to modern LED lighting and signage.

Vertical Glideslope Indicator

Within the inventory chapter, a comprehensive assessment of LZU's infrastructure has been conducted. During this evaluation, we identified the existing PAPIs serving Runway 7-25 as having reached the end of their useful life. PAPIs play a critical role in assisting pilots during approach and landing, providing visual cues to guide them along the correct glide path. The recommendation is to replace the existing PAPIs for Runway 7-25 within the near future. By upgrading to modern, reliable units, we can enhance safety, reduce maintenance costs, and ensure compliance with industry standards.

Runway Safety Areas

Runway 7 Runway Protection Zone

The runway protection zone is a trapezoidal surface that begins 200 feet from the runway threshold. The RPZ is a designated area beyond the runway end that the FAA encourages airports to own or, in some fashion, maintain positive control over the types of land uses within the RPZ. The goal of the RPZ standard is to increase safety for

both pilots and people on the ground by maintaining the RPZ free of items that attract congregations of people on the ground.

The FAA does not necessarily require the fee simple acquisition of the RPZ area, but it highly recommends that the airport have positive control over development within the RPZ. Avigation easements that limit land uses within the RPZ can be pursued if fee simple purchase is not possible. Often, local land use planning and zoning can limit future development within an undeveloped RPZ. Many times, fee simple acquisition is the only means to remove existing incompatible objects within an RPZ.

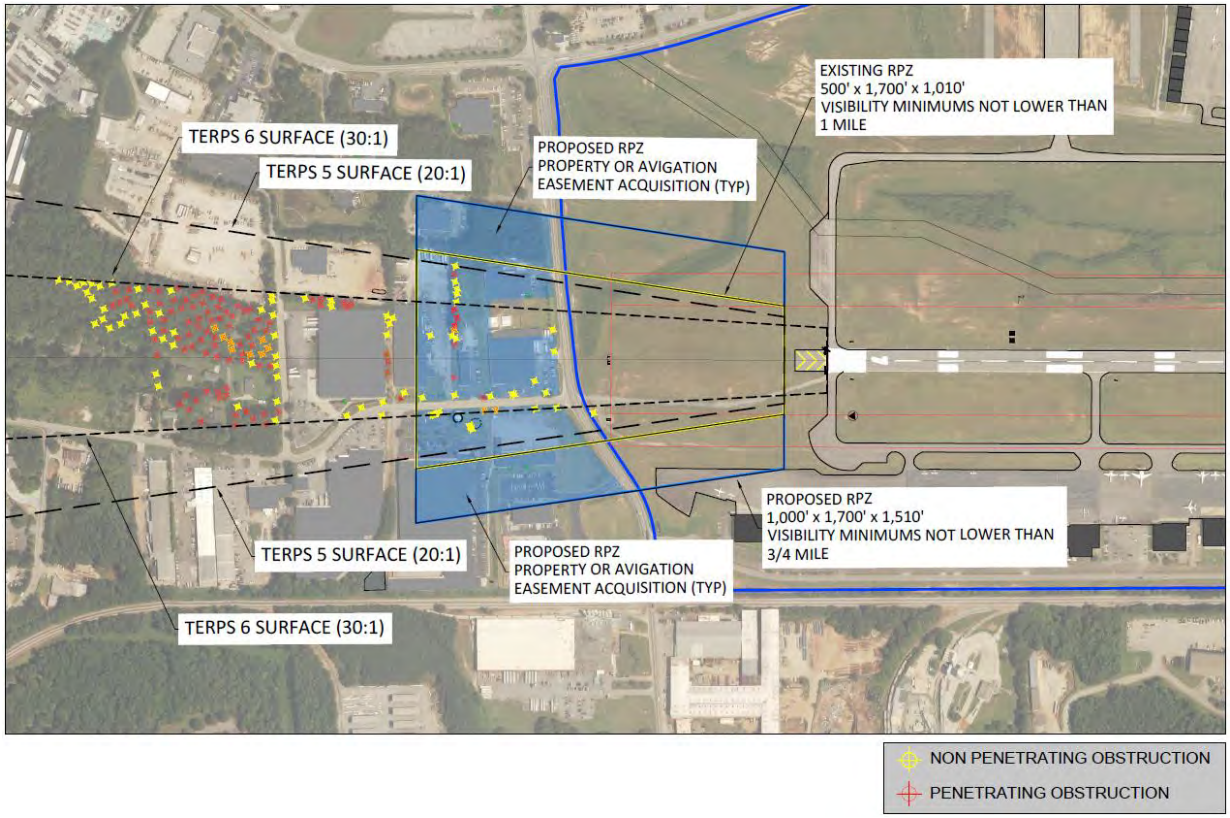
Upgrading Runway 7 Approach

Upgrading Runway 7 to an LPV approach is being considered as a part of the master plan. The advantage of establishing an LPV approach is that it provides vertical guidance down to ILS minimums without the need for ground-based NAVAIDs, granting minimums as low as 3/4 miles. The Master Plan TAC urged this improvement as an operational priority as it would reduce the need to land at alternate airports in poor weather. Runway 7 currently has a 1-mile visibility minimum with a non-precision, non-vertically guided approach. As depicted in **Figure 5-5**, the RPZ begins 200 feet from the runway end, is centered on the extended runway centerline, is 500 feet wide at the inner portion, extends 1,700 feet, and is 1,010 feet wide at the outer portion.

Terminal Instrument Procedures are the guidelines in the United States for creating and assessing instrument flight procedures. The FAA used TERPS standards to establish the minimum obstacle clearance necessary to ensure acceptable obstruction protection. The existing surface for Runway 7 is Type 4, which has a 20:1 slope. Encompassed within the RPZ and the Type 4 TERPS surface is a portion of Hosea Road and several off-airport buildings with commercial/industrial characteristics. The airport has an avigation easement for approximately 0.69 acres. However, 15.5 acres within Runway 7 RPZ is not controlled by LZU.

By upgrading Runway 7 to an LPV approach with a visibility minimum of ¾ mile, changes to the RPZ and TERPS surface will occur as a direct result. The proposed RPZ will expand to 1,000 feet wide at the inner portion, extend 1,700 feet, and be 1,510 feet wide at the outer portion. TERPS surface Type 5 and Type 6 would be introduced to Runway 7. The airport would have to purchase approximately 20.7 acres of property or easement for obstruction and land use protection purposes.

Figure 5-5: Upgrading Runway 7 – LPV Approach



Source: Michael Baker International, 2024

Vertiport

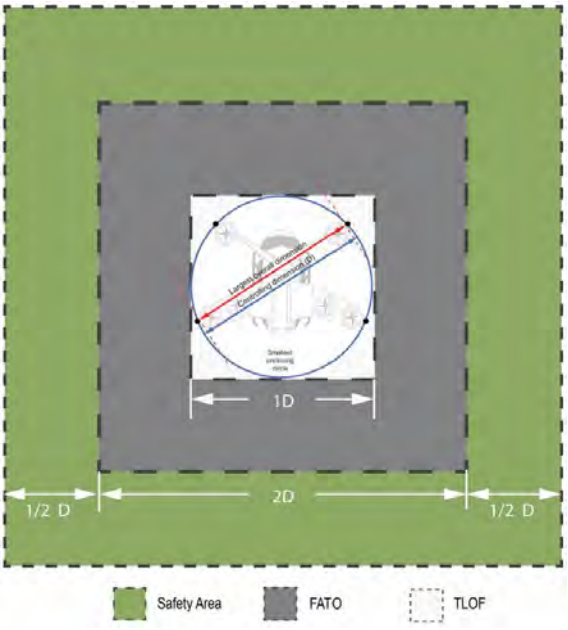
Advanced Air Mobility is a new aviation technology that employs electrically powered vertical takeoff and landing aircraft to transport people over short distances. This type of activity is forecasted to emerge at LZU during the planning period. It is recommended that a vertiport landing pad be established in the northwest area of the airport west of the Central Basing Area. This location would minimize eVOTLs traversing over the portions of the North Apron where fixed-wing aircraft predominantly park. However, if any FBO or tenants desire to accommodate eVTOL on their lease area, that may be feasible. The anticipated vertiport use-case at LZU will be servicing those eVTOL aircraft on the same basis that regular aircraft are served today. These aircraft will require electricity (fuel), maintenance, passenger conveniences, pilot services, parking, and storage at the least.

According to FAA's Engineering Brief #105, Vertiport Design, the landing and takeoff area and associated safety areas are based on the controlling dimensions of the design eVTOL aircraft displayed in **Figure 5-6**. The controlling area for the eVTOL pad is based on the most demanding eVOTL. The area intended for airplane takeoff and landing is known as a "pad" and is made up of three parts. The region where an aircraft lands and/or lifts off is known as the touchdown and lift-off field (TLOF). The final approach and take-off area (FATO) is a defined area over which the pilot completes the final phase of the approach in the form of hovering or landing. Lastly, the safety area (SA) encases both the TLOF and FATO and lowers the risk of harm to aircraft from unintentionally veering from the FATO.

As it relates to electrical demand, substations are likely to be required if electrical demand exceeds present capacity. This is an important factor for vertiport installation to guarantee that the infrastructure in place is capable of handling the charging of electric vehicles.

The proposed vertiport site plan will be examined later in this chapter.

Figure 5-6: Vertiport Landing Pad Dimensional Requirements



Source: FAA Airport Engineering Division, Engineering Brief NO. 105, Michael Baker International, 2023

AWOS Relocation

The airport is equipped with an Automated Weather Observation System III (AWOS-III) which provides automated weather observations 24 hours per day; however, as reported by the Master Plan TAC, inconsistent wind reporting has resulted from the system due to its inadequate proximity to the runway. This study is considering the possibility of relocating the present AWOS-III closer to the airfield to help ensure more accurate reporting.

In addition, the existing AWOS-III sits on the northeast corner of the airport north of a closed taxiway. Due to its siting criteria, this location limits potential development in the area. According to FAA guidelines, the AWOS has a 1,000-foot critical area that limits the height of buildings that could disrupt the function of its wind sensor. As a result, the critical area limits landside development in this quadrant. This study examines two locations for the AWOS-III as displayed in **Figure 5-7**.

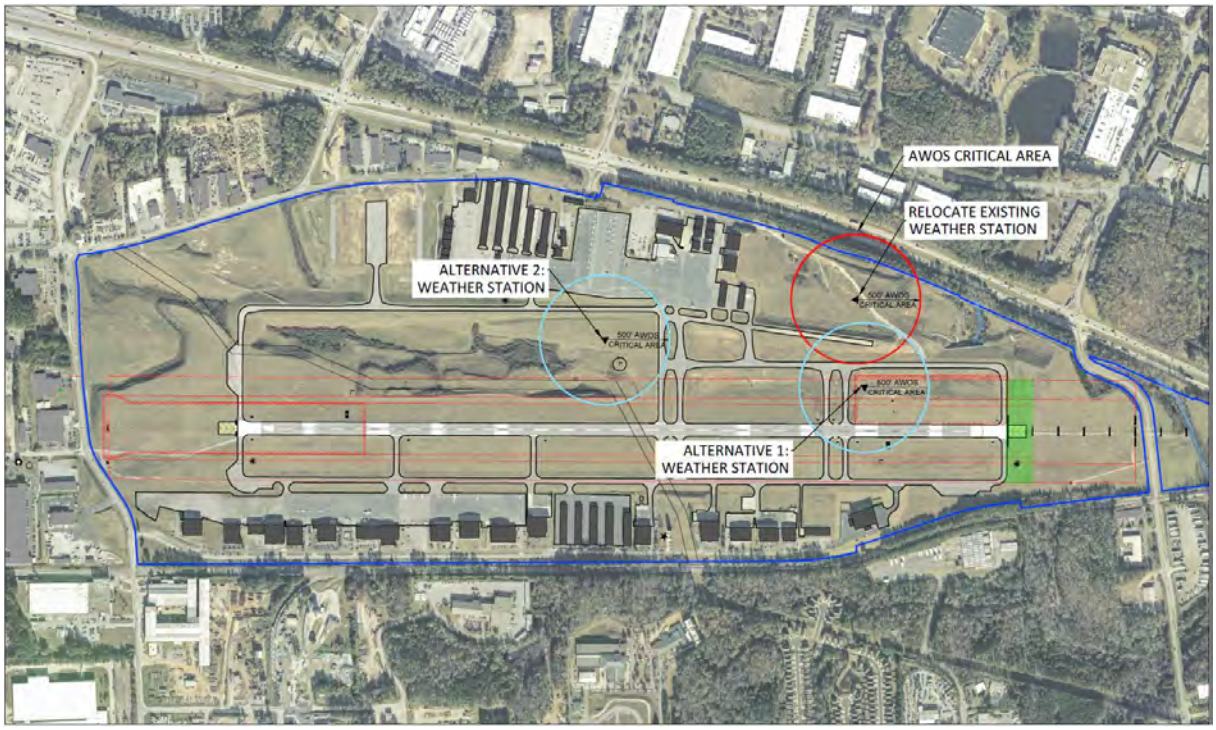
Alternative 1: AWOS Location – Glideslope

The first potential location for the AWOS-III is within the critical area of the Runway 25 glideslope. By placing the weather system adjacent to the glideslope, it will ensure a more accurate reading. However, this option falls with Runway 7-25 ROFA. According to FAA AC 150-5300-13B, Airport Design, weather reporting systems like AWOS and ASOS are restricted from being within the RSA and ROFA. If preferred, FAA coordination and approval will be required.

Alternative 2: AWOS Location – Segmented Circle and Windsock

The following option for the AWOS-III location is placing the system next to the current segmented circle mid-airfield. Placing the weather reporting system in this location restricts impact to future airfield and landside development. In addition, this alternative falls outside of Runway 7-25, safely eliminating the critical need for FAA approval and making it the preferred option.

Figure 5-7: Relocating the AWOS-III



Source: Michael Baker International, 2023

Landside Improvements

This section provides an overview of the proposed development alternatives for the general aviation facilities to meet the future facility requirements identified in Chapter 4, Facility Requirements.

General Aviation Improvements

Several development sites were evaluated for general aviation landside area improvements. All the proposed development objectives displayed above can be accommodated within the footprint of the existing airport property. The following development objectives are noted for the general aviation area expansion to meet the ultimate (2044) facility requirements:

- Increase hangar space for jet and turboprop aircraft by roughly 13 conventional hangars, 12 corporate hangars, and four T-hangars
- Proposed Vertiport site
- Establish new Air Traffic Control Tower site
- Construct Perimeter Road

These development objectives were used to guide the creation of the development alternatives discussed in the following sections.

General Aviation – Vertiport and Hangar Storage

The relatively clear land area (12.62 acres) situated adjacent to and west of the North Basing Area and north of Runway 7-25 offers direct and unrestricted access to the airfield via Taxiway Z. As a part of this Airport Master Plan goal to achieve the highest and best aviation-related use of this area, it is recommended that this area be conserved for the proposed vertiport and both conventional and corporate hangars.

This plan, shown in **Figure 5-8,** depicts a 35-foot taxiway that grants access to said area with a two-bay vertiport to the west with vehicular parking suitable for both conventional and electric vehicles. Vehicle access is granted by Hurricane Shoals Road. The approach and departure surfaces of the vertiport are oriented 135 degrees from the direction of the predominant wind sufficiently clearing Hurricane Shoals Road. According to the FAA, the preferred approach/departure surface is based on the predominant wind direction. Where a reciprocal approach/departure surface is not possible in the opposite direction, use a minimum 135-degree angle between the two surfaces.

East of the vertiport lays five proposed storage hangars. One 135-by-100-foot corporate hangar is proposed between the approach and departure surfaces of the vertiport. In addition, three 100-by-100-foot corporate hangars and one 80-by-80-foot conventional hangar are planned within the vicinity.

The most significant challenge to developing this site would be the grading and drainage required to meet the existing elevation of the adjoining taxiway.

General Aviation – North Basing Ramp

In 2019, the airport began preparing 16.7 acres of land west of the North Ramp for hangar development with two access points provided via Hurricane Shoals Road as illustrated in **Figure 5-9**. While the exact hangar layout will be determined by future leaseholders, this concept depicts a total of nine 100-foot by 100-foot corporate hangars with devoted parking. Two 80-foot by 80-foot conventional hangars anchor the top of the ramp with parking as well.

General Aviation – Northeast Ramp

Within this study, it has been determined to relocate the weather station located northeast of the airport property. Relocating the weather station will open up approximately 18 acres of land for development. It is recommended that this area be preserved for the continued future demand-driven phased infill development of general aviation facilities that will most likely include but would not be limited to a variety of hangar types and aircraft maintenance facilities.

Northeast Ramp Alternative 1

Displayed in **Figure 5-10,** on the far east end of the North Ramp lays two T-hangars that have neared the end of their useful life and will need to be replaced in the near future. This proposed concept displays a complex of 10 80-foot by 80-foot conventional hangars on the eastern portion of the North Ramp replacing two of the dilapidated T-hangars. Pavement infill is required to allow aircraft circulation north of Taxiway Y.

The additional development on the northeast side of the airport requires reopening Taxiway V or connecting to Taxiway Y. A proposed private hangar and maintenance building is proposed east of the North Ramp with 10,205 square yards of apron north of Taxiway V. In addition, four 10-unit T-hangars replaced the existing weather station and granted aircraft access via Taxiway V. Vehicular parking and access for the Northeast Ramp is provided by Airport Road.

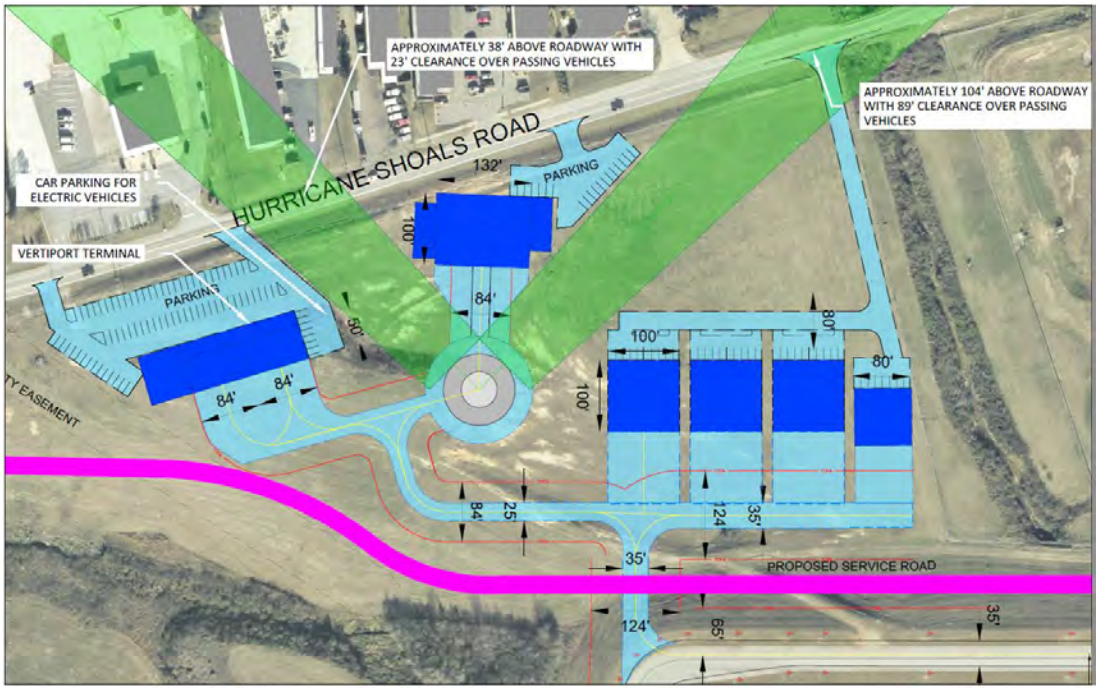
Northeast Ramp Alternative 2

Northeast Ramp Alternative 2, as depicted in **Figure 5-11**, shares common improvement plans as Alternative 1, including the relocation of the existing weather station, a private hangar and maintenance building, and the reopening of Taxiway V. Unlike Alternative 1, Alternative 2 proposes a total of eight corporate-size hangars east of

the private hangar and maintenance building. Of the eight proposed corporate hangars, four are planned as 100-foot by 100-foot corporate hangars, while the remaining four are planned for 100-foot by 120-foot corporate-size hangars. Aircraft access is provided by Taxiway V with two areas dedicated to vehicular parking along Airport Road.

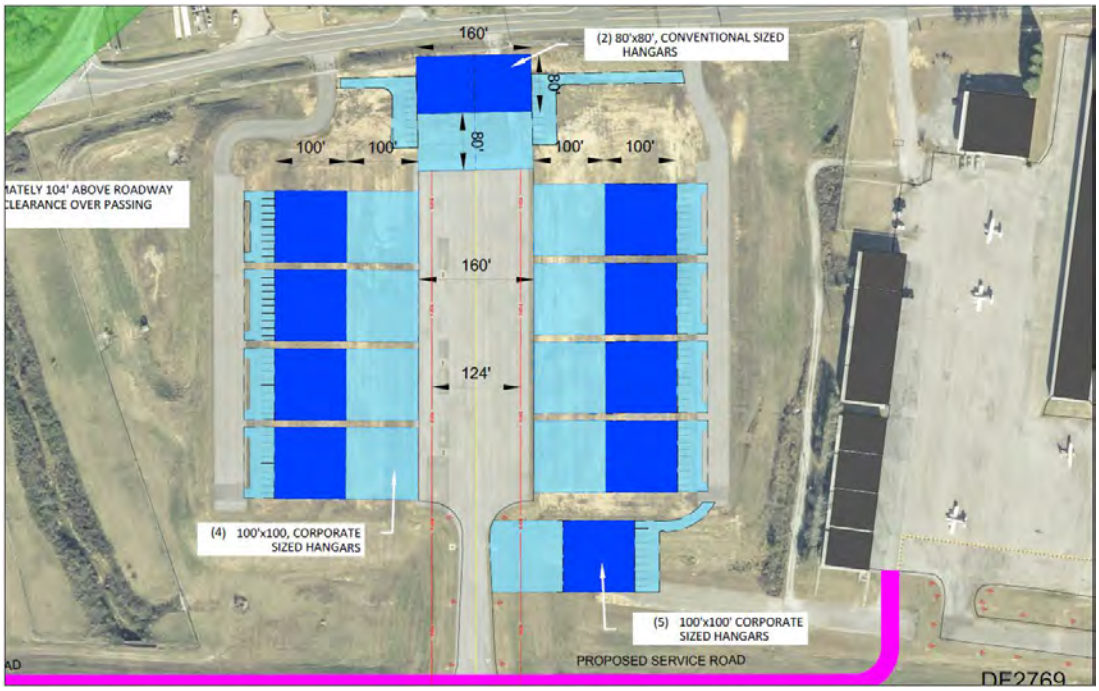
Similar to the North Ramp, the most significant challenge to developing this site would be the grading and drainage required to connect to the existing taxiways.

Figure 5-8: Proposed Vertiport and Northwest Ramp Hangar Layout



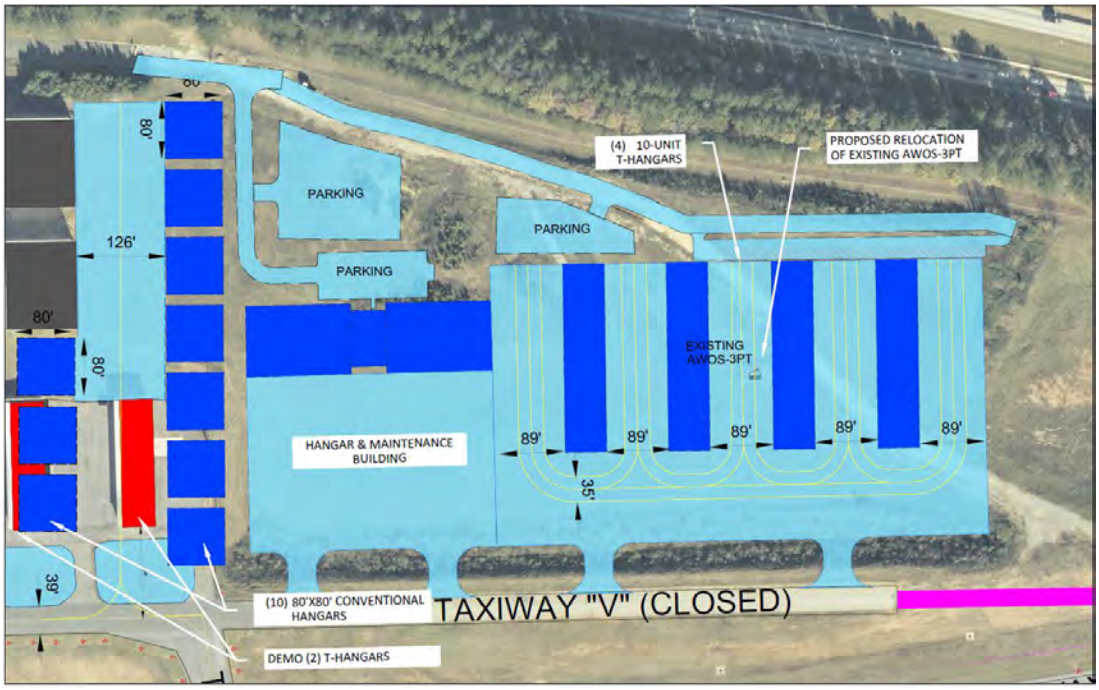
Source: Michael Baker International, 2023

Figure 5-9: North Basing Area



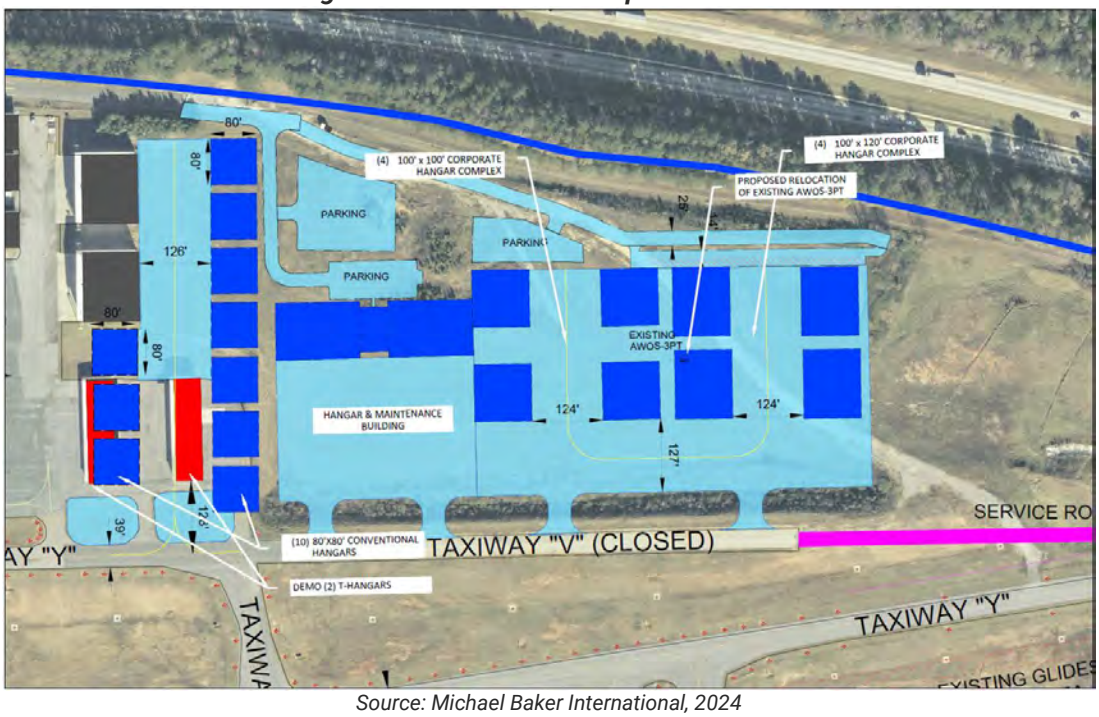
Source: Michael Baker International, 2023

Figure 5-10: Northeast Ramp Alternative 1



Source: Michael Baker International, 2023

Figure 5-11: Northeast Ramp Alternative 2



Source: Michael Baker International, 2024

Waste Oil

Waste oil is generated from various aircraft maintenance activities at the airport. Waste oil poses environmental and health risks if not properly managed as it can contaminate soil, water, and air. Each airport user is responsible for disposing of waste oil properly in accordance with local, state, and federal regulations. Therefore, as part of the sustainability initiative, LZU is considering effective and convenient waste oil disposal options for airport users.

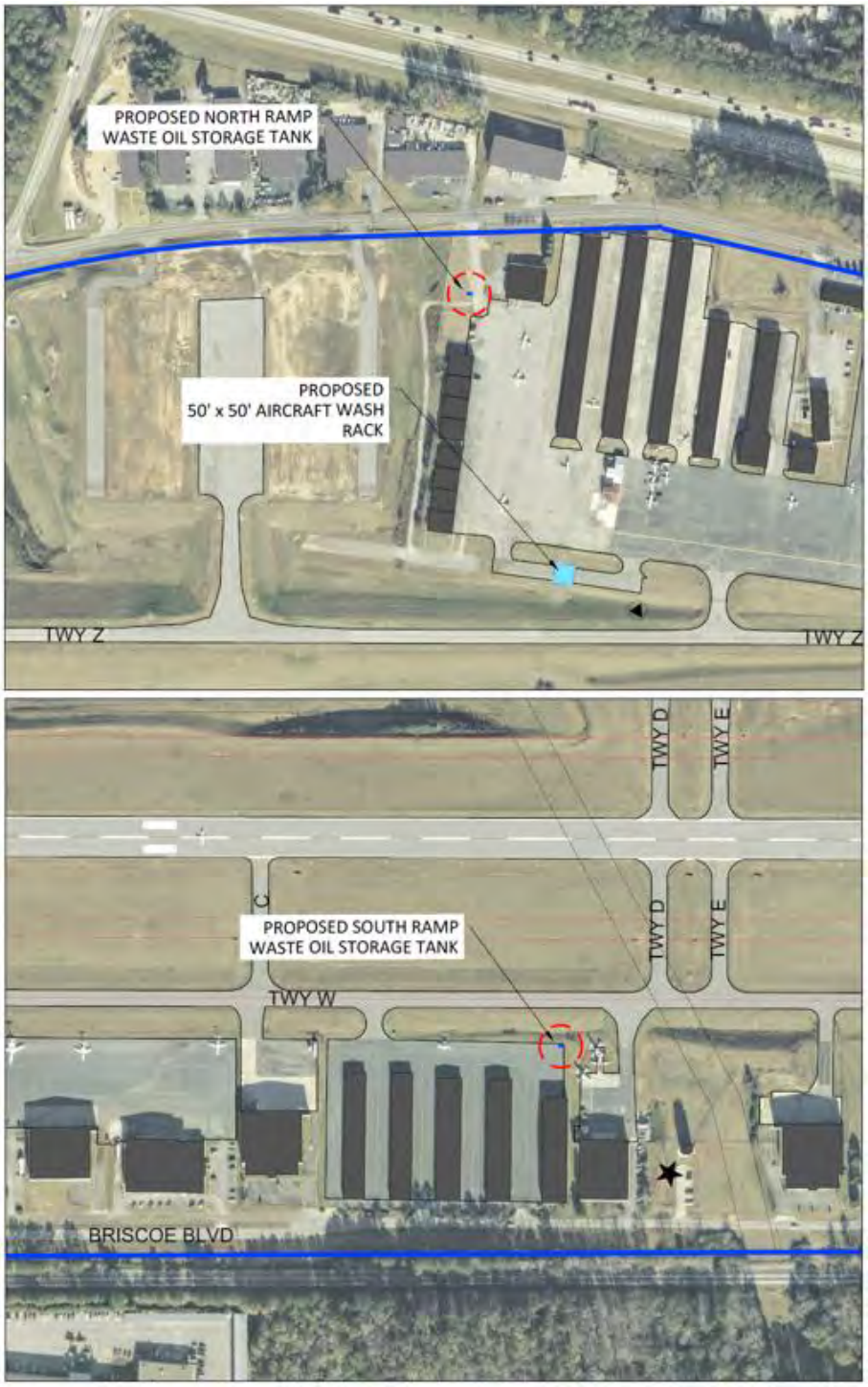
At LZU, plans are underway for the installation of two 500-gallon leak-free waste oil storage tanks on the North Ramp near the FBO, with an additional tank slated for placement on the South Ramp near the T-hangar area as shown on **Figure 5-12**. This dual location approach is designed to optimize waste management across the airport.

Aircraft Wash Rack

An aircraft wash rack is also recommended as part of this master plan study. Installing an aircraft wash rack is a valuable addition to LZU as it can improve service quality, environmental performance, and customer satisfaction at the airport. An aircraft wash rack is a facility that allows for the cleaning of aircraft using water, chemicals, and equipment. Wash racks help aircraft owners and operators maintain the appearance, performance, and safety of their aircraft as well as prevent corrosion, contamination, and environmental damages.

A 50-foot by 50-foot aircraft wash rack is planned on a U-shaped taxiway as shown in **Figure 5-12.** This location is deemed the best location due to the ability for aircraft to easily access and exit the facility.

Figure 5-12: Waste Oil and Aircraft Wash Rack



Source: Michael Baker International, 2024

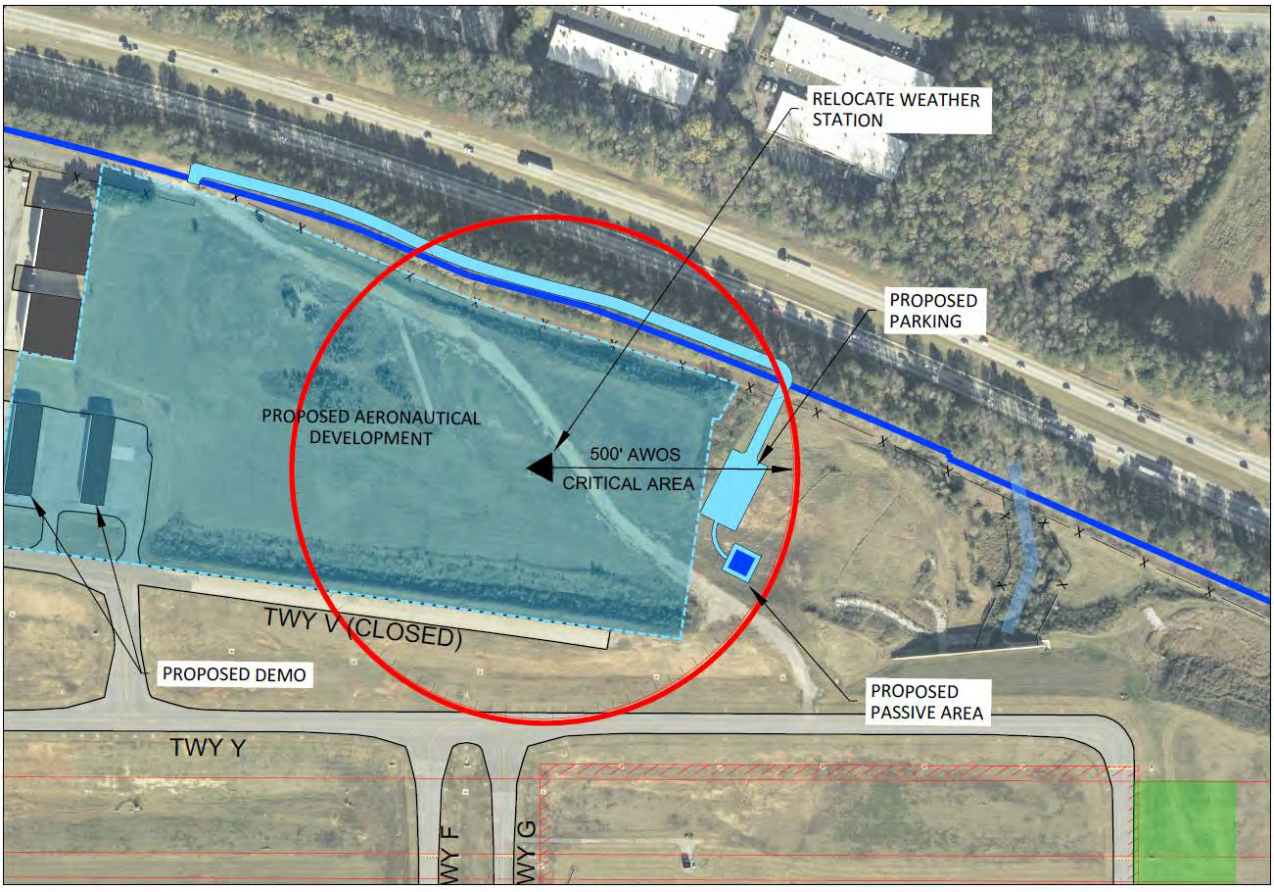
Passive Use Area

Passive parks are public green spaces that provide environmental and social benefits without requiring intensive maintenance or active use. By creating a passive park at the airport, LZU can enhance its sustainability by improving air quality and increasing biodiversity along with other positive social and community ramifications. The most suitable area on airport property to accommodate this amenity is in the northeast area of the airport north of closed Taxiway V and adjacent to the existing AWOS weather station shown in **Figure 5-13**.

Located outside of the airport perimeter fence, this area is not needed for aeronautical uses. The proposed passive area would feature a gravel roadway leading to the park, gravel parking and a gravel walking path, and a viewing area/gazebo. A new gate is planned to be installed on the outside of the airport perimeter fence to minimize operational impacts to the airport. Minimal earthwork will be required to make the site suitable.

The airport also intends to partner with the Georgia Beekeepers Association and other organizations that work with pollinators to provide an outdoor classroom environment and opportunity for local schools. The park will feature a variety of native plants and vegetation to enhance and encourage the bee population and learning. As an amenity to the public, the space would be suited for educational opportunities and outreach in an aviation context.

Figure 5-13: Proposed Passive Use Area



Source: Michael Baker International, 2024

Air Traffic Control Tower
Other improvements to be considered include the relocation and raising of the Air Traffic Control Tower. As a result, space allocation and access for this purpose will be addressed in this section. An important factor that affects the areas available for future landside development is a clear line of sight view of the airfield movement areas from the ATCT. With a clear line of sight, the next factors influencing ATCT site determination are centralized locations on airport property and avoidance of tenant lease areas.

Three prospective ATCT locations, illustrated in **Figure 4-9**, have been studied to determine the potential impact of a new ATCT on the feasible regions available for general aviation growth.

Alternative A: South Apron (Existing ATCT Site)
The existing ATCT site is located relatively midfield on the South Ramp displayed in **Figure 5-14**. A new ATCT would be constructed approximately 65 feet to the south within the existing 10-spot parking lot. The height of the proposed ATCT is planned for 102 feet AGL.

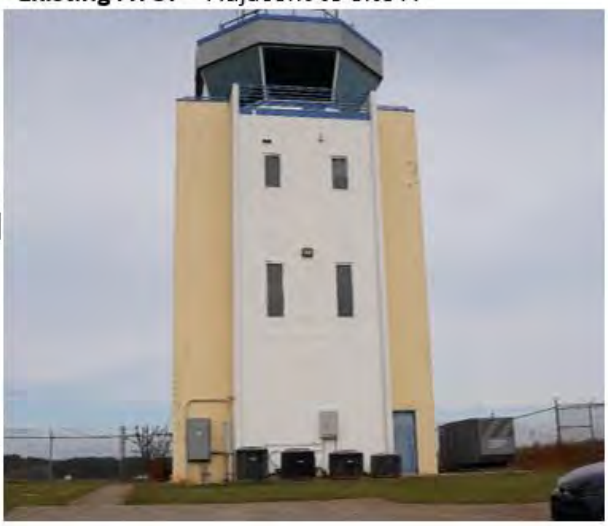
Alternative B
One of the alternatives identified is to replace the ATCT on the North Ramp as shown in **Figure 5-14**. The concept places the proposed ATCT west adjacent to the existing FBO terminal building using a portion of the existing parking lot. The ATCT height is proposed at 113 feet AGL and provides adequate line of sight to the airfield.

Alternative C: North Apron (West)
Similar to Alternative B, this alternative examines the spatial feasibility of replacing the ATCT on the North Ramp south of the Gwinnett County Admin Storage building that would be demolished. This concept includes a proposed ATCT at a planned height of 102 feet AGL and provides a sufficient line of sight to the airfield. Parking is located north of the proposed ATCT. This concept is illustrated in **Figure 5-14**.

In 2023, the airport completed a preliminary siting study evaluating these three sites. In 2024, the FAA completed its own evaluation. Findings from each analysis determined Site B as the ideal site for the proposed ATCT. Ultimate relocation to Site B would only occur should funding for ATCT relocation become available by the FAA.

Figure 5-14: ATCT Site Alternatives

Existing ATCT – Adjacent to Site A



Source: Michael Baker International, 2024

Surface Access

This section presents the known surface access improvements near LZU currently underway or under consideration by the airport, state, and county departments of transportation.

Airport Perimeter Road and Cedar Road

Due to the lack of internal access between the north side and south side of the airfield, it is proposed that an internal perimeter road be provided for service and security vehicles if terrain and aeronautical setbacks allow. Access in this manner could reduce dependency on exterior roads and enhance airport response during emergencies.

A perimeter road could extend from Airport Road north of North Ramp FBO running alongside the northern property line and connecting to soon-to-be-closed Cedars Road. This service road could reconnect further south on closed Cedars Road to Briscoe Boulevard. Along the southwest side of LZU, the service road could extend north and outside of the localizer critical area. This concept is displayed in **Figure 5-15**. Due to the hilly terrain and environmental resources in certain areas, further study is required to investigate and determine feasibility.

State Route 316 Improvement

GDOT has planned a series of improvement projects along SR 316 between SR 20 in Gwinnett County and SR 10 in Oconee County. These improvement projects aim to decrease vehicle collisions and efficiency by reducing four four-way crossings along the corridor displayed in **Figure 5-15**.

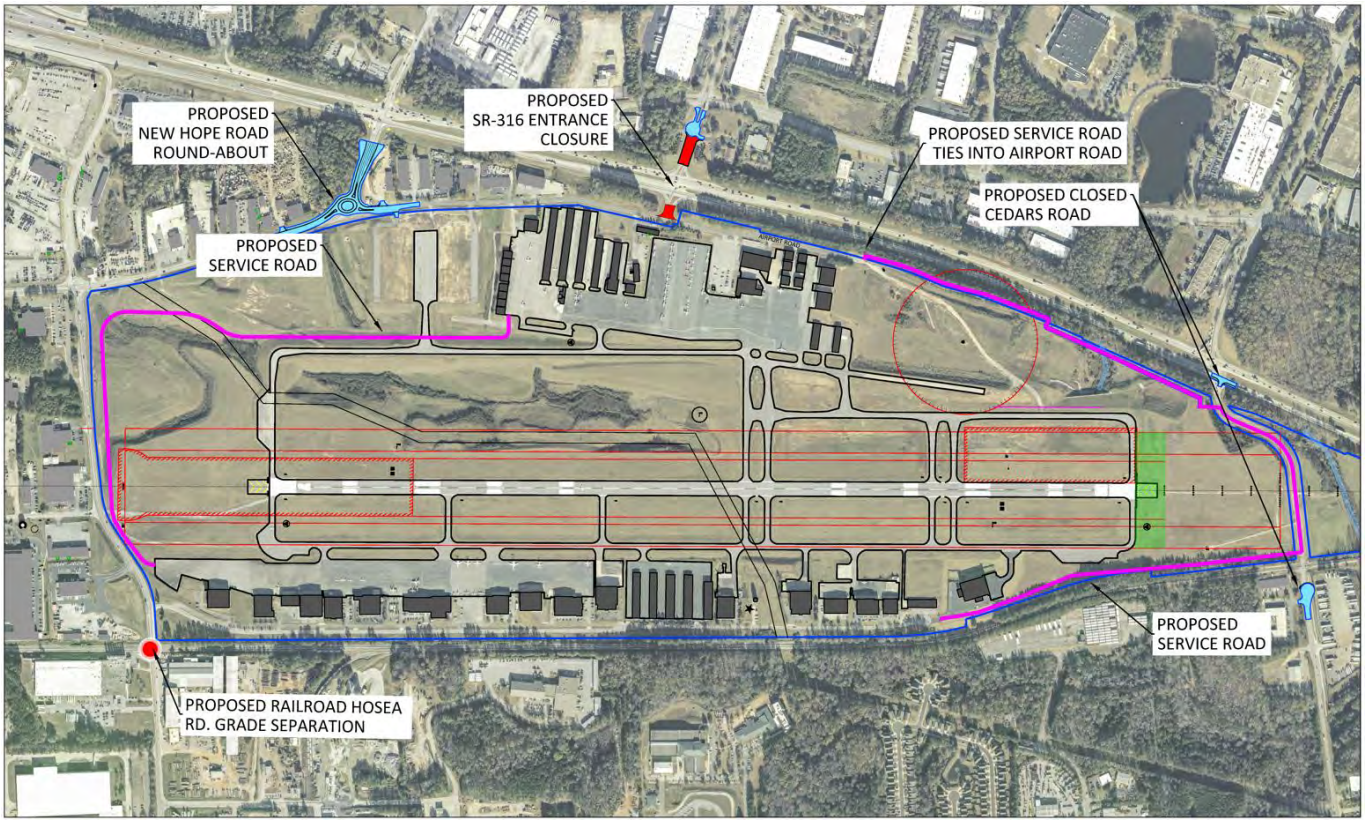
Within the vicinity of LZU, a new interchange for SR 316 at Hi Hope Road and a collector-distributor system from Collins Hill Road to Progress Center Avenue are planned. A collector-distributor system is a set of extra lanes between the main lanes of a highway and the frontage roads. Construction is planned to begin in 2025.

According to GDOT, modifications to Cedars Road include right-in, right-out access to SR 316 from Cedars Road north of SR 316 and full closure of Cedars Road south of SR 316.

Hosea Road and Railroad Grade Separation

Due to heavy vehicular traffic on Hosea Road near Briscoe Boulevard largely due to an at-grade railroad crossing, plans are in the early stages to physically separate the roadway and railroad tracks by either bridge or tunnel. By remedying this critical intersection, improvements to safety, mobility, and efficiency for both road and rail users will be met.

Figure 5-15: Surface Road Improvements



Source: Michael Baker International, 2023

Preferred Development Concept

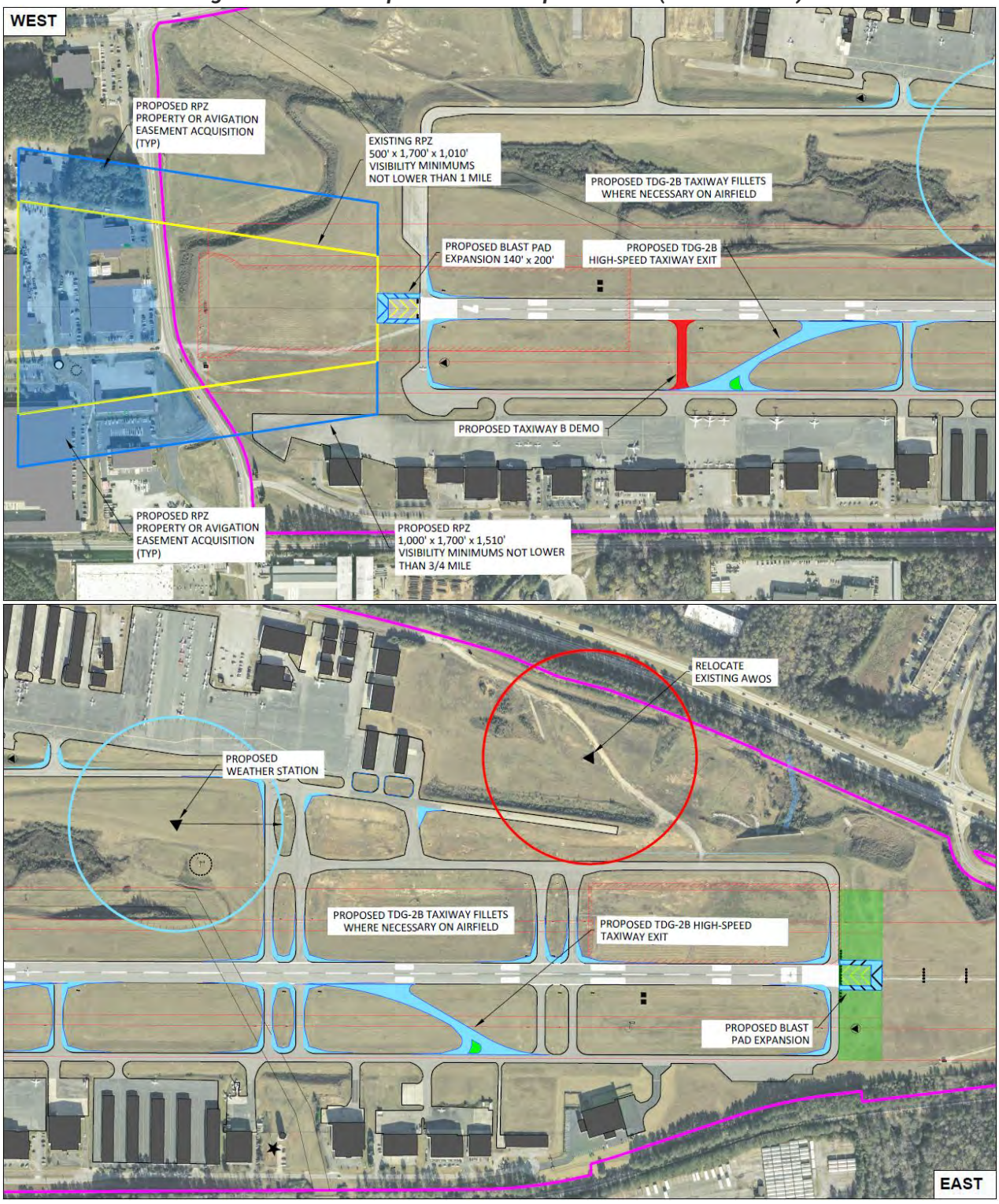
Numerous development considerations related to both the airside and landside have been presented. On the airside, the major improvements related to the airfield include runway safety area improvements, taxiway geometry improvements, and the incorporation of high-speed taxiways. Alternatives presented focused on meeting future facility needs at the airport while maintaining operational efficiency and safety standards.

The preferred airport development concepts for the 20-year planning period and beyond are listed in **Table 5-1** and are presented in **Figure 5-16**, **Figure 5-17,** and **Figure 5-18**. This concept will be carried forward into the Airport Layout Plan and Master Plan Capital Improvement Plan. The major projects identified on the concept are below.

Table 5-1: LZU Preferred Improvements

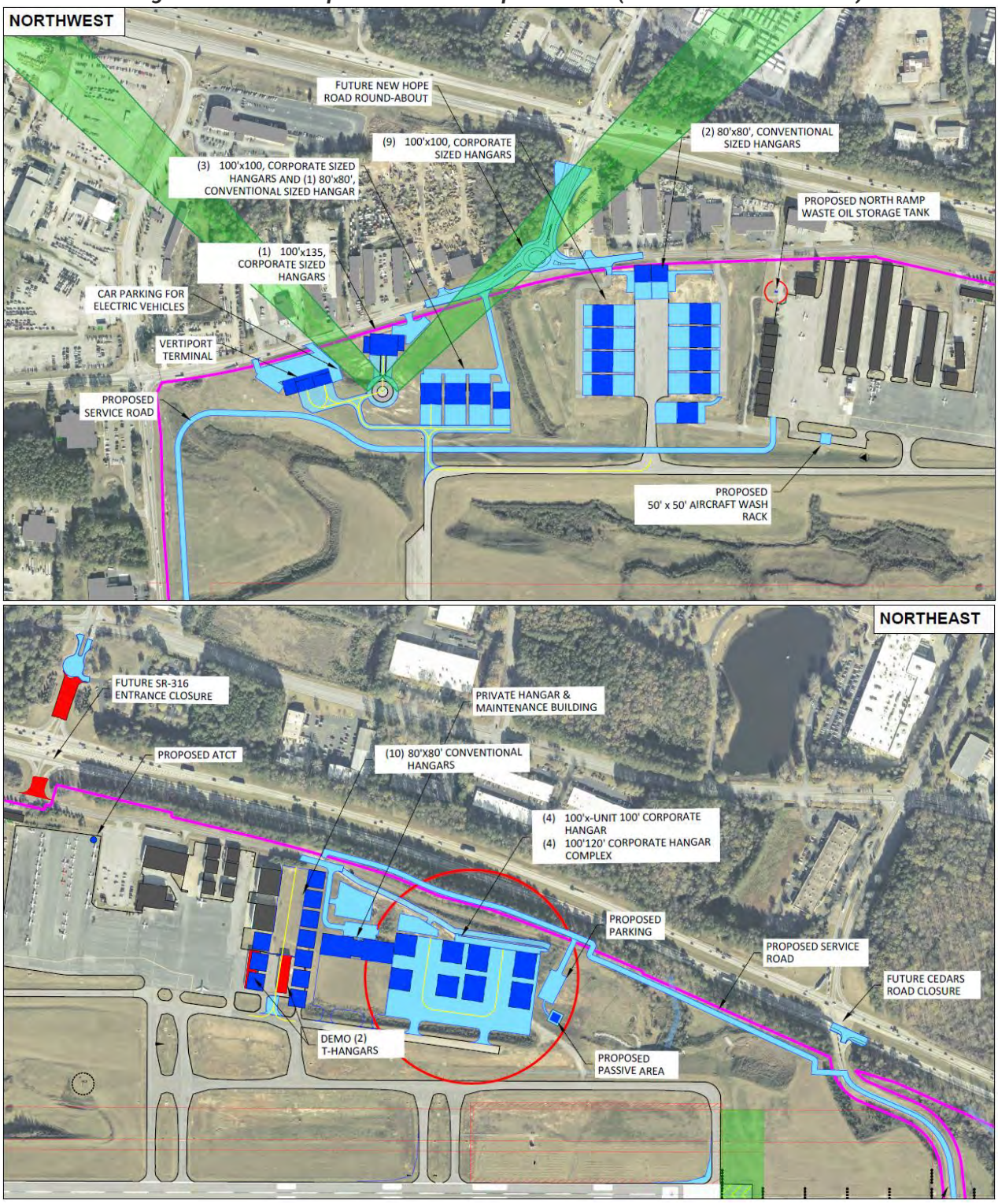
Category	Preferred Improvements
Airside	
Airside Improvements	Runway 7-25 Expand Blast Pads Runway 7 Lower Visibility Minimums Runway 7 Land Acquisition/Avigation Easement Taxiway Fillet TDG-2B
Landside	
Landside Improvements	Aircraft storage which includes: • (16) 100'x100' corporate size hangar • (1) 100'x135' corporate size hangar • (4) 100'x120' corporate size hangar • (13) 80'x80' conventional size hangars Service Road Obstruction Removal/Avigation Easement North Ramp Wash Rack Septic System Improvement Repair Fencing North and South Ramp Waste Oil Tanks Relocate ATCT Passive Use Area Vertiport (2-bay)

Figure 5-16: LZU Proposed Airside Improvements (West and East)



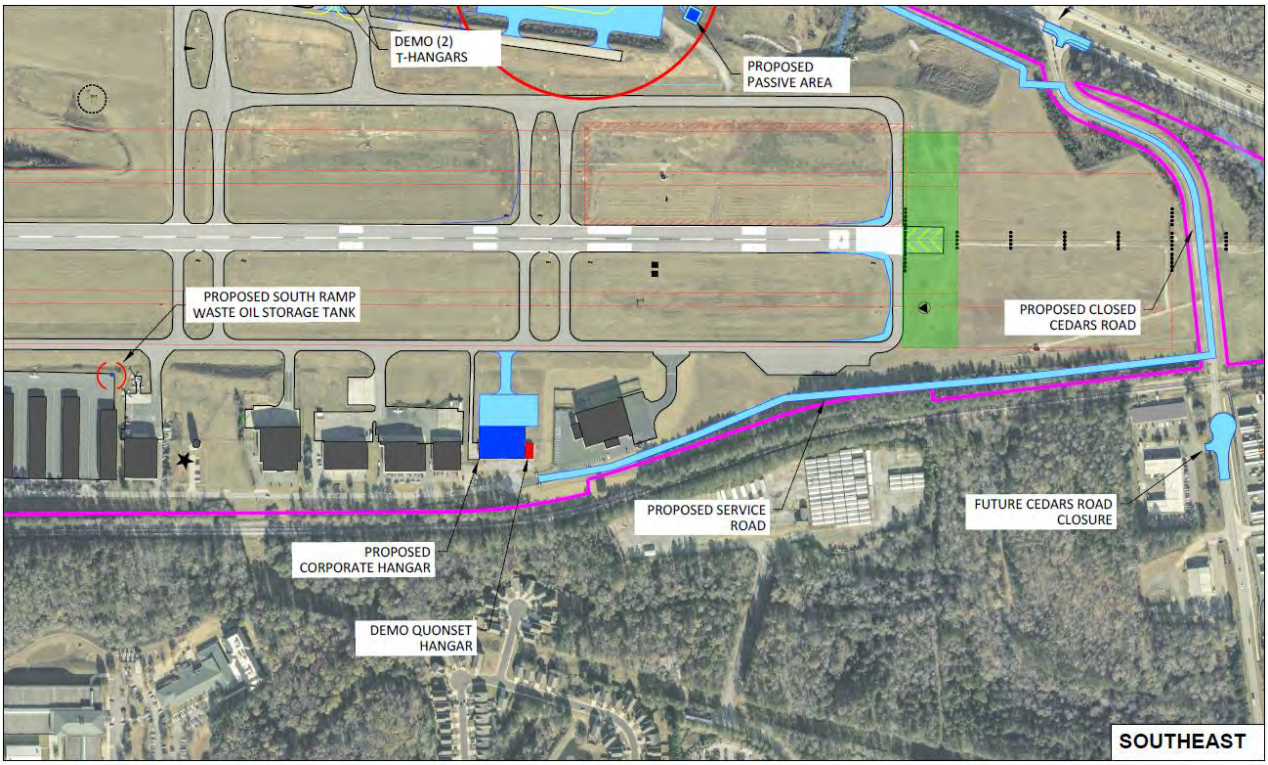
Source: Michael Baker International, 2024

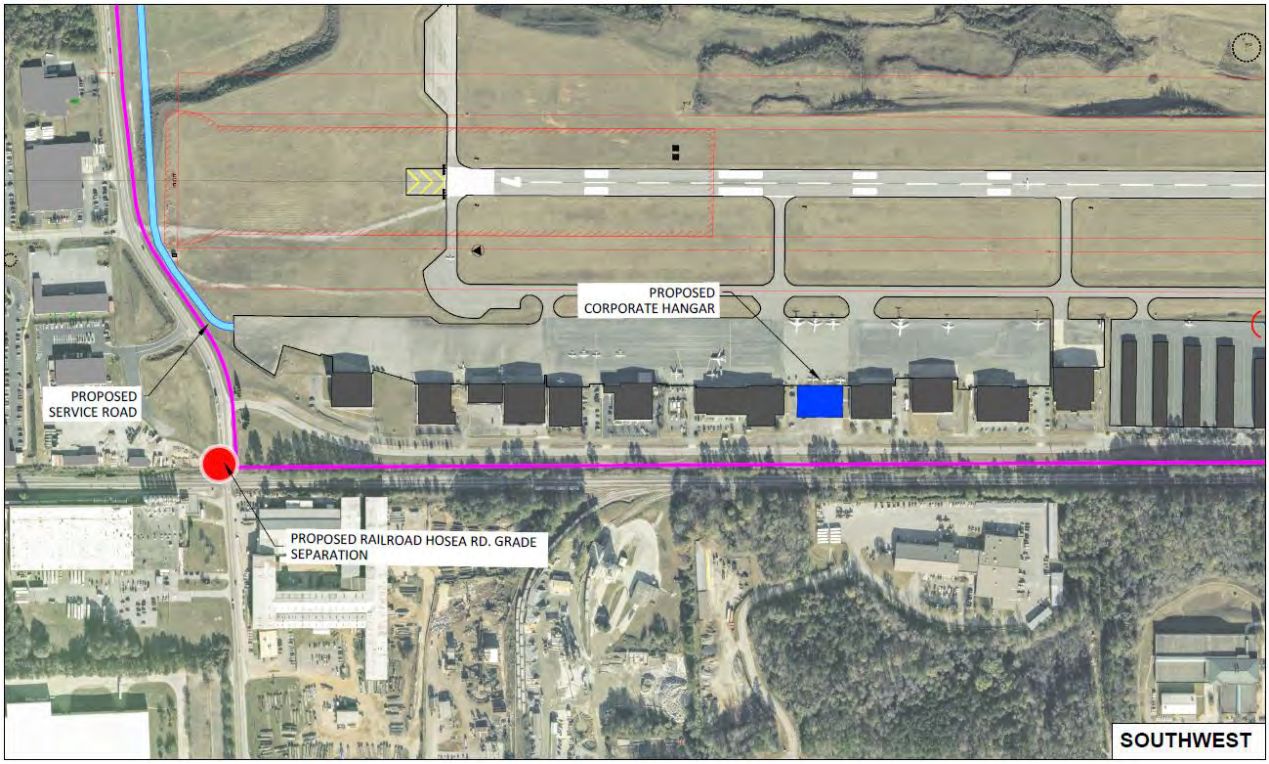
Figure 5-17: LZU Proposed Landside Improvements (Northwest and Northeast)



Source: Michael Baker International, 2024

Figure 5-18: LZU Proposed Landside Improvements (Southwest and Southeast)





Source: Michael Baker International, 2024

Chapter Six: Airport Layout Plan

Introduction

The Airport Layout Plan represents a group of drawings that serve as the primary tool to guide growth at the airport throughout the 20-year planning period and beyond. The Airport Layout Plan set was reduced from its full size of 36" by 24" and is included at the end of this chapter for easy reference. The drawings in this ALP set include:

- Title Sheet
- Airport Data Sheet
- Airport Layout Drawing
- Terminal Area Drawings (4)
- Airport Airspace Drawings (3)
- Inner Portion of Approach Surface Drawings (4)
- Runway Departure Surface Drawings (1),
- Airport Land Use Drawing
- Obstruction Tables (7)

Title Sheet

This Title Sheet serves as the Airport Layout Plan Drawing Set cover sheet and provides information to include the official airport name, associated city, and state, and the party responsible for preparing the ALP set. The sheet provides graphic representations of the airport vicinity, location in proximity to Lawrenceville, Georgia, and its regional location within the state. The Index of Sheets provides the most recent revision date of each sheet. The GDOT project number refers to the grant number of state/federal funds contributed to the project. An approval block is provided for the airport sponsor.

Refer to **Drawing 1** in the ALP Drawing Set provided at the end of this chapter.

Airport Data Sheet

The Airport Data Sheet provides all technical airport data and key planning criteria for initial, future, and ultimate timeframes.

The Runway Data Table provides details related to the initial, future, and ultimate runway and associated facilities. The table includes runway length/width, wind coverages, runway design code, critical aircraft, true bearing, effective gradient, runway lighting, pavement strength, and surface composition. The table also provides FAA design criteria for each runway based on planned instrument approaches and weather minimums, including approach slopes, runway design code, approach reference code, departure, and reference code. It also provides dimensions of safety elements, including RSA, OFA, OFZ, and RPZ.

The Declared Distance Table provides the published available Takeoff Run Available (TORA), Takeoff Distance Available (TODA), Accelerate Stop Distance Available (ASDA), and Land Distance Available (LDA). In some instances, these lengths may be shorter than the available runway pavement; however, LZU provides full distances of 6,001 feet for all Declared Distances.

Three wind roses are presented to demonstrate crosswind coverages of each runway end in all weather, VFR, and IFR conditions. Ten years of weather data was collected from a weather station located at LZU from 2011 to 2022.

Any modification of FAA design standards must be reflected in the Modification of Standards Table. There are no known modifications of standards at LZU. Locations of existing survey monuments at LZU are also provided.

Refer to **Drawing 2** in the ALP Drawing Set provided at the end of this chapter.

Airport Layout Drawing

The Airport Layout Plan Drawing depicts all existing and planned future airport facility developments as proposed within the 20-year Airport Master Plan. These improvements were all considered in previous chapters of this report. The exact layout of improvements may change in the future as the ALP provides a general guide to improvements. The ALP is accepted, conditionally approved by GDOT, and retained on file by both GDOT and FAA for funding authorization and/or participation.

The ALP provides informational and dimensional data to demonstrate conformance with current and applicable FAA airport design standards as prescribed in FAA AC 150/5300-13B, *Airport Design*. Denoted or depicted ALP information includes, but is not limited to: runways, taxiways, airfield lighting, visual and electronic navigational aids, terminal facilities, hangars, other non-aviation or support buildings, aircraft parking areas, automobile and truck parking, and airport access elements, as well as general, aerial photogrammetric mapping and geodetic survey source notes.

The Airport Data Table includes airport elevation, airport reference point, airport reference code, NAVAIDS, design aircraft, and taxiway lighting. The table provides the mean maximum temperature of the hottest year for the airport site, which is used in runway length analysis. The table also includes designated roles within the state and federal aviation systems.

An Existing and Future Building Table includes the tenant's name, type of business, and top elevation of each structure. Future top elevations of proposed buildings include an estimated top elevation if known.

Refer to **Drawing 3** in the ALP Drawing Set provided at the end of this chapter.

Terminal Area Drawings

The Terminal Area Drawings provide greater details of the main basing areas at a scale of 1"=100'. Due to the location of facilities, the basing area plan is separated into northwest, northeast, southwest, and southeast drawings.

Refer to **Drawings 4-7** in the ALP Drawing Set provided at the end of this chapter.

Airport Airspace Drawings

These three sheets incorporate a graphic representation of the imaginary surfaces surrounding the airport as described within 14 CFR Part 77, Safe, Efficient Use, and Preservation of Navigable Airspace. The imaginary surfaces are established about the airport elevation, the runway ends, and runway end elevations and define those areas where the height of objects should be regulated for the safe operation of aircraft. Imaginary surfaces include the following: Approach Surface, Transitional Surface, Horizontal Surface, and Conical Surface. The size of each

imaginary surface is based on the runway category and type of existing, or planned approach, whichever is the most demanding. The elevations of the Part 77 surfaces described in the drawing are based upon an airport elevation of 1061.8 ft AMSL.

The Airspace Drawing also includes the arrival and departure surfaces of the proposed vertiport. The current vertiport location is preliminary and these surfaces are for planning purposes only.

Obstruction data for these drawings are based on obstruction analysis captured in October 2023 at an accuracy of 1 foot vertically and 3 feet horizontally. Each obstruction is identified in the Obstruction Data Table found in Sheets 17 to 23 of the ALP Drawing Set. The table also includes the following: location (lat/long), type, city, height AGL, height AMSL, amount of penetration, source of data, and proposed action. Several obstructions noted in the table will need to be evaluated by the FAA to determine if the obstruction requires lighting, marking, lowering, or removal.

Each drawing identifies the boundaries of 14 CFR Part 77, Approach Surfaces, and the associated slopes related to each surface. The dimensions of these surfaces are dependent upon the type of instrument approaches planned for each runway end and the visibility minimums planned for that approach.

Refer to **Drawings 8-10** in the ALP Drawing Set provided at the end of this chapter.

Inner Portion of the Approach Surface Drawings

The Inner Portion of the Approach Drawings depicts natural and man-made features in the vicinity of and along the inner approach path to each runway end. The large-scale plan and profile views facilitate the identification of potential obstructions that lie within areas that should be free of objects that may preclude safe aircraft operations. The purpose of the drawing is also to identify land where acquisition or easements may be required. Obstructions identified in these drawings were obtained from an aeronautical survey captured in October 2023. In the future, additional field surveys at regularly scheduled intervals should be conducted to ensure clear approaches.

Each drawing identifies the boundaries of Existing, Future, and Ultimate Obstacle Clearance Surfaces (OCS) (as defined in Tables 3-2 and 3-4 of FAA AC 150/5300-13B) and the associated slopes related to each surface. The dimensions of these surfaces are dependent upon the type of instrument approaches planned for each runway end and the visibility minimums planned for that approach. For Runway 25, the surfaces are expected to remain the same during the existing, future, and ultimate timeframes. For Runway 7, a proposed LPV approach would require future more demanding Type 5 and Type 6 surfaces as shown on the drawing. Due to the density of obstructions, separate drawings are provided for the Type 5 and Type 6 OCS for each runway end.

In the plan view of each drawing, obstructions are identified using point numbers and color coding. The exact lat/long, surface penetrated, elevation, and amount of penetration may be found in the Obstruction Data Tables found in Sheets 17 to 23 of the ALP Set. These sheets identify each obstruction by number, type of obstruction, top elevation of the object, amount of penetration, and proposed action. OCS penetrations are critical because not removing these penetrations may result in higher approach minimums or displaced thresholds. In the future, additional field surveys should be performed at regularly scheduled intervals to ensure clear approach and departure surfaces.

The drawings also provide the boundaries of the initial and ultimate runway protection zones. The dimensions of the RPZs are based on the lowest visibility minimums of the planned instrument approaches and the approach category of the critical aircraft. The RPZ's function is to enhance the protection of people and property on the

ground. Where practical, airport owners should own the property under the runway approach and departure areas to at least the limits of the RPZ. It is desirable to clear the entire RPZ of all above-ground objects. Where this is impractical, airport owners, at a minimum, should maintain the RPZ clear of all facilities supporting incompatible land activities. See FAA Memorandum, *Interim Guidance on Land Uses Within a Runway Protection Zone*, dated September 27, 2012, for guidance on incompatible activities.

Refer to **Drawings 11-12** in the ALP Drawing Set provided at the end of this chapter.

Departure Surface Drawing

The Runway Departure Surface Drawing consists of large-scale plan views of the departure surfaces for Runway 7-25 at LZU. The Departure Surface Drawings depict the ground contours along the extended runway centerline plus any significant natural or non-natural objects located along the extended runway centerline and a top elevation for those objects. Commonly shown objects include buildings, roads, ditches, and trees. Surface penetration and disposition information is included in the associated obstruction data tables.

Refer to **Drawings 13** in the ALP Drawing Set provided at the end of this chapter.

Airport Land Use Drawing

The Land Use Drawing depicts existing land uses for off-airport property in the vicinity of the airport and proposed land uses within the airport property. The purpose of this plan is to provide land use compatibility guidance for municipalities within the vicinity of the airport to ensure compatibility with projected airport operations. Where conflicts are apparent and an incompatibility exists, mitigation measures are recommended.

The Land Use Drawing also includes airport noise contours based upon the approved forecasted operations for the year 2044. These contours depict the Day Night Noise Level (DNL) for the 60, 65, 70, and 75 DNL noise levels. Refer to 14 CFR Part 150, Airport Noise Compatibility Planning, Appendix 1, Table 1, for FAA-recommended land use compatibility guidelines. No existing incompatible land uses were identified on the 2044 contours depicted on the Airport Land Use Drawing.

Refer to **Drawing 14** in the ALP Drawing Set provided at the end of this chapter.

Runway 7-25 Approach Obstruction Tables

Approach obstruction data associated with the Inner Portion of the Approach Drawings are provided on the Runway 7-25 Approach Obstruction Tables Sheets. This data includes the lat/long coordinates, surface penetration, type of object, elevation of object, distance from runway end, surface elevation, and slope penetrated.

Refer to **Drawings 15-21** in the ALP Drawing Set provided at the end of this chapter.

Figure 6-1: Title Sheet

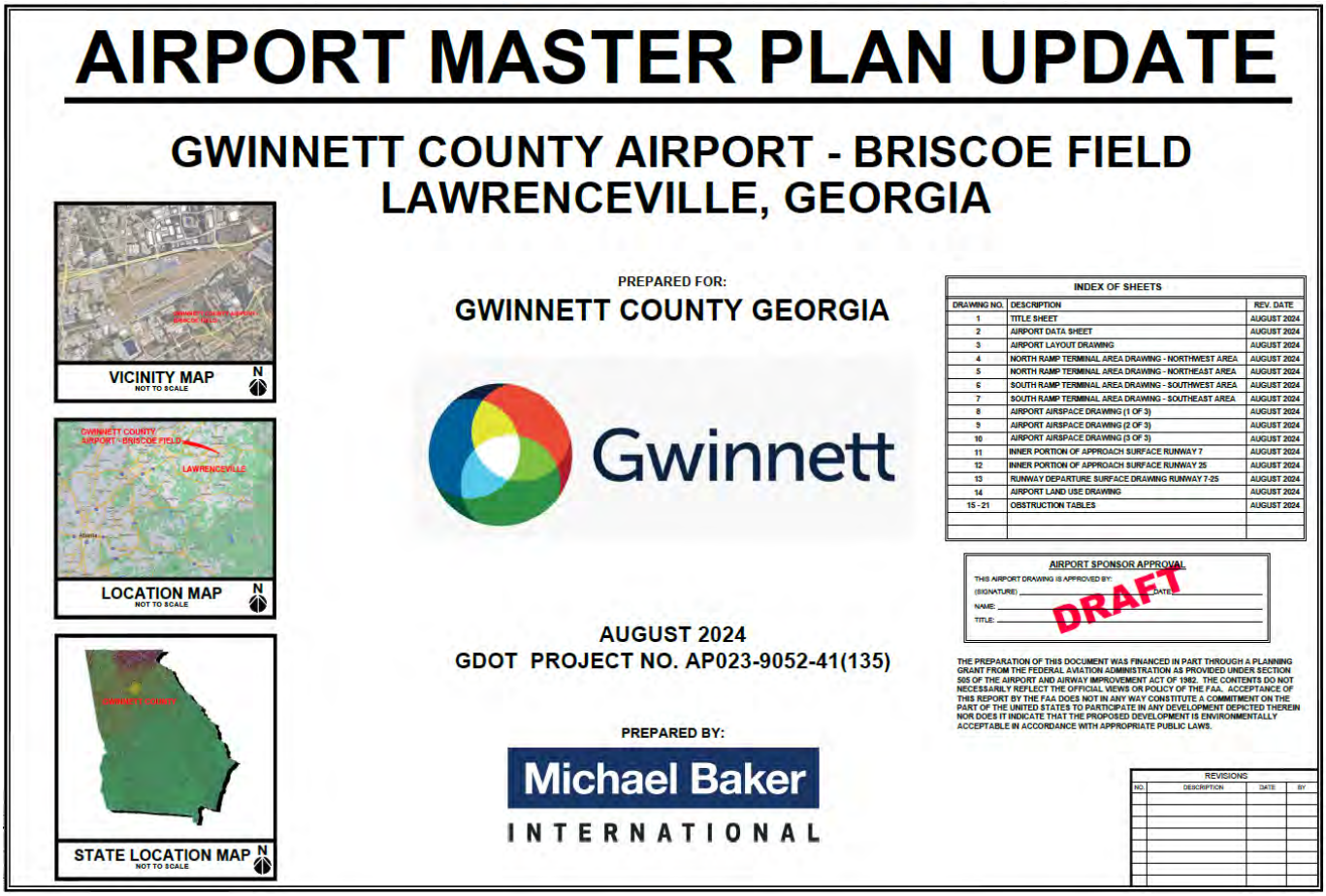
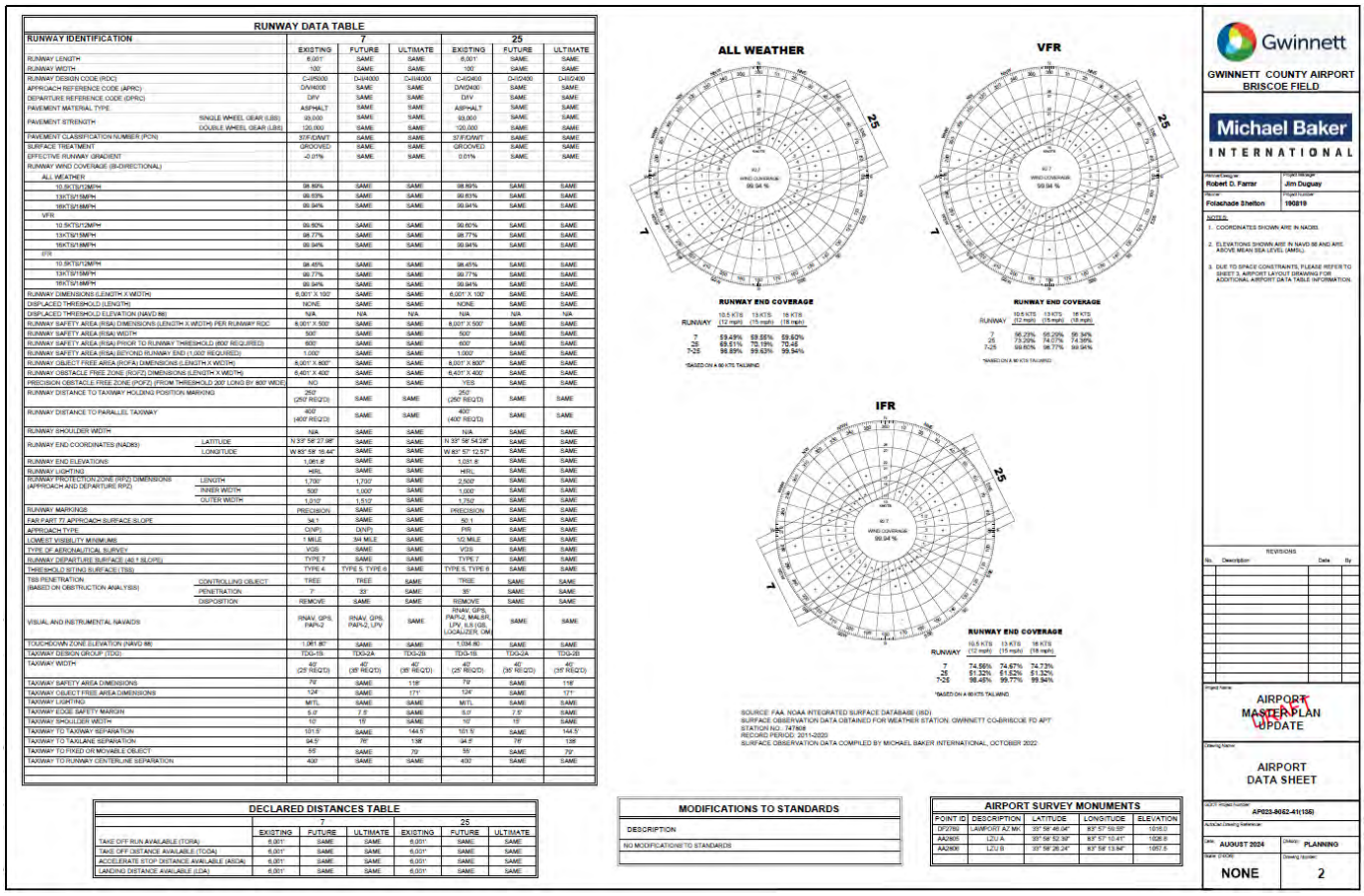


Figure 6-2: Airport Data Sheet



RUNWAY DATA TABLE

RUNWAY IDENTIFICATION		7 EXISTING	7 FUTURE	7 ULTIMATE	25 EXISTING	25 FUTURE	25 ULTIMATE
RUNWAY LENGTH		6,001'	SAME	SAME	6,001'	SAME	SAME
RUNWAY WIDTH		100'	SAME	SAME	100'	SAME	SAME
RUNWAY DESIGN CODE (RDC)		D-IV-6000	D-IV-6000	D-IV-6000	D-IV-6400	D-IV-6400	D-IV-6400
APPROACH REFERENCE CODE (APRC)		D/V/6000	SAME	SAME	D/V/6400	SAME	SAME
DEPARTURE REFERENCE CODE (DPRC)		D/V	SAME	SAME	D/V	SAME	SAME
PAVEMENT MATERIAL TYPE		ASPHALT	SAME	SAME	ASPHALT	SAME	SAME
PAVEMENT STRENGTH	SINGLE WHEEL GEAR (LBS)	60,000	SAME	SAME	60,000	SAME	SAME
	DOUBLE WHEEL GEAR (LBS)	120,000	SAME	SAME	120,000	SAME	SAME
PAVEMENT CLASSIFICATION NUMBER (PCN)		37/F/D/W/T	SAME	SAME	37/F/D/W/T	SAME	SAME
SURFACE TREATMENT		GROOVED	SAME	SAME	GROOVED	SAME	SAME
EFFECTIVE RUNWAY GRADIENT		-0.01%	SAME	SAME	0.01%	SAME	SAME
RUNWAY WIND COVERAGE (95-DIRECTIONAL)							
ALL WEATHER							
10.5KTS/12MPH		98.89%	SAME	SAME	98.89%	SAME	SAME
13KTS/15MPH		98.89%	SAME	SAME	98.89%	SAME	SAME
16KTS/18MPH		99.94%	SAME	SAME	99.94%	SAME	SAME
VFR							
10.5KTS/12MPH		99.89%	SAME	SAME	99.89%	SAME	SAME
13KTS/15MPH		98.77%	SAME	SAME	98.77%	SAME	SAME
16KTS/18MPH		99.94%	SAME	SAME	99.94%	SAME	SAME
IFR							
10.5KTS/12MPH		98.45%	SAME	SAME	98.45%	SAME	SAME
13KTS/15MPH		99.77%	SAME	SAME	99.77%	SAME	SAME
16KTS/18MPH		99.94%	SAME	SAME	99.94%	SAME	SAME
RUNWAY DIMENSIONS (LENGTH X WIDTH)		6,001' X 100'	SAME	SAME	6,001' X 100'	SAME	SAME
DISPLACED THRESHOLD (LENGTH)		NONE	SAME	SAME	NONE	SAME	SAME
DISPLACED THRESHOLD ELEVATION (NAVD 88)		N/A	N/A	N/A	N/A	N/A	N/A
RUNWAY SAFETY AREA (RSA) DIMENSIONS (LENGTH X WIDTH) PER RUNWAY RDC		6,001' X 500'	SAME	SAME	6,001' X 500'	SAME	SAME
RUNWAY SAFETY AREA (RSA) WIDTH		500'	SAME	SAME	500'	SAME	SAME
RUNWAY SAFETY AREA (RSA) PRIOR TO RUNWAY THRESHOLD (600' REQUIRED)		600'	SAME	SAME	600'	SAME	SAME
RUNWAY SAFETY AREA (RSA) BEYOND RUNWAY END (1,000' REQUIRED)		1,000'	SAME	SAME	1,000'	SAME	SAME
RUNWAY OBJECT FREE AREA (ROFA) DIMENSIONS (LENGTH X WIDTH)		6,001' X 800'	SAME	SAME	6,001' X 800'	SAME	SAME
RUNWAY OBSTACLE FREE ZONE (ROFZ) DIMENSIONS (LENGTH X WIDTH)		6,401' X 400'	SAME	SAME	6,401' X 400'	SAME	SAME
PRECISION OBSTACLE FREE ZONE (POFZ) (FROM THRESHOLD 200' LONG BY 800' WIDE)		NO	SAME	SAME	YES	SAME	SAME
RUNWAY DISTANCE TO TAXIWAY HOLDING POSITION MARKING		250' (250' REQ'D)	SAME	SAME	250' (250' REQ'D)	SAME	SAME
RUNWAY DISTANCE TO PARALLEL TAXIWAY		400' (400' REQ'D)	SAME	SAME	400' (400' REQ'D)	SAME	SAME
RUNWAY SHOULDER WIDTH		N/A	SAME	SAME	N/A	SAME	SAME
RUNWAY END COORDINATES (NAD83)	LATITUDE	N 33° 58' 27.98"	SAME	SAME	N 33° 58' 54.28"	SAME	SAME
	LONGITUDE	W 83° 58' 16.44"	SAME	SAME	W 83° 57' 12.57"	SAME	SAME
RUNWAY END ELEVATIONS		1,061.8'	SAME	SAME	1,051.8'	SAME	SAME
RUNWAY LIGHTING		HIRL	SAME	SAME	HIRL	SAME	SAME
RUNWAY PROTECTION ZONE (RPZ) DIMENSIONS (APPROACH AND DEPARTURE RPZ)	LENGTH	1,700'	1,700'	SAME	2,500'	SAME	SAME
	INNER WIDTH	500'	1,000'	SAME	1,000'	SAME	SAME
	OUTER WIDTH	1,010'	1,510'	SAME	1,750'	SAME	SAME
RUNWAY MARKINGS		PRECISION	SAME	SAME	PRECISION	SAME	SAME
FAR PART 77 APPROACH SURFACE SLOPE		34:1	SAME	SAME	50:1	SAME	SAME
APPROACH TYPE		D/NP)	D/NP)	SAME	P/R	SAME	SAME
LOWEST VISIBILITY MINIMUMS		1 MILE	3/4 MILE	SAME	1/2 MILE	SAME	SAME
TYPE OF AERONAUTICAL SURVEY		VCS	SAME	SAME	VCS	SAME	SAME
RUNWAY DEPARTURE SURFACE (40:1 SLOPE)		TYPE 7	SAME	SAME	TYPE 7	SAME	SAME
THRESHOLD SITING SURFACE (TSS)		TYPE 4	TYPE 5, TYPE 6	SAME	TYPE 5, TYPE 8	SAME	SAME
TSS PENETRATION (BASED ON OBSTRUCTION ANALYSIS)	CONTROLLING OBJECT	TREE	TREE	SAME	TREE	SAME	SAME
	PENETRATION	7'	33'	SAME	35'	SAME	SAME
	DISPOSITION	REMOVE	SAME	SAME	REMOVE	SAME	SAME
VISUAL AND INSTRUMENTAL NAVAIDS		RNAV, GPS, PAPI-2	RNAV, GPS, PAPI-2, LPV	SAME	RNAV, GPS, PAPI-2, MALSR, LPV, ILS (GS LOCALIZER, DME	SAME	SAME
TOUCHDOWN ZONE ELEVATION (NAVD 88)		1,061.80'	SAME	SAME	1,094.80	SAME	SAME
TAXIWAY DESIGN GROUP (TDG)		TDG-1B	TDG-2A	TDG-2B	TDG-1B	TDG-2A	TDG-2B
TAXIWAY WIDTH		40' (25' REQ'D)	40' (35' REQ'D)	40' (35' REQ'D)	40' (25' REQ'D)	40' (35' REQ'D)	40' (35' REQ'D)
TAXIWAY SAFETY AREA DIMENSIONS		79'	SAME	118'	79'	SAME	118'
TAXIWAY OBJECT FREE AREA DIMENSIONS		124'	SAME	171'	124'	SAME	171'
TAXIWAY LIGHTING		MITL	SAME	SAME	MITL	SAME	SAME
TAXIWAY EDGE SAFETY MARGIN		5.0'	7.5'	SAME	5.0'	7.5'	SAME
TAXIWAY SHOULDER WIDTH		10'	15'	SAME	10'	15'	SAME
TAXIWAY TO TAXIWAY SEPARATION		101.5'	SAME	144.5'	101.5'	SAME	144.5'
TAXIWAY TO TAXILANE SEPARATION		94.5'	76'	139'	94.5'	76'	139'
TAXIWAY TO FIXED OR MOVABLE OBJECT		55'	SAME	79'	55'	SAME	79'
TAXIWAY TO RUNWAY CENTERLINE SEPARATION		400'	SAME	SAME	400'	SAME	SAME

DECLARED DISTANCES TABLE

	7 EXISTING	7 FUTURE	7 ULTIMATE	25 EXISTING	25 FUTURE	25 ULTIMATE
TAKE OFF RUN AVAILABLE (TORA)	6,001'	SAME	SAME	6,001'	SAME	SAME
TAKE OFF DISTANCE AVAILABLE (TODA)	6,001'	SAME	SAME	6,001'	SAME	SAME
ACCELERATE STOP DISTANCE AVAILABLE (ASDA)	6,001'	SAME	SAME	6,001'	SAME	SAME
LANDING DISTANCE AVAILABLE (LDA)	6,001'	SAME	SAME	6,001'	SAME	SAME

ALL WEATHER

RUNWAY END COVERAGE

RUNWAY	10.5 KTS (12 mph)	13 KTS (15 mph)	16 KTS (18 mph)
7	59.49%	59.58%	59.60%
25	69.61%	70.19%	70.46
7-25	98.89%	99.63%	99.94%

*BASED ON A 90 KTS TAILWIND

VFR

RUNWAY END COVERAGE

RUNWAY	10.5 KTS (12 mph)	13 KTS (15 mph)	16 KTS (18 mph)
7	96.23%	96.29%	96.34%
25	73.29%	74.07%	74.39%
7-25	99.80%	99.77%	99.94%

*BASED ON A 90 KTS TAILWIND

IFR

RUNWAY END COVERAGE

RUNWAY	10.5 KTS (12 mph)	13 KTS (15 mph)	16 KTS (18 mph)
7	74.58%	74.67%	74.73%
25	51.32%	51.52%	51.32%
7-25	98.45%	99.77%	99.94%

*BASED ON A 90 KTS TAILWIND

SOURCE: FAA, NOAA INTEGRATED SURFACE DATABASE (ISD)
SURFACE OBSERVATION DATA OBTAINED FOR WEATHER STATION: GWINNETT CO-BRISCOE FD APT
STATION NO.: 747908
RECORD PERIOD: 2011-2020
SURFACE OBSERVATION DATA COMPILED BY MICHAEL BAKER INTERNATIONAL, OCTOBER 2022

MODIFICATIONS TO STANDARDS

DESCRIPTION
NO MODIFICATIONS TO STANDARDS

AIRPORT SURVEY MONUMENTS

POINT ID	DESCRIPTION	LATITUDE	LONGITUDE	ELEVATION
DP2760	LAWPORT AZ MK	33° 58' 48.04"	83° 57' 59.55"	1016.0
AA2605	LZU A	33° 58' 52.30"	83° 57' 10.41"	1026.8
AA2606	LZU B	33° 58' 26.24"	83° 58' 13.84"	1057.8

Gwinnett

GWINNETT COUNTY AIRPORT
BRISCOE FIELD

Michael Baker INTERNATIONAL

Planner/Designer	Project Manager
Robert D. Farrar	Jim Duguay
Author	Project Number
Folashade Shelton	190819

NOTES:
1. COORDINATES SHOWN ARE IN NAD83.
2. ELEVATIONS SHOWN ARE IN NAVD 88 AND ARE ABOVE MEAN SEA LEVEL (AMSL).
3. DUE TO SPACE CONSTRAINTS, PLEASE REFER TO SHEET 3, AIRPORT LAYOUT DRAWING FOR ADDITIONAL AIRPORT DATA TABLE INFORMATION.

REVISIONS

No.	Description	Date	By

Project Name
AIRPORT MASTER PLAN UPDATE

Drawing Name
AIRPORT DATA SHEET

AIP Project Number	
	AP023-9062-41(135)
Airport Drawing Reference	
Date: AUGUST 2024	Drawn: PLANNING
State: (FAOR) NONE	Drawing Number: 2

Figure 6-3: Airport Layout Drawing

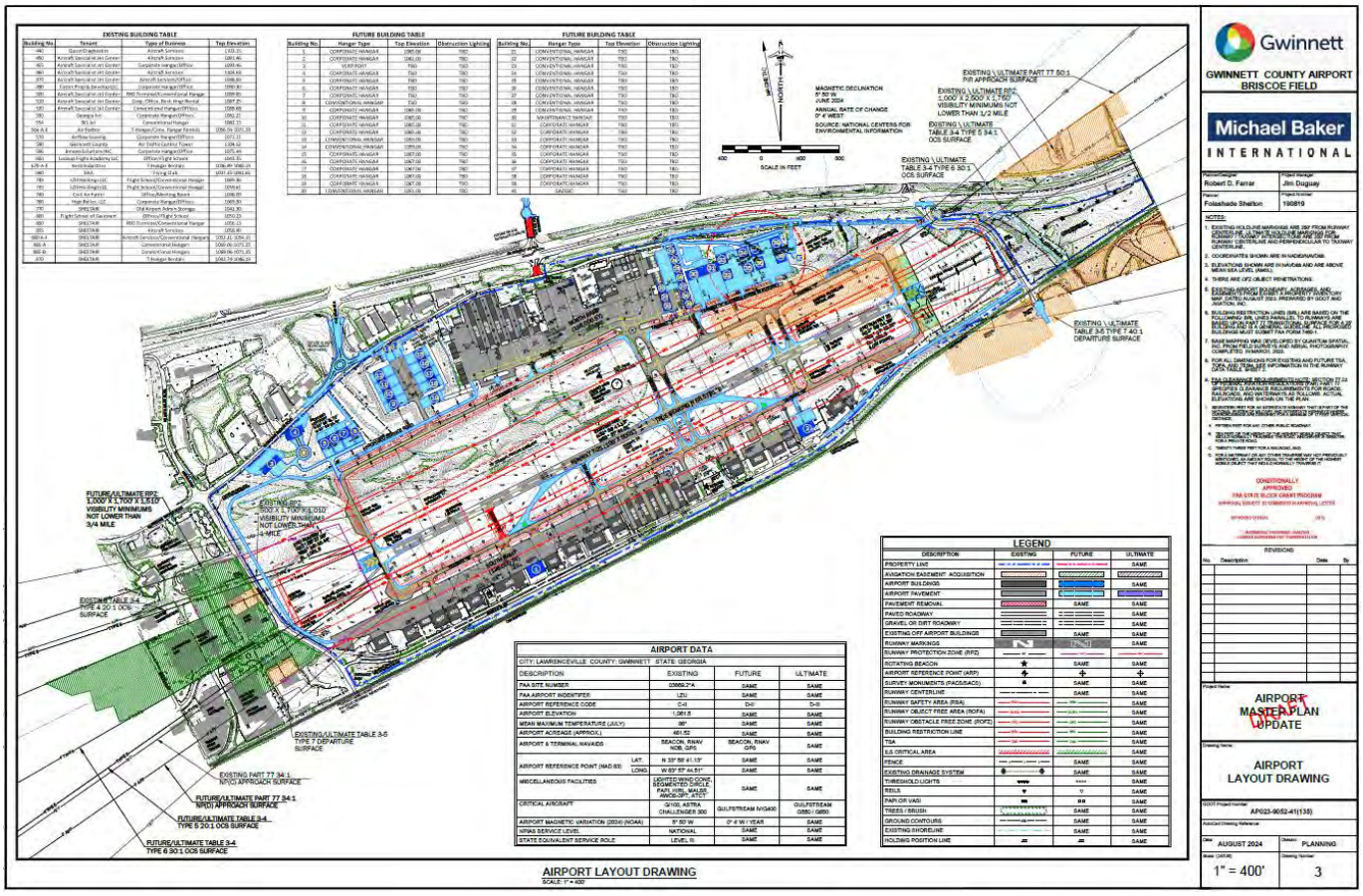
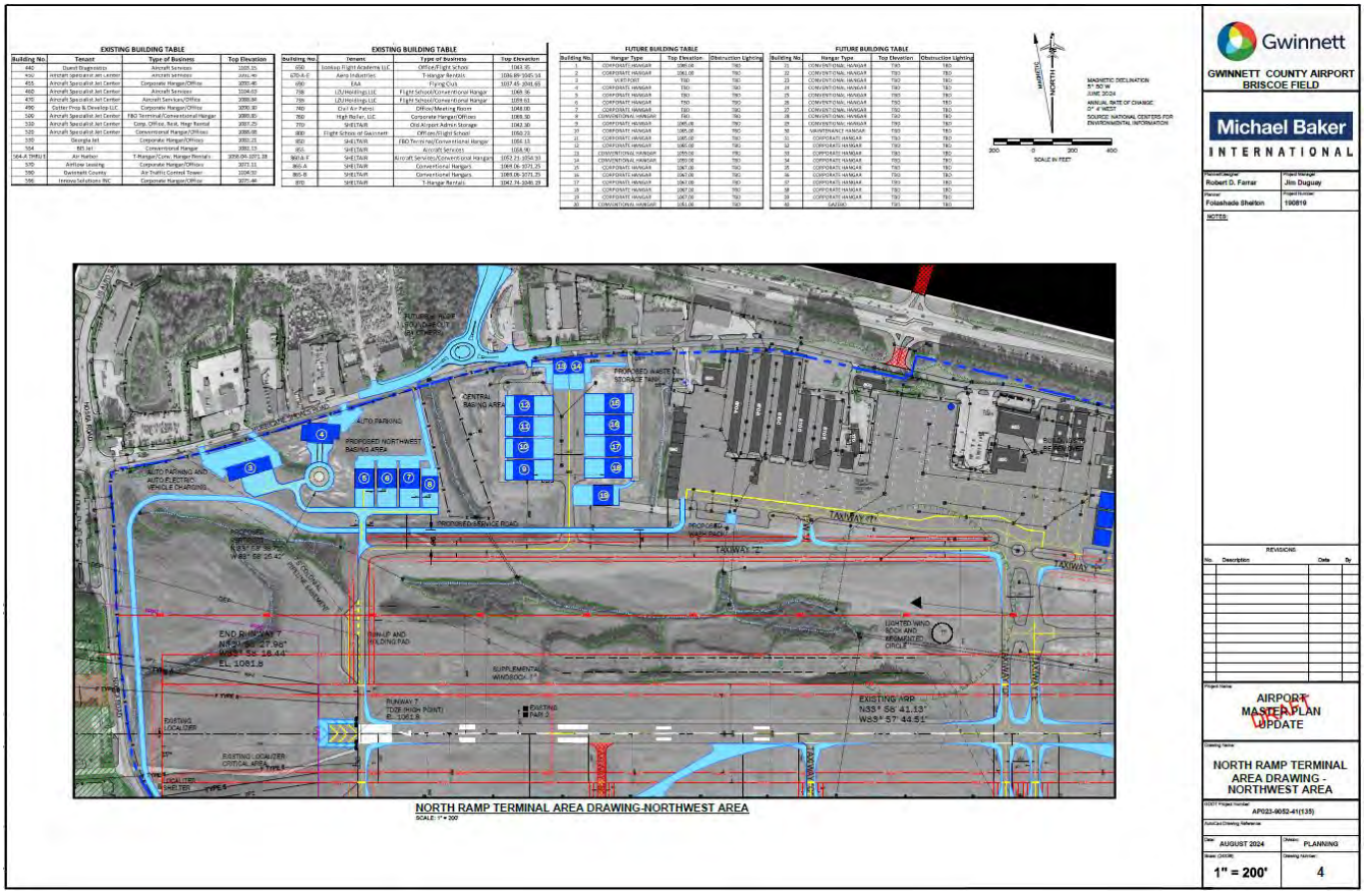


Figure 6-4: North Ramp Terminal Area Drawing - Northwest Area



NORTH RAMP TERMINAL AREA DRAWING-NORTHWEST AREA
SCALE: 1" = 200'

Figure 6-5: North Ramp Terminal Area Drawing - Northeast Area

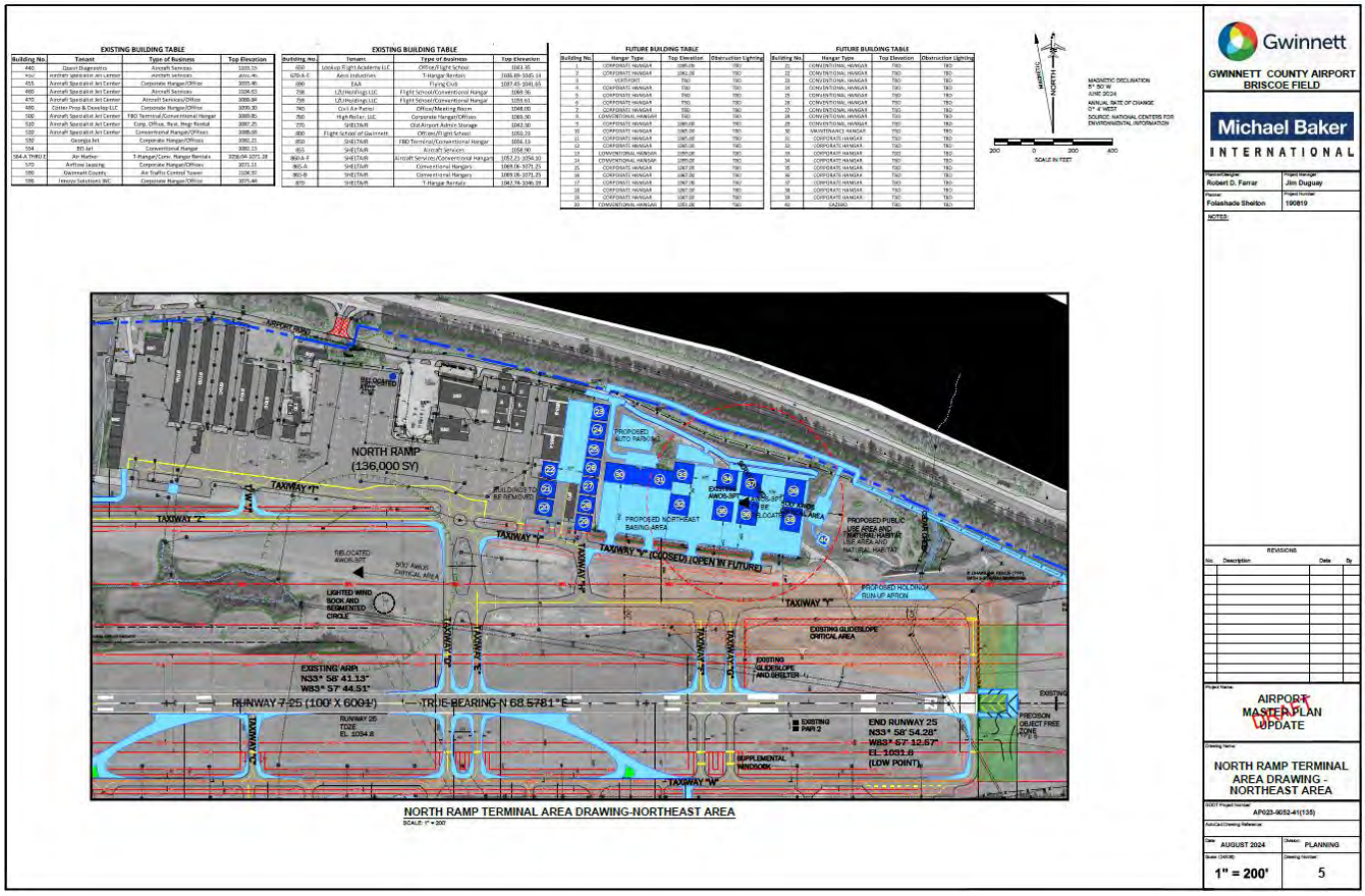


Figure 6-6: South Ramp Terminal Area Drawing - Southeast Area

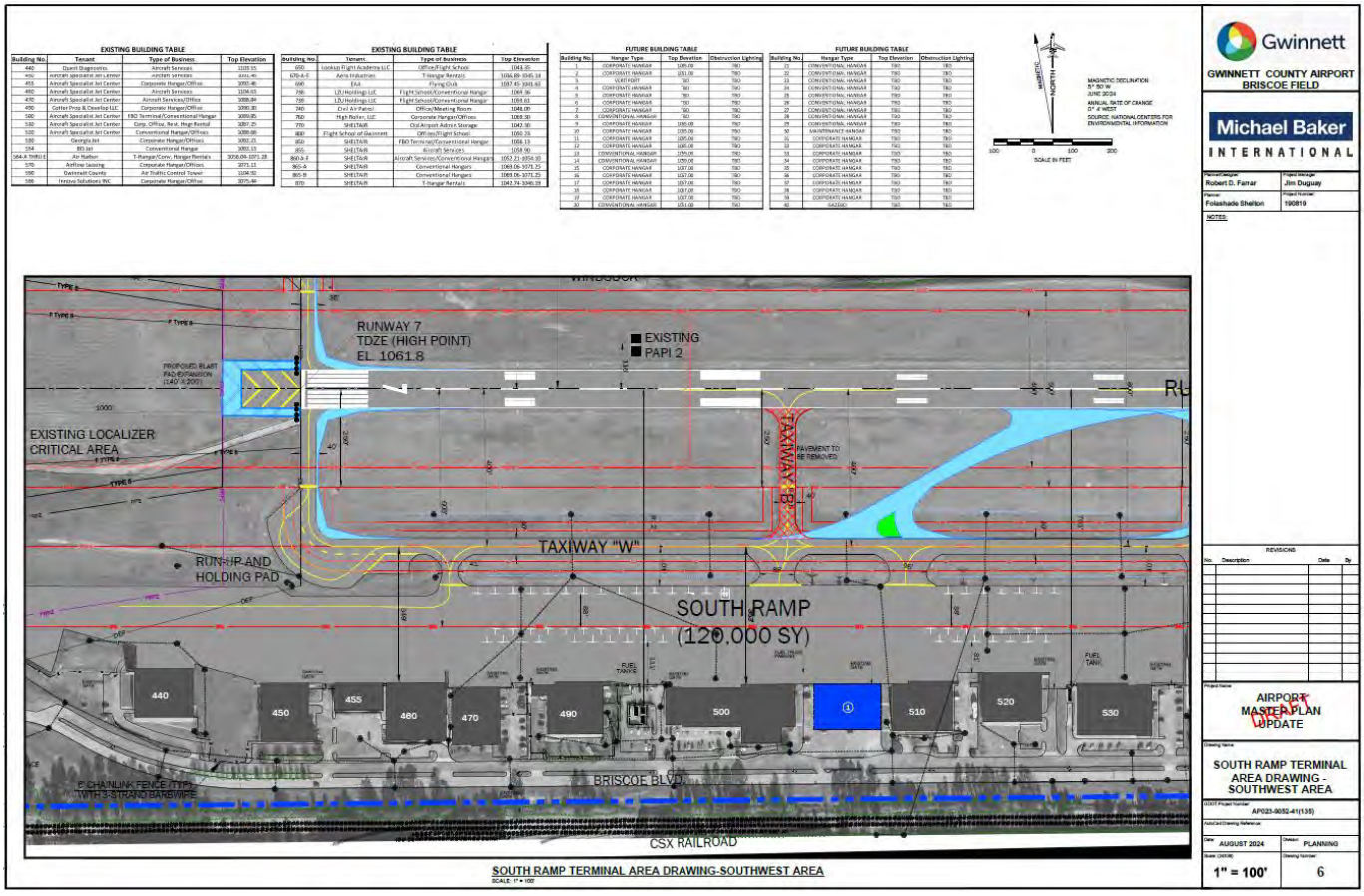


Figure 6-7: South Ramp Terminal Area Drawing: Southeast Ramp

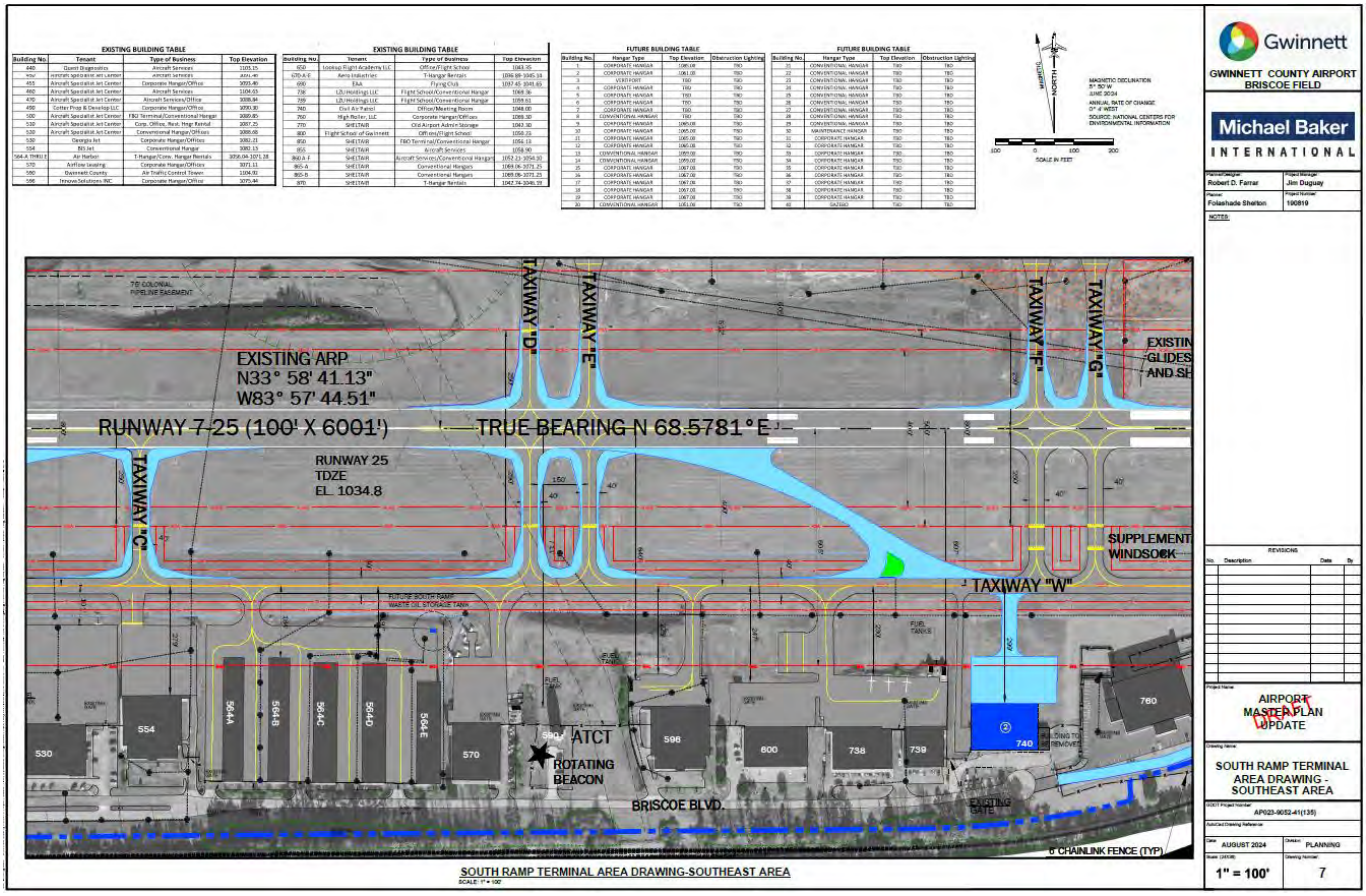


Figure 6-8: Airport Airspace Drawing (1 of 3)

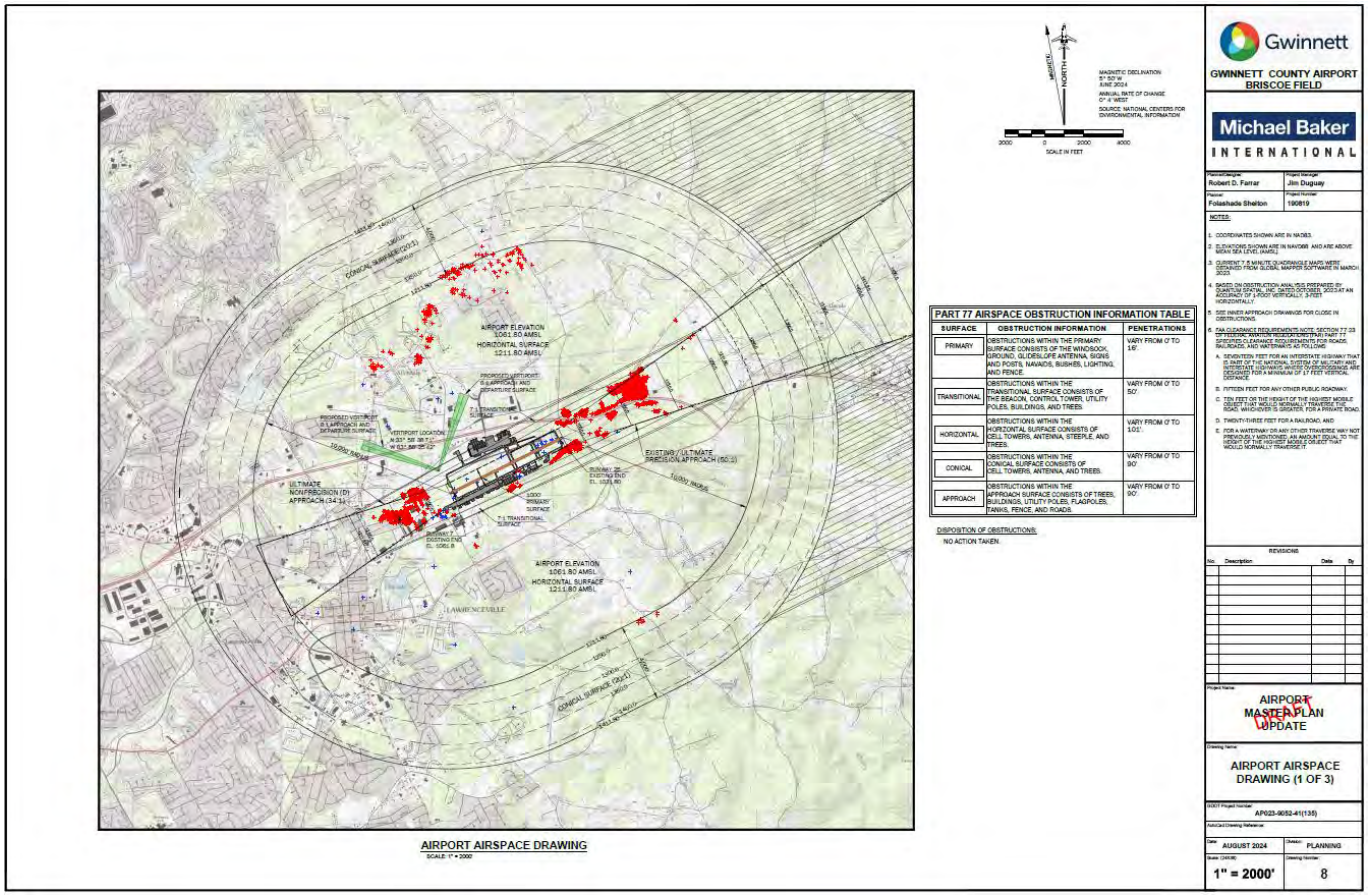


Figure 6-9: Airport Airspace Drawing (2 of 3)

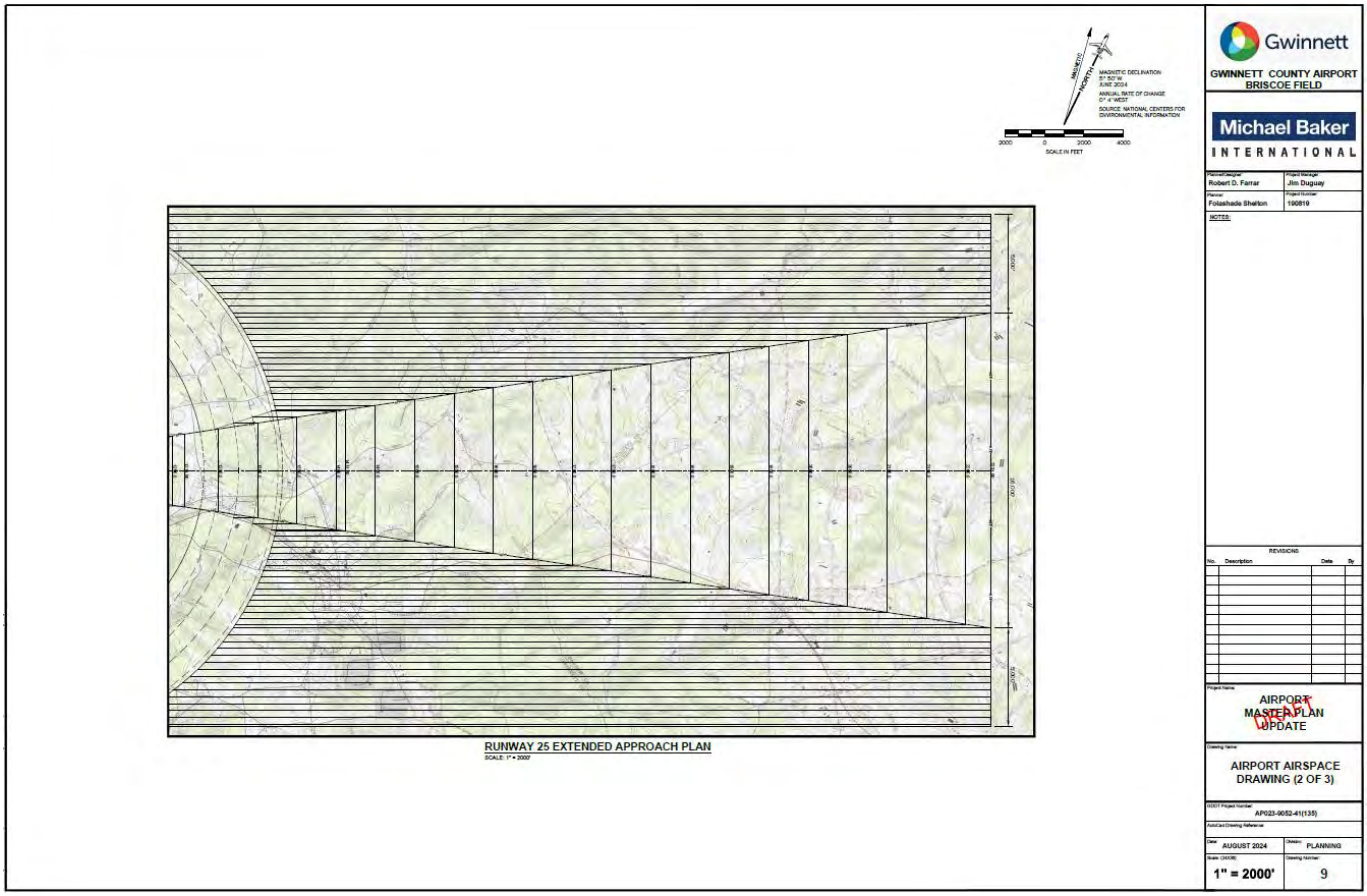


Figure 6-10: Airport Airspace Drawing (3 of 3)

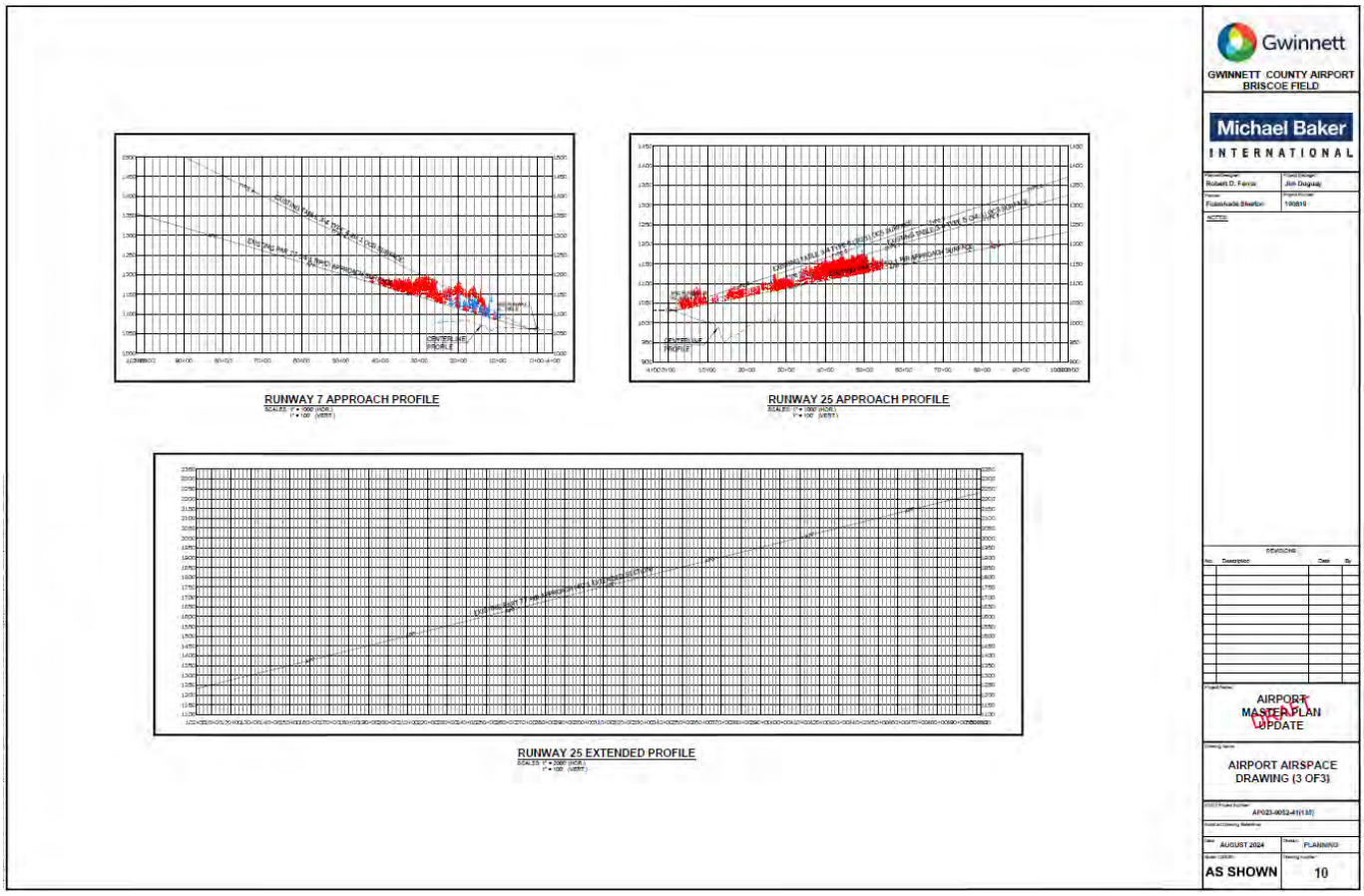


Figure 6-11: Runway 7 Inner Approach Drawing Type 5 and Type 6 Surfaces

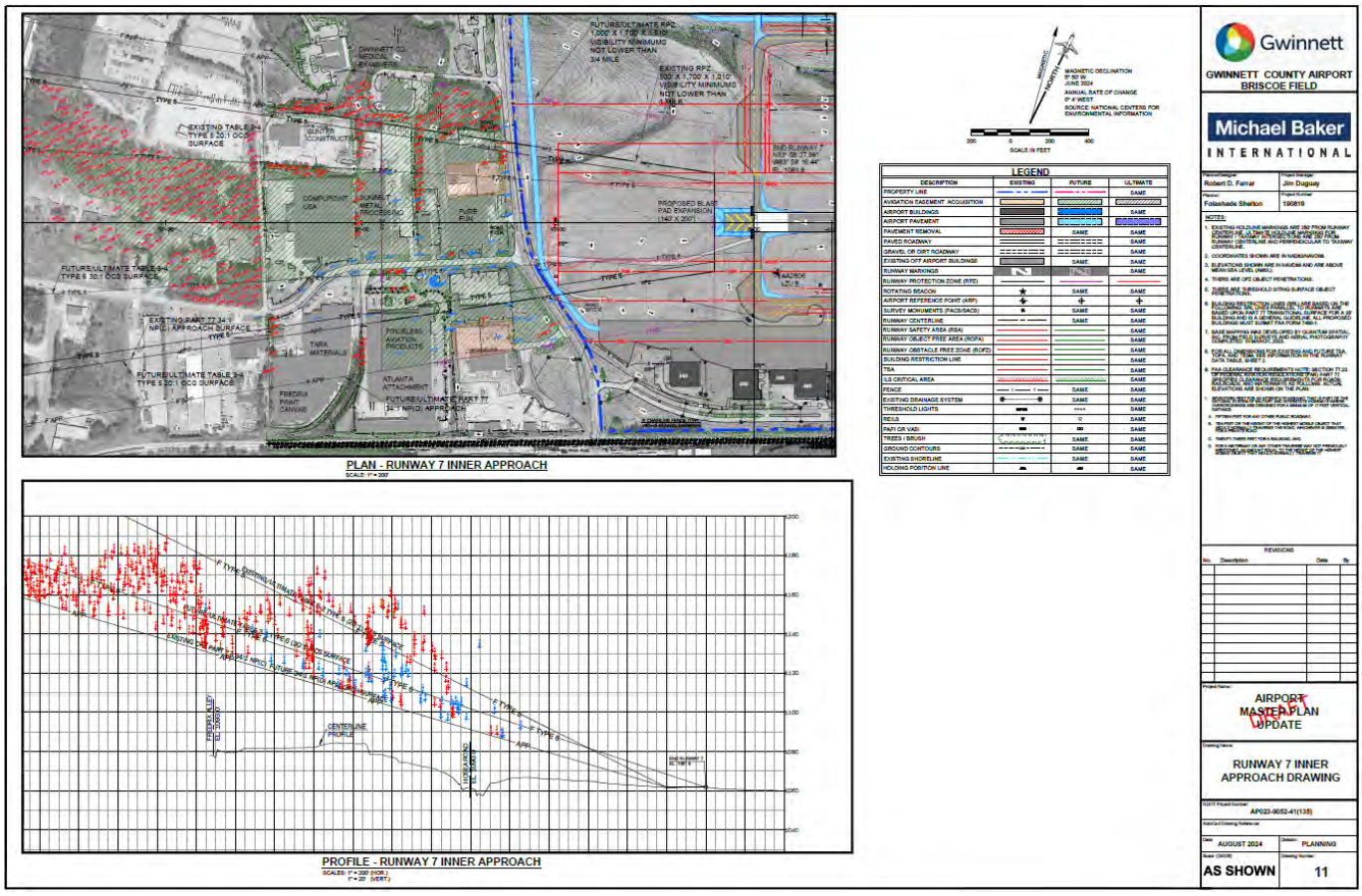


Figure 6-12: Runway 25 Inner Approach Drawing Type 5 and Type 6 Surfaces

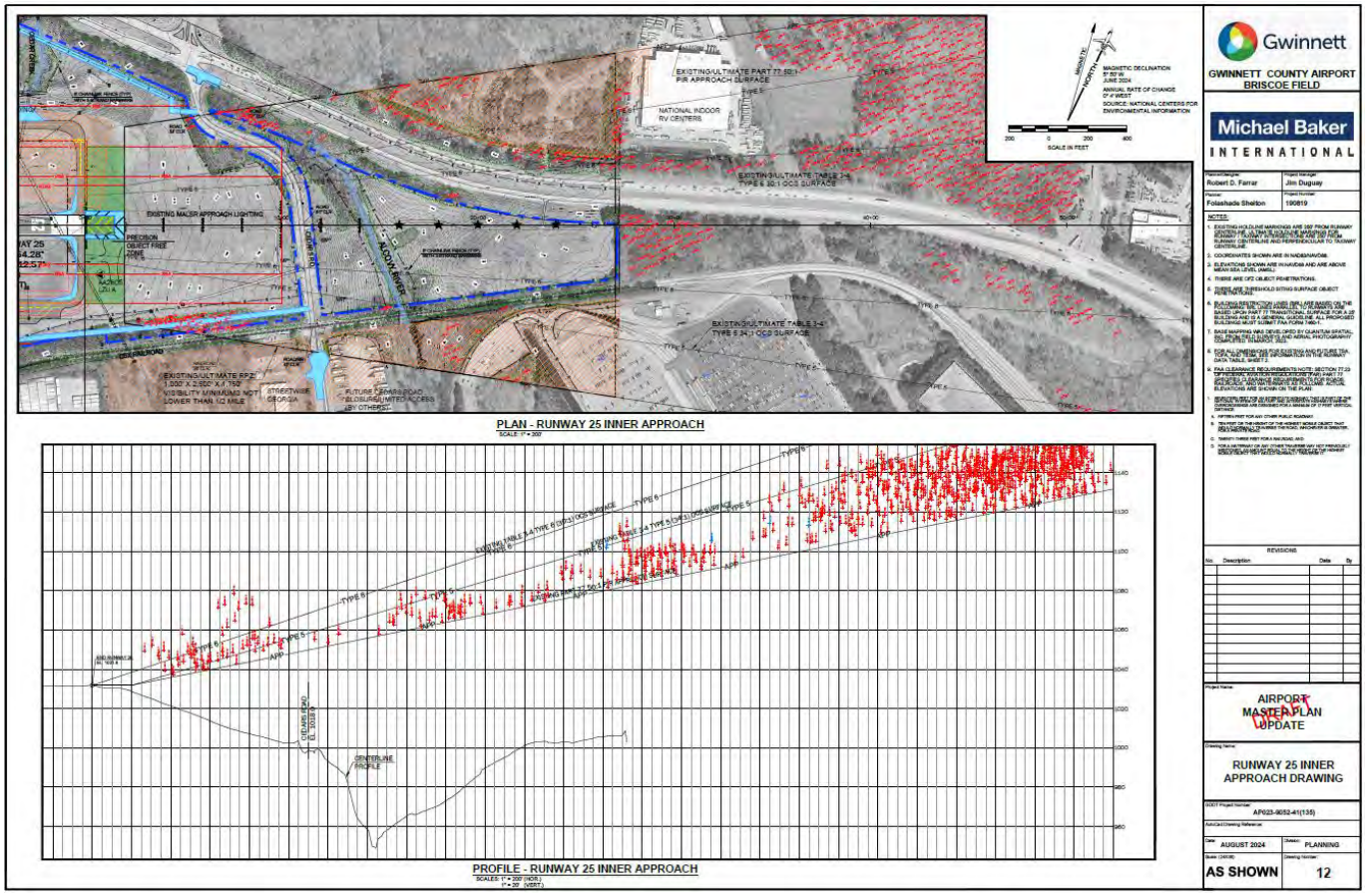


Figure 6-13: Runway Departure Surface Drawing Runway 7-25

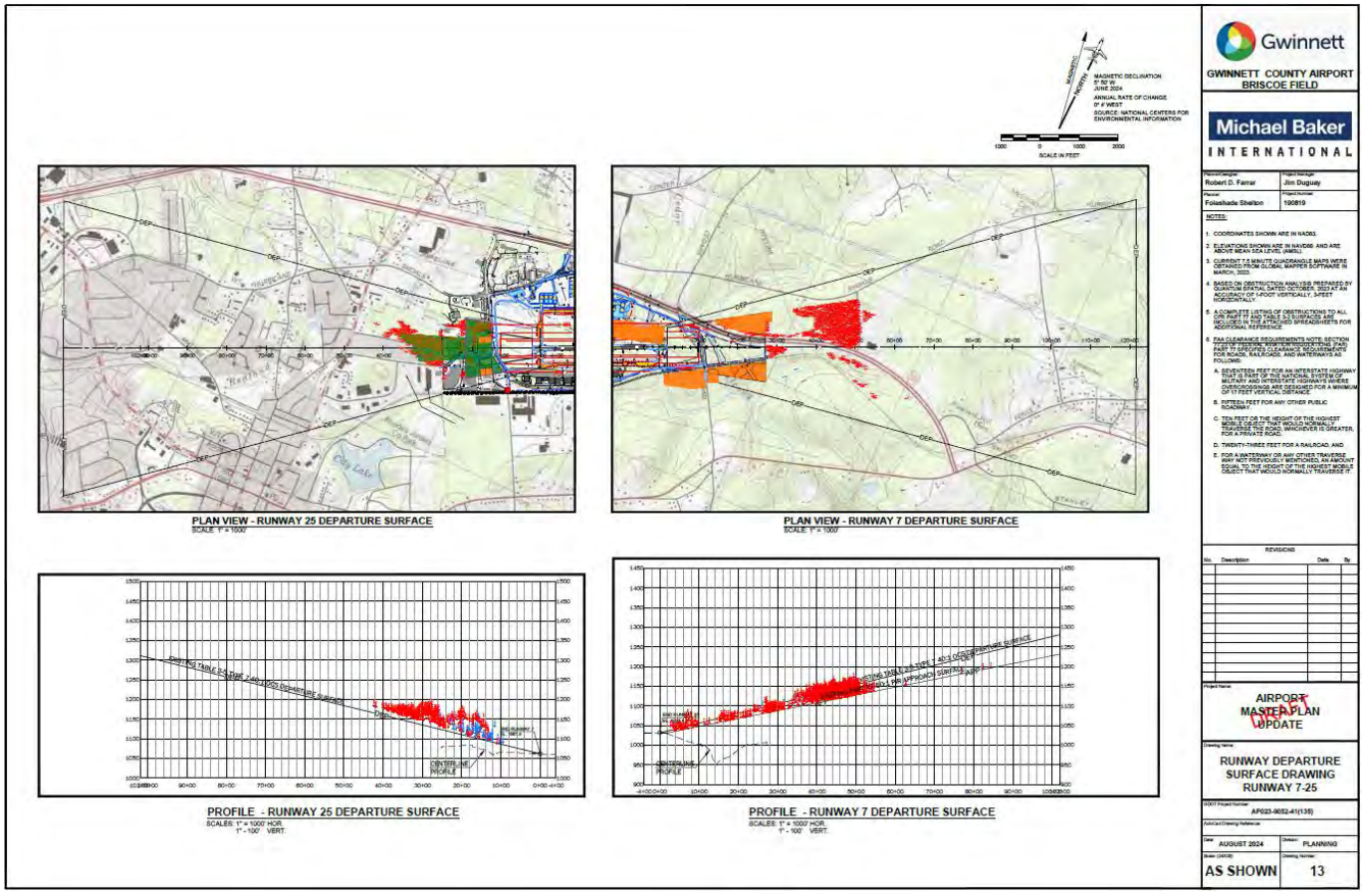


Figure 6-14: Airport Land Use Drawing

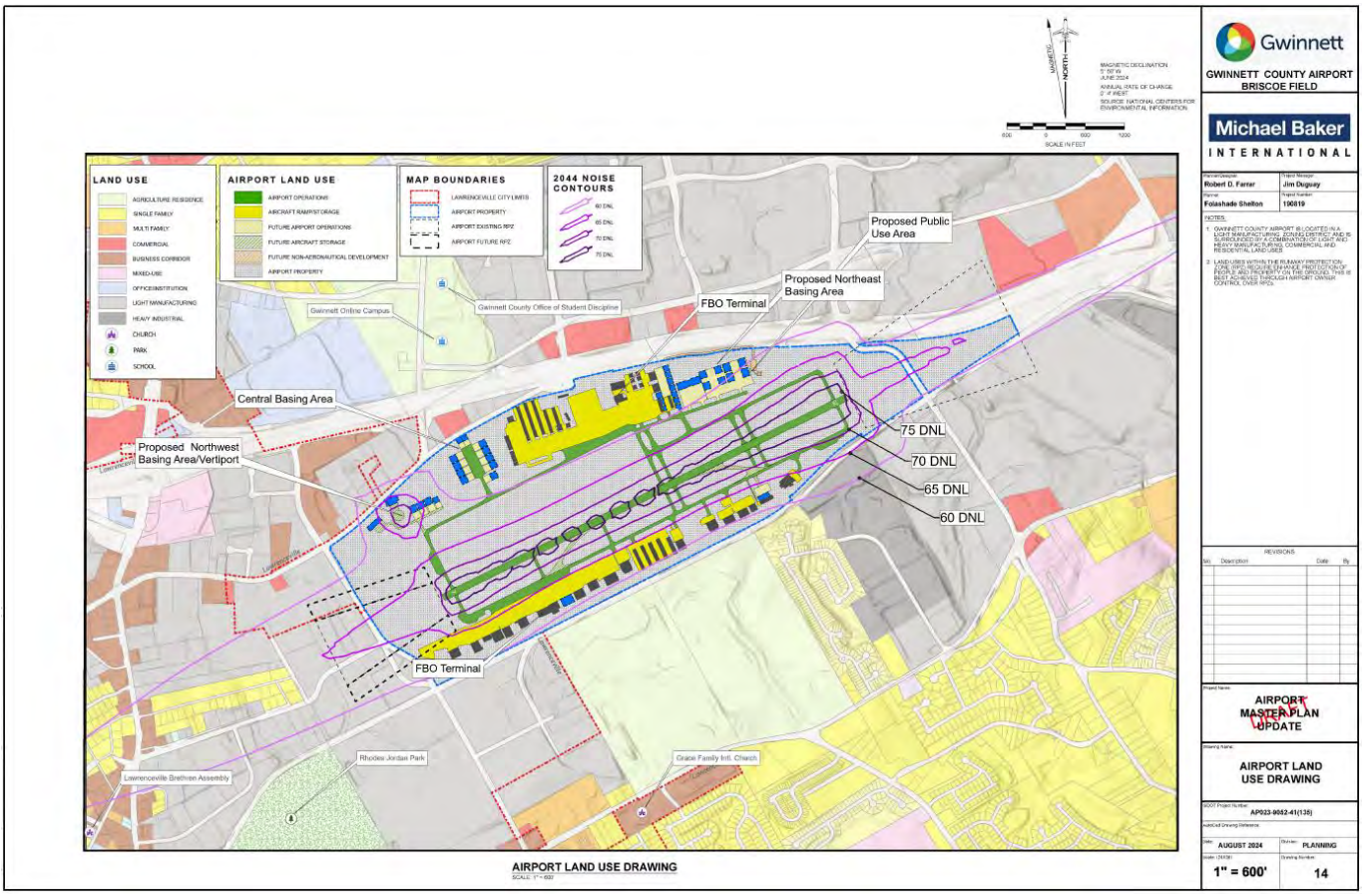
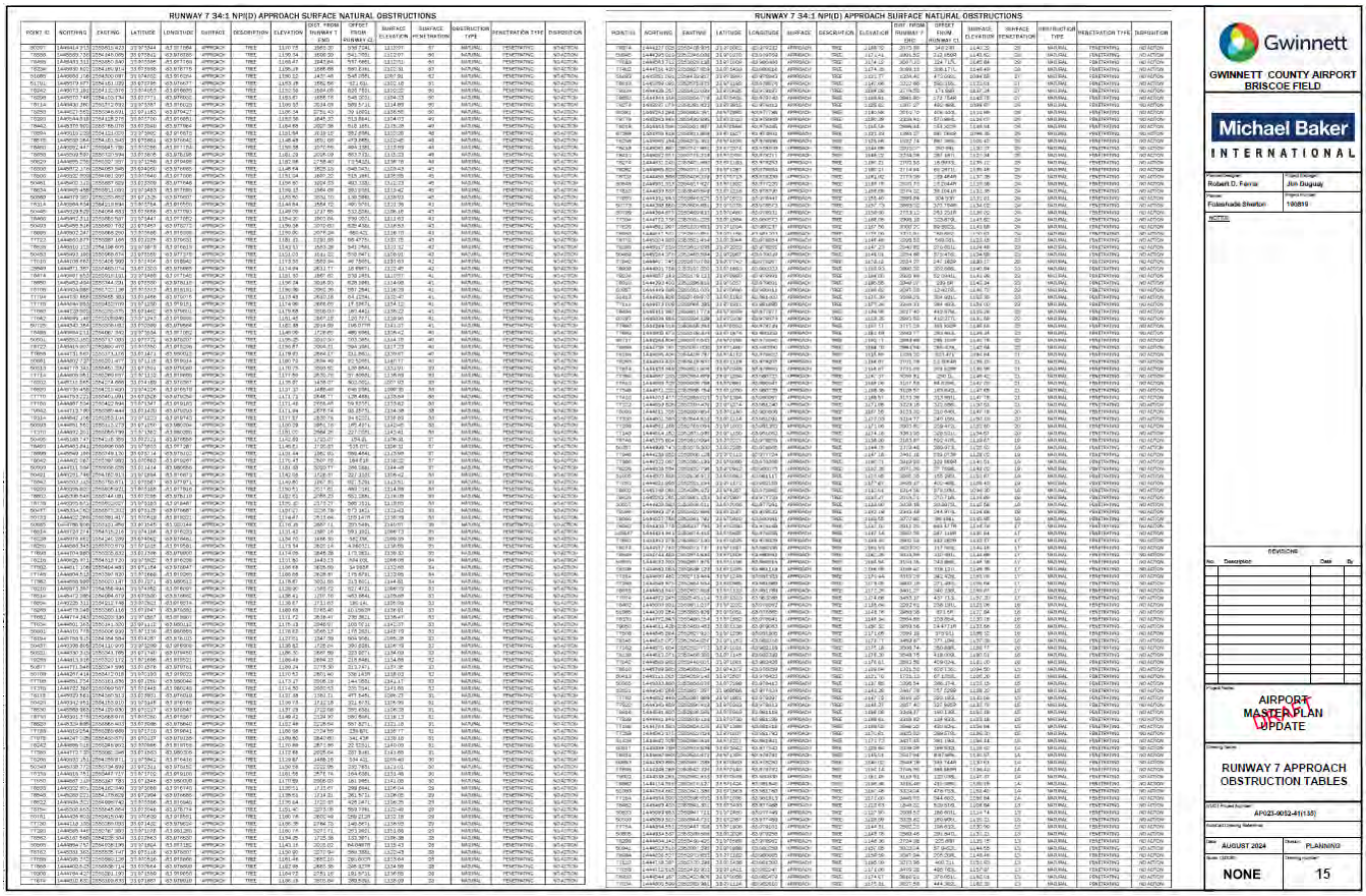


Figure 6-17: Runway 7-25 Approach Obstruction Tables



RUNWAY 7 34:1 NPI(D) APPROACH SURFACE NATURAL OBSTRUCTIONS

RUNWAY 7 34:1 NPI(D) APPROACH SURFACE NATURAL OBSTRUCTIONS

Gwinnett

GWINNETT COUNTY AIRPORT
BRISCOE FIELD

Michael Baker
INTERNATIONAL

Project Manager: Robert D. Ferra
Project Manager: Jim Dugay
Drawn: Rolanda Shelton
Project Number: 190819

NOTES:

REVISIONS

No.	Description	Date	By

AIRPORT MASTER PLAN UPDATE

RUNWAY 7 APPROACH OBSTRUCTION TABLES

AIP025-9052-41(13)

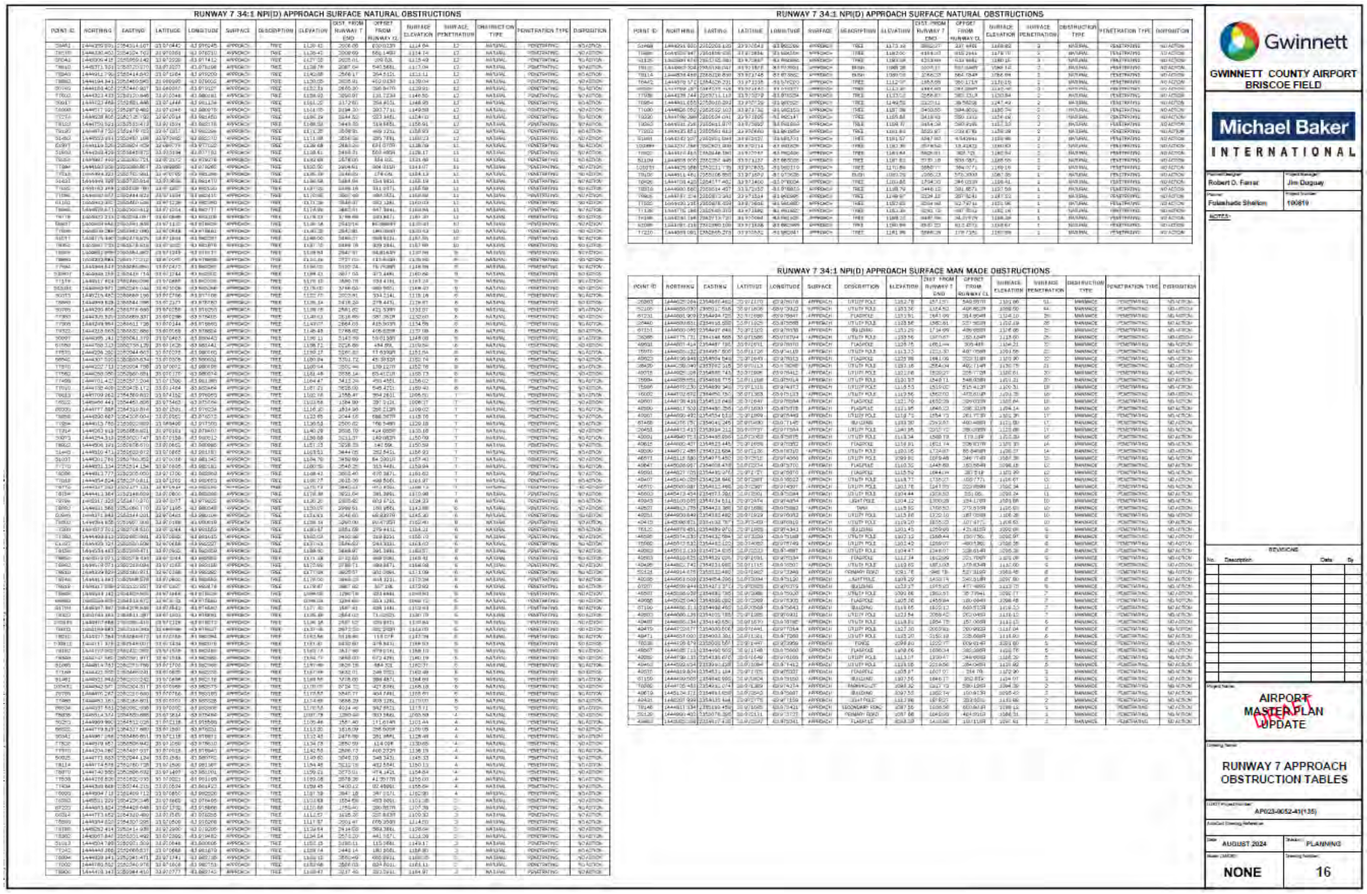
AUGUST 2024

PLANNING

NONE

15

Figure 6-18: Runway 7-25 Approach Obstruction Tables



RUNWAY 7 34:1 NPI(D) APPROACH SURFACE NATURAL OBSTRUCTIONS

POINT ID	NORTHING	EASTING	LATITUDE	LONGITUDE	SURFACE	DESCRIPTION	ELEVATION	DIST. FROM RUNWAY 7 END	OFFSET FROM RUNWAY CL	SURFACE ELEVATION	SURFACE PENETRATION	OBSTRUCTION TYPE	PENETRATION TYPE	DISPOSITION
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

RUNWAY 7 34:1 NPI(D) APPROACH SURFACE NATURAL OBSTRUCTIONS

POINT ID	NORTHING	EASTING	LATITUDE	LONGITUDE	SURFACE	DESCRIPTION	ELEVATION	DIST. FROM RUNWAY 7 END	OFFSET FROM RUNWAY CL	SURFACE ELEVATION	SURFACE PENETRATION	OBSTRUCTION TYPE	PENETRATION TYPE	DISPOSITION
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

RUNWAY 7 34:1 NPI(D) APPROACH SURFACE MAN MADE OBSTRUCTIONS

POINT ID	NORTHING	EASTING	LATITUDE	LONGITUDE	SURFACE	DESCRIPTION	ELEVATION	DIST. FROM RUNWAY 7 END	OFFSET FROM RUNWAY CL	SURFACE ELEVATION	SURFACE PENETRATION	OBSTRUCTION TYPE	PENETRATION TYPE	DISPOSITION
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Gwinnett

GWINNETT COUNTY AIRPORT
BRISCOE FIELD

Michael Baker
INTERNATIONAL

Robert O. Farrar — Jim Duguay
Folashade Shelton — 190819

NOTES:

REVISIONS
No. Description Date By

AIRPORT
MASTER PLAN
UPDATE

DRAFT

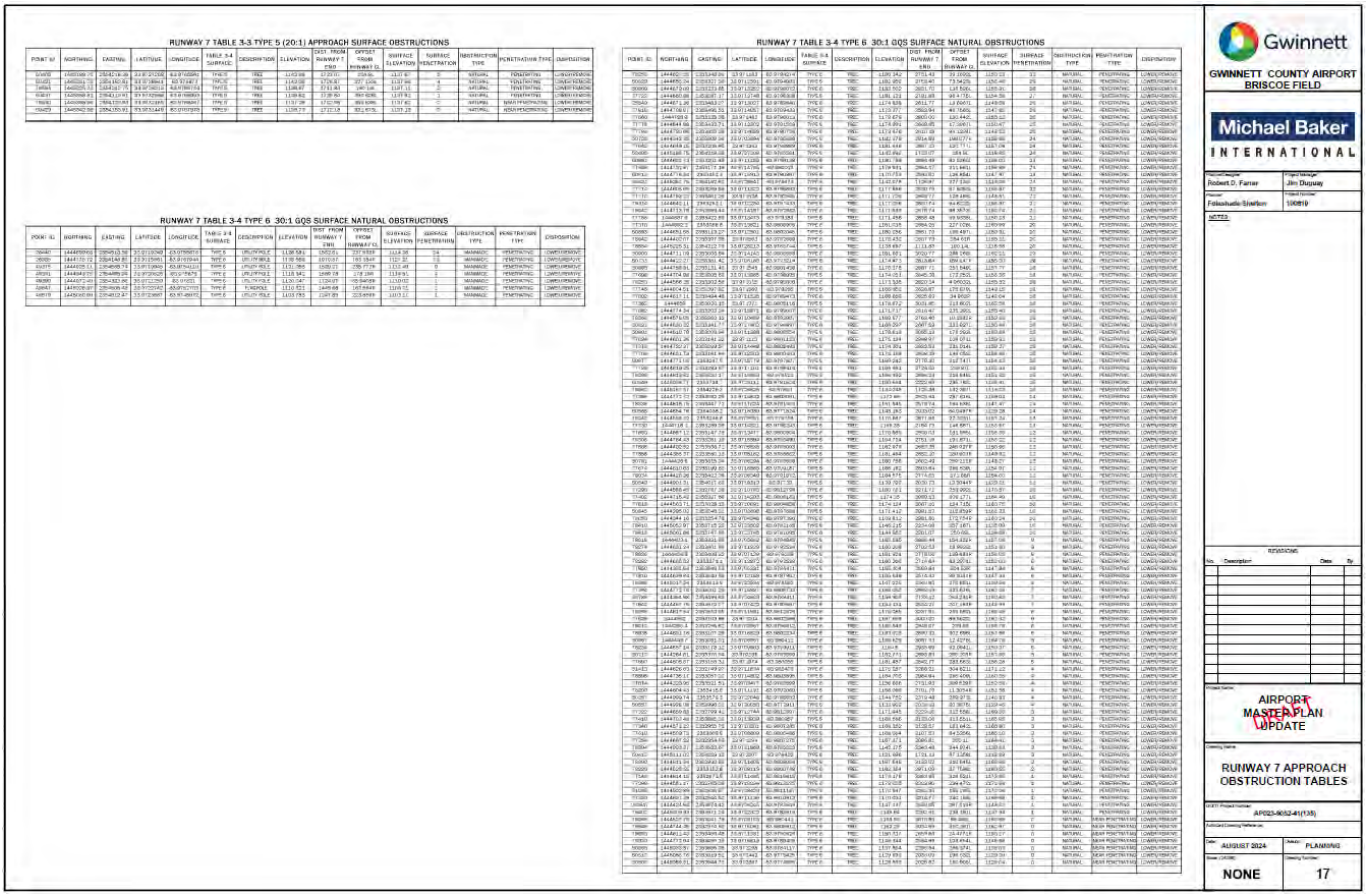
RUNWAY 7 APPROACH
OBSTRUCTION TABLES

AP023-0052-41(135)

AUGUST 2024 — PLANNING

NONE — 16

Figure 6-19: Runway 7-25 Approach Obstruction Tables



RUNWAY 7 TABLE 3-3 TYPE 5 (20:1) APPROACH SURFACE OBSTRUCTIONS

POINT ID	NORTHING	EASTING	LATITUDE	LONGITUDE	TABLE 3-4 SURFACE	DESCRIPTION	ELEVATION	DIST FROM RUNWAY 7 END	OFFSET FROM RUNWAY CL	SURFACE ELEVATION	SURFACE PENETRATION	OBSTRUCTION TYPE	PENETRATION TYPE	DISPOSITION
70250	1444660.28	2554214.38	33°57'27.0258"	84°01'05.6891"	TYPE 5	TREE	1152.68	17,200.01	2599.84	1147.87		NATURAL	PENETRATING	LOWER/REMOVE
70251	1445053.72	2554180.81	33°57'30.8864"	84°01'06.0"	TYPE 5	TREE	1143.08	17,246.87	227.1206	1137.96	4	NATURAL	PENETRATING	LOWER/REMOVE
70252	1445205.12	2554132.75	33°57'32.3713"	84°01'06.5743"	TYPE 5	TREE	1146.47	17,311.83	1.48	1137.11	9	NATURAL	PENETRATING	LOWER/REMOVE
70253	1445998.91	2554112.91	33°57'40.0998"	84°01'06.8883"	TYPE 5	TREE	1139.82	17,387.60	992.0286	1137.91	2	NATURAL	PENETRATING	LOWER/REMOVE
70254	1446098.94	2554103.93	33°57'41.0845"	84°01'06.9921"	TYPE 5	TREE	1137.38	17,521.99	993.9286	1137.82	0	NATURAL	NON-PENETRATING	LOWER/REMOVE
70255	1445962.98	2554105.91	33°57'33.649"	85°01'07.005"	TYPE 5	TREE	1138.77	17,212.8	851.4976	1137.29	0	NATURAL	NON-PENETRATING	LOWER/REMOVE

RUNWAY 7 TABLE 3-4 TYPE 6 30:1 GQS SURFACE NATURAL OBSTRUCTIONS

POINT ID	NORTHING	EASTING	LATITUDE	LONGITUDE	TABLE 3-4 SURFACE	DESCRIPTION	ELEVATION	DIST FROM RUNWAY 7 END	OFFSET FROM RUNWAY CL	SURFACE ELEVATION	SURFACE PENETRATION	OBSTRUCTION TYPE	PENETRATION TYPE	DISPOSITION
70240	1444659.62	2554153.38	33°57'27.0258"	84°01'05.6891"	TYPE 6	OBJECT/TREE	1138.68	17,200.01	2599.84	1147.87	9	NATURAL	PENETRATING	LOWER/REMOVE
70241	1444660.28	2554214.38	33°57'27.0258"	84°01'05.6891"	TYPE 6	OBJECT/TREE	1152.68	17,200.01	2599.84	1147.87	4	NATURAL	PENETRATING	LOWER/REMOVE
70242	1444660.28	2554214.38	33°57'27.0258"	84°01'05.6891"	TYPE 6	OBJECT/TREE	1152.68	17,200.01	2599.84	1147.87	4	NATURAL	PENETRATING	LOWER/REMOVE
70243	1444659.62	2554153.38	33°57'27.0258"	84°01'05.6891"	TYPE 6	OBJECT/TREE	1138.68	17,200.01	2599.84	1147.87	9	NATURAL	PENETRATING	LOWER/REMOVE
70244	1444660.28	2554214.38	33°57'27.0258"	84°01'05.6891"	TYPE 6	OBJECT/TREE	1152.68	17,200.01	2599.84	1147.87	4	NATURAL	PENETRATING	LOWER/REMOVE
70245	1444659.62	2554153.38	33°57'27.0258"	84°01'05.6891"	TYPE 6	OBJECT/TREE	1138.68	17,200.01	2599.84	1147.87	9	NATURAL	PENETRATING	LOWER/REMOVE

RUNWAY 7 TABLE 3-4 TYPE 6 30:1 GQS SURFACE NATURAL OBSTRUCTIONS

POINT ID	NORTHING	EASTING	LATITUDE	LONGITUDE	TABLE 3-4 SURFACE	DESCRIPTION	ELEVATION	DIST FROM RUNWAY 7 END	OFFSET FROM RUNWAY CL	SURFACE ELEVATION	SURFACE PENETRATION	OBSTRUCTION TYPE	PENETRATION TYPE	DISPOSITION
70240	1444659.62	2554153.38	33°57'27.0258"	84°01'05.6891"	TYPE 6	OBJECT/TREE	1138.68	17,200.01	2599.84	1147.87	9	NATURAL	PENETRATING	LOWER/REMOVE
70241	1444660.28	2554214.38	33°57'27.0258"	84°01'05.6891"	TYPE 6	OBJECT/TREE	1152.68	17,200.01	2599.84	1147.87	4	NATURAL	PENETRATING	LOWER/REMOVE
70242	1444660.28	2554214.38	33°57'27.0258"	84°01'05.6891"	TYPE 6	OBJECT/TREE	1152.68	17,200.01	2599.84	1147.87	4	NATURAL	PENETRATING	LOWER/REMOVE
70243	1444659.62	2554153.38	33°57'27.0258"	84°01'05.6891"	TYPE 6	OBJECT/TREE	1138.68	17,200.01	2599.84	1147.87	9	NATURAL	PENETRATING	LOWER/REMOVE
70244	1444660.28	2554214.38	33°57'27.0258"	84°01'05.6891"	TYPE 6	OBJECT/TREE	1152.68	17,200.01	2599.84	1147.87	4	NATURAL	PENETRATING	LOWER/REMOVE
70245	1444659.62	2554153.38	33°57'27.0258"	84°01'05.6891"	TYPE 6	OBJECT/TREE	1138.68	17,200.01	2599.84	1147.87	9	NATURAL	PENETRATING	LOWER/REMOVE

RUNWAY 7 TABLE 3-4 TYPE 6 30:1 GQS SURFACE NATURAL OBSTRUCTIONS

POINT ID	NORTHING	EASTING	LATITUDE	LONGITUDE	TABLE 3-4 SURFACE	DESCRIPTION	ELEVATION	DIST FROM RUNWAY 7 END	OFFSET FROM RUNWAY CL	SURFACE ELEVATION	SURFACE PENETRATION	OBSTRUCTION TYPE	PENETRATION TYPE	DISPOSITION
70240	1444659.62	2554153.38	33°57'27.0258"	84°01'05.6891"	TYPE 6	OBJECT/TREE	1138.68	17,200.01	2599.84	1147.87	9	NATURAL	PENETRATING	LOWER/REMOVE
70241	1444660.28	2554214.38	33°57'27.0258"	84°01'05.6891"	TYPE 6	OBJECT/TREE	1152.68	17,200.01	2599.84	1147.87	4	NATURAL	PENETRATING	LOWER/REMOVE
70242	1444660.28	2554214.38	33°57'27.0258"	84°01'05.6891"	TYPE 6	OBJECT/TREE	1152.68	17,200.01	2599.84	1147.87	4	NATURAL	PENETRATING	LOWER/REMOVE
70243	1444659.62	2554153.38	33°57'27.0258"	84°01'05.6891"	TYPE 6	OBJECT/TREE	1138.68	17,200.01	2599.84	1147.87	9	NATURAL	PENETRATING	LOWER/REMOVE
70244	1444660.28	2554214.38	33°57'27.0258"	84°01'05.6891"	TYPE 6	OBJECT/TREE	1152.68	17,200.01	2599.84	1147.87	4	NATURAL	PENETRATING	LOWER/REMOVE
70245	1444659.62	2554153.38	33°57'27.0258"	84°01'05.6891"	TYPE 6	OBJECT/TREE	1138.68	17,200.01	2599.84	1147.87	9	NATURAL	PENETRATING	LOWER/REMOVE

Gwinnett

GWINNETT COUNTY AIRPORT
BRISCOE FIELD

Michael Baker
INTERNATIONAL

Project Director: Robert D. Farrer
Project Manager: Jim Duguay
Planner: Felisshaelle Shelton
Project Number: 190819

NOTES:

REVISIONS

No.	Description	Date	By

AIRPORT MASTER PLAN UPDATE

RUNWAY 7 APPROACH OBSTRUCTION TABLES

AIP23-9052-41(135)

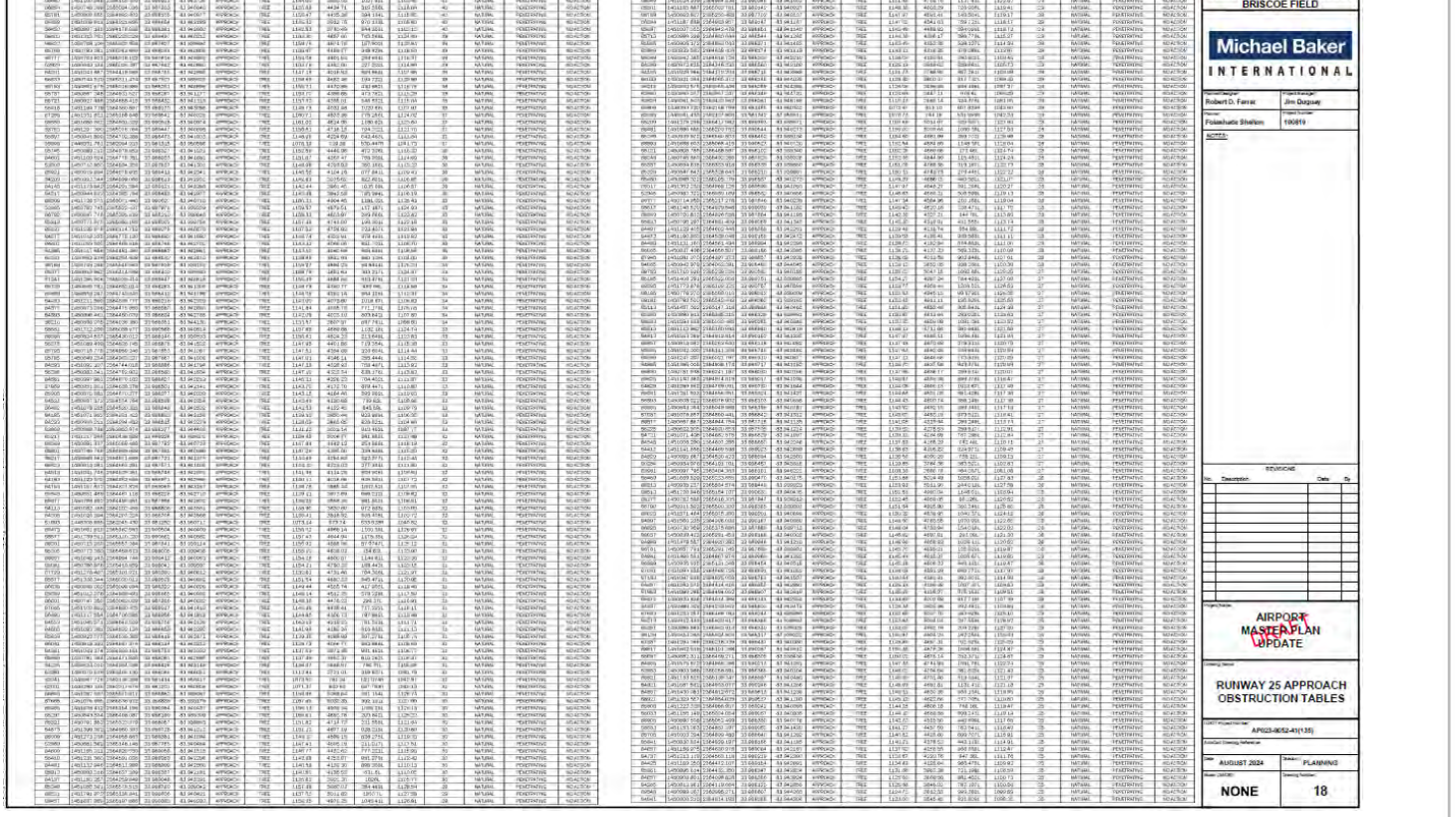
AUGUST 2024

PLANNING

NONE

17

Figure 6-20: Runway 7-25 Approach Obstruction Tables



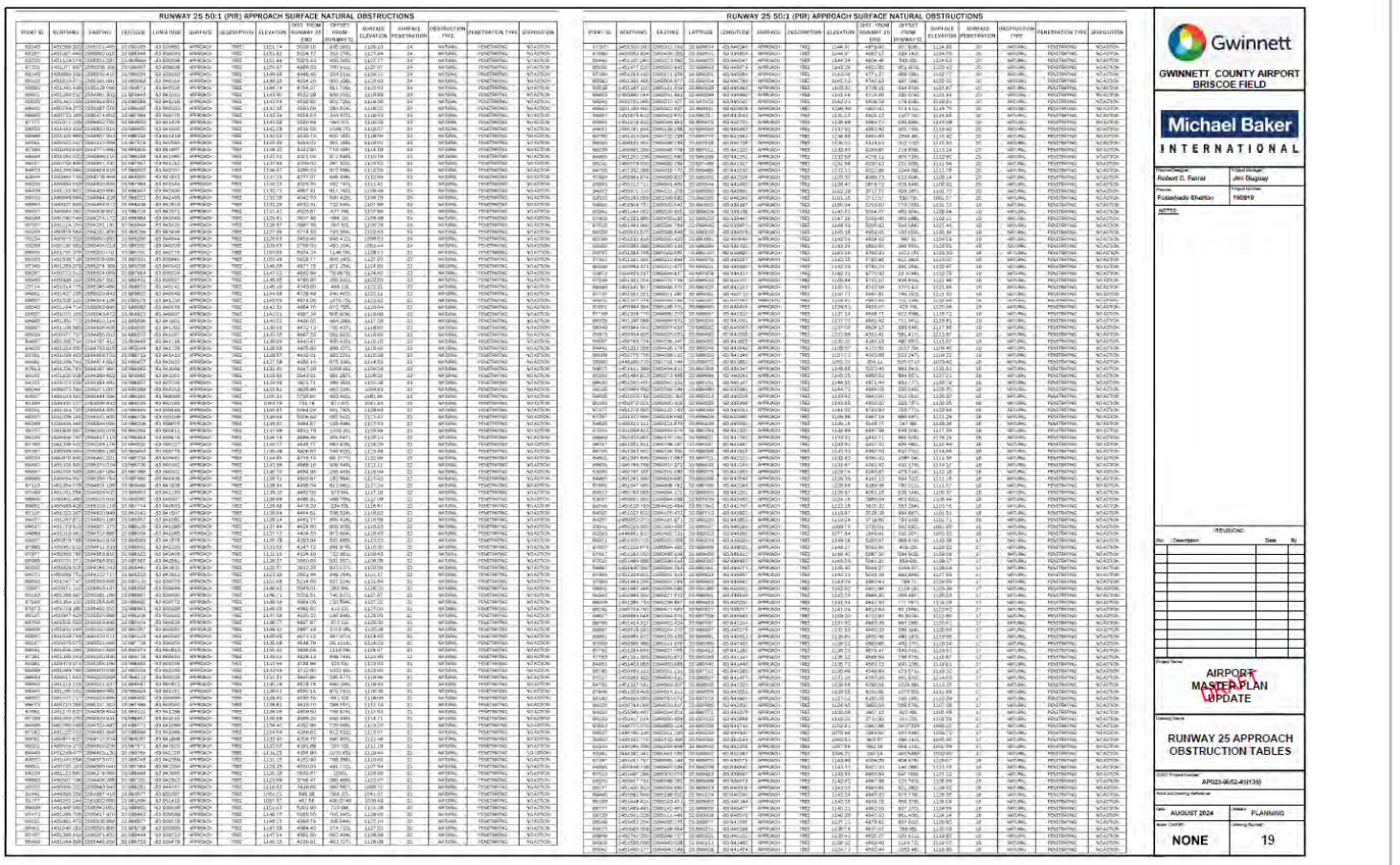
RUNWAY 25 50:1 (PIR) APPROACH SURFACE NATURAL OBSTRUCTIONS

POINT ID	NORTHING	EASTING	LATITUDE	LONGITUDE	SURFACE	DESCRIPTION	ELEVATION	DIST. FROM RUNWAY 25 (USD)	OFFSET FROM RUNWAY (L)	MINIMUM ELEVATION	SURFACE PENETRATION	OBSTRUCTION TYPE	PENETRATION TYPE	DISPOSITION
10733	1462312.280	2065310.990	33.989457	-83.992894	APPROACH	TREE	1171.18	4942.28	799.65	1118.12	53	NATURAL	PENETRATING	NO ACTION
10646	1459840.245	2064601.085	33.982682	-83.991151	APPROACH	TREE	1150.43	4430.72	401.13	1110.94	43	NATURAL	PENETRATING	NO ACTION
10748	1460061.762	2064555.196	33.983441	-83.992253	APPROACH	TREE	1154.62	4587.87	640.40	1111.12	43	NATURAL	PENETRATING	NO ACTION
10658	1459539.313	2064410.912	33.981953	-83.992705	APPROACH	TREE	1148.65	4397.77	746.36	1107.30	42	NATURAL	PENETRATING	NO ACTION
10619	1459544.038	2064401.213	33.981937	-83.992737	APPROACH	TREE	1154.83	4417.94	748.36	1113.70	41	NATURAL	PENETRATING	NO ACTION
10640	1459120.048	2064108.499	33.980611	-83.993738	APPROACH	TREE	1144.02	3980.05	1027.93	1110.46	37	NATURAL	PENETRATING	NO ACTION
10665	1459147.464	2064104.258	33.980688	-83.993753	APPROACH	TREE	1143.68	4034.75	1031.55	1110.49	40	NATURAL	PENETRATING	NO ACTION
10195	1459063.868	2064062.870	33.980419	-83.993897	APPROACH	TREE	1153.47	4015.38	1084.15	1110.80	47	NATURAL	PENETRATING	NO ACTION
10659	1458938.599	2063881.758	33.980078	-83.994524	APPROACH	TREE	1144.83	3932.16	970.33	1108.80	40	NATURAL	PENETRATING	NO ACTION
10652	1458897.283	2063813.018	33.979961	-83.994760	APPROACH	TREE	1142.53	3870.49	944.00	1102.57	40	NATURAL	PENETRATING	NO ACTION
10653	1458753.755	2063620.084	33.979565	-83.995451	APPROACH	TREE	1142.81	3697.90	920.94	1102.57	40	NATURAL	PENETRATING	NO ACTION
10657	1458708.196	2063560.808	33.979441	-83.995662	APPROACH	TREE	1142.77	3644.74	913.84	1102.57	40	NATURAL	PENETRATING	NO ACTION
10655	1458658.107	2063494.191	33.979303	-83.995900	APPROACH	TREE	1142.58	3585.46	905.92	1102.57	40	NATURAL	PENETRATING	NO ACTION
10654	1458607.018	2063427.574	33.979164	-83.996138	APPROACH	TREE	1142.39	3526.18	897.99	1102.57	40	NATURAL	PENETRATING	NO ACTION
10656	1458556.929	2063360.957	33.979026	-83.996376	APPROACH	TREE	1142.20	3466.90	890.07	1102.57	40	NATURAL	PENETRATING	NO ACTION
10660	1458506.840	2063294.340	33.978887	-83.996614	APPROACH	TREE	1142.01	3407.62	882.15	1102.57	40	NATURAL	PENETRATING	NO ACTION
10661	1458456.751	2063227.723	33.978749	-83.996852	APPROACH	TREE	1141.82	3348.34	874.23	1102.57	40	NATURAL	PENETRATING	NO ACTION
10662	1458406.662	2063161.106	33.978610	-83.997090	APPROACH	TREE	1141.63	3289.06	866.31	1102.57	40	NATURAL	PENETRATING	NO ACTION
10663	1458356.573	2063094.489	33.978472	-83.997328	APPROACH	TREE	1141.44	3229.78	858.39	1102.57	40	NATURAL	PENETRATING	NO ACTION
10664	1458306.484	2063027.872	33.978333	-83.997566	APPROACH	TREE	1141.25	3170.50	850.47	1102.57	40	NATURAL	PENETRATING	NO ACTION
10666	1458256.395	2062961.255	33.978195	-83.997804	APPROACH	TREE	1141.06	3111.22	842.55	1102.57	40	NATURAL	PENETRATING	NO ACTION
10667	1458206.306	2062894.638	33.978056	-83.998042	APPROACH	TREE	1140.87	3051.94	834.63	1102.57	40	NATURAL	PENETRATING	NO ACTION
10668	1458156.217	2062828.021	33.977918	-83.998280	APPROACH	TREE	1140.68	2992.66	826.71	1102.57	40	NATURAL	PENETRATING	NO ACTION
10669	1458106.128	2062761.404	33.977779	-83.998518	APPROACH	TREE	1140.49	2933.38	818.79	1102.57	40	NATURAL	PENETRATING	NO ACTION
10670	1458056.039	2062694.787	33.977641	-83.998756	APPROACH	TREE	1140.30	2874.10	810.87	1102.57	40	NATURAL	PENETRATING	NO ACTION
10671	1458005.950	2062628.170	33.977502	-83.998994	APPROACH	TREE	1140.11	2814.82	802.95	1102.57	40	NATURAL	PENETRATING	NO ACTION
10672	1457955.861	2062561.553	33.977364	-83.999232	APPROACH	TREE	1139.92	2755.54	795.03	1102.57	40	NATURAL	PENETRATING	NO ACTION
10673	1457905.772	2062494.936	33.977225	-83.999470	APPROACH	TREE	1139.73	2696.26	787.11	1102.57	40	NATURAL	PENETRATING	NO ACTION
10674	1457855.683	2062428.319	33.977087	-83.999708	APPROACH	TREE	1139.54	2636.98	779.19	1102.57	40	NATURAL	PENETRATING	NO ACTION
10675	1457805.594	2062361.702	33.976948	-83.999946	APPROACH	TREE	1139.35	2577.70	771.27	1102.57	40	NATURAL	PENETRATING	NO ACTION
10676	1457755.505	2062295.085	33.976810	-84.000184	APPROACH	TREE	1139.16	2518.42	763.35	1102.57	40	NATURAL	PENETRATING	NO ACTION
10677	1457705.416	2062228.468	33.976671	-84.000422	APPROACH	TREE	1138.97	2459.14	755.43	1102.57	40	NATURAL	PENETRATING	NO ACTION
10678	1457655.327	2062161.851	33.976533	-84.000660	APPROACH	TREE	1138.78	2399.86	747.51	1102.57	40	NATURAL	PENETRATING	NO ACTION
10679	1457605.238	2062095.234	33.976394	-84.000898	APPROACH	TREE	1138.59	2340.58	739.59	1102.57	40	NATURAL	PENETRATING	NO ACTION
10680	1457555.149	2062028.617	33.976256	-84.001136	APPROACH	TREE	1138.40	2281.30	731.67	1102.57	40	NATURAL	PENETRATING	NO ACTION
10681	1457505.060	2061962.000	33.976117	-84.001374	APPROACH	TREE	1138.21	2222.02	723.75	1102.57	40	NATURAL	PENETRATING	NO ACTION
10682	1457454.971	2061895.383	33.975979	-84.001612	APPROACH	TREE	1138.02	2162.74	715.83	1102.57	40	NATURAL	PENETRATING	NO ACTION
10683	1457404.882	2061828.766	33.975840	-84.001850	APPROACH	TREE	1137.83	2103.46	707.91	1102.57	40	NATURAL	PENETRATING	NO ACTION
10684	1457354.793	2061762.149	33.975702	-84.002088	APPROACH	TREE	1137.64	2044.18	699.99	1102.57	40	NATURAL	PENETRATING	NO ACTION
10685	1457304.704	2061695.532	33.975563	-84.002326	APPROACH	TREE	1137.45	1984.90	692.07	1102.57	40	NATURAL	PENETRATING	NO ACTION
10686	1457254.615	2061628.915	33.975425	-84.002564	APPROACH	TREE	1137.26	1925.62	684.15	1102.57	40	NATURAL	PENETRATING	NO ACTION
10687	1457204.526	2061562.298	33.975286	-84.002802	APPROACH	TREE	1137.07	1866.34	676.23	1102.57	40	NATURAL	PENETRATING	NO ACTION
10688	1457154.437	2061495.681	33.975148	-84.003040	APPROACH	TREE	1136.88	1807.06	668.31	1102.57	40	NATURAL	PENETRATING	NO ACTION
10689	1457104.348	2061429.064	33.975009	-84.003278	APPROACH	TREE	1136.69	1747.78	660.39	1102.57	40	NATURAL	PENETRATING	NO ACTION
10690	1457054.259	2061362.447	33.974871	-84.003516	APPROACH	TREE	1136.50	1688.50	652.47	1102.57	40	NATURAL	PENETRATING	NO ACTION
10691	1457004.170	2061295.830	33.974732	-84.003754	APPROACH	TREE	1136.31	1629.22	644.55	1102.57	40	NATURAL	PENETRATING	NO ACTION
10692	1456954.081	2061229.213	33.974594	-84.003992	APPROACH	TREE	1136.12	1569.94	636.63	1102.57	40	NATURAL	PENETRATING	NO ACTION
10693	1456903.992	2061162.596	33.974455	-84.004230	APPROACH	TREE	1135.93	1510.66	628.71	1102.57	40	NATURAL	PENETRATING	NO ACTION
10694	1456853.903	2061095.979	33.974317	-84.004468	APPROACH	TREE	1135.74	1451.38	620.79	1102.57	40	NATURAL	PENETRATING	NO ACTION
10695	1456803.814	2061029.362	33.974178	-84.004706	APPROACH	TREE	1135.55	1392.10	612.87	1102.57	40	NATURAL	PENETRATING	NO ACTION
10696	1456753.725	2060962.745	33.974040	-84.004944	APPROACH	TREE	1135.36	1332.82	604.95	1102.57	40	NATURAL	PENETRATING	NO ACTION
10697	1456703.636	2060896.128	33.973901	-84.005182	APPROACH	TREE	1135.17	1273.54	597.03	1102.57	40	NATURAL	PENETRATING	NO ACTION
10698	1456653.547	2060829.511	33.973763	-84.005420	APPROACH	TREE	1134.98	1214.26	589.11	1102.57	40	NATURAL	PENETRATING	NO ACTION
10699	1456603.458	2060762.894	33.973624	-84.005658	APPROACH	TREE	1134.79	1154.98	581.19	1102.57	40	NATURAL	PENETRATING	NO ACTION
10700	1456553.369	2060696.277	33.973486	-84.005896	APPROACH	TREE	1134.60	1095.70	573.27	1102.57	40	NATURAL	PENETRATING	NO ACTION
10701	1456503.280	2060629.660	33.973347	-84.006134	APPROACH	TREE	1134.41	1036.42	565.35	1102.57	40	NATURAL	PENETRATING	NO ACTION
10702	1456453.191	2060563.043	33.973209	-84.006372	APPROACH	TREE	1134.22	977.14	557.43	1102.57	40	NATURAL	PENETRATING	NO ACTION
10703	1456403.102	2060496.426	33.973070	-84.006610	APPROACH	TREE	1134.03	917.86	549.51	1102.57	40	NATURAL	PENETRATING	NO ACTION
10704	1456353.013	2060429.809	33.972932	-84.006848	APPROACH	TREE	1133.84	858.58	541.59	1102.57	40	NATURAL	PENETRATING	NO ACTION
10705	1456302.924	2060363.192	33.972793	-84.007086	APPROACH	TREE	1133.65	799.30	533.67	1102.57	40	NATURAL	PENETRATING	NO ACTION
10706	1456252.835	2060296.575	33.972655	-84.007324	APPROACH	TREE	1133.46	740.02	525.75	1102.57	40	NATURAL	PENETRATING	NO ACTION
10707	1456202.746	2060229.958	33.972516	-84.007562	APPROACH	TREE	1133.27	680.74	517.83	1102.57	40	NATURAL	PENETRATING	NO ACTION
10708	1456152.657	2060163.341	33.972378	-84.007800	APPROACH	TREE	1133.08	621.46	509.91	1102.57	40	NATURAL	PENETRATING	NO ACTION
10709	1456102.568	2060096.724	33.972239	-84.008038	APPROACH	TREE	1132.89	562.18	501.99	1102.57	40	NATURAL	PENETRATING	NO ACTION
10710	1456052.479	2060030.107	33.972101	-84.008276	APPROACH	TREE	1132.70	502.90	494.07	1102.57	40	NATURAL	PENETRATING	NO ACTION
10711	1456002.390	2059963.490	33.971962	-84.008514	APPROACH	TREE	1132.51	443.62	486.15	1102.57	40	NATURAL	PENETRATING	NO ACTION
10712	1455952.301	2059896.873	33.971824	-84.008752	APPROACH	TREE	1132.32	384.34	478.23	1102.57	40	NATURAL	PENETRATING	NO ACTION
10713	1455902.212	2059830.256	33.971685	-84.008990	APPROACH	TREE	1132.13	325.06	470.31	1102.57	40	NATURAL	PENETRATING	NO ACTION
10714	1455852.123	2059763.639	33.971547	-84.009228	APPROACH	TREE	1131.94	265.78	462.39	1102.57	40	NATURAL	PENETRATING	NO ACTION
10715	1455802.034	2059697.022	33.971408	-84.009466	APPROACH	TREE	1131.75	206.50	454.47	1102.57	40	NATURAL	PENETRATING	NO ACTION
10716	1455751.945	2059630.405	33.971270	-84.009704	APPROACH	TREE	1131.56	147.22	446.55	1102.57	40	NATURAL	PENETRATING	NO ACTION
10717	1455701.856	2059563.788	33.971131	-84.009942	APPROACH	TREE	1131.37	87.94	438.63	1102.57	40	NATURAL	PENETRATING	NO ACTION
10718	1455651.767	2059497.171	33.970993	-84.010180	APPROACH	TREE	1131.18	28.66	430.71	1102.57	40	NATURAL	PENETRATING	NO ACTION

RUNWAY 25 50:1 (PIR) APPROACH SURFACE NATURAL OBSTRUCTIONS

POINT ID	NORTHING	EASTING	LATITUDE	LONGITUDE	SURFACE	DESCRIPTION	ELEVATION	DIST. FROM RUNWAY 25 (USD)	OFFSET FROM RUNWAY (L)	MINIMUM ELEVATION	SURFACE PENETRATION	OBSTRUCTION TYPE	PENETRATION TYPE	DISPOSITION
10719	1455402.678	2059430.554	33.969762	-84.010718	APPROACH	TREE	1130.99	-490.82	414.87	1102.57	28	NATURAL	PENETRATING	NO ACTION
10720	1455352.589	2059363.937	33.969624	-84.010956	APPROACH	TREE	1130.80	-550.10	406.95	1102.57	28	NATURAL	PENETRATING	NO ACTION
10721	1455302.500	2059297.320	33.969485	-84.011194	APPROACH	TREE	1130.61	-609.38	399.03	1102.57	28	NATURAL	PENETRATING	NO ACTION
10722	1455252.411	2059230.703	33.969347	-84.011432	APPROACH	TREE	1130.42	-668.66	391.11	1102.57	28	NATURAL	PENETRATING	NO ACTION
10723	1455202.322	2059164.086	33.969208	-84.011670	APPROACH	TREE	1130.23	-727.94	383.19	1102.57	28	NATURAL	PENETRATING	NO ACTION
10724	1455152.233	2059097.469	33.969070	-84.011908	APPROACH	TREE	1130.04	-787.22	375.27	1102.57	28	NATURAL	PENETRATING	NO ACTION
10725	1455102.144	2059030.852	33.968931	-84.012146	APPROACH	TREE	1129.85	-846.50	367.35	1102.57	28	NATURAL	PENETRATING	NO ACTION
10726	1455052.055	2058964.235	33.968793	-84.012384	APPROACH	TREE	1129.66	-905.78	359.43	1102.57	28	NATURAL	PENETRATING	NO ACTION
10727	1455001.966	2058897.618	33.968654	-84.012622	APPROACH	TREE	1129.47	-965.06	351.51	1102.57	28	NATURAL	PENETRATING	NO ACTION
10728	1454951.877	2058831.001	33.968516	-84.012860	APPROACH	TREE	1129.28	-1024.34	343.59	1102.57	28	NATURAL	PENETRATING	NO ACTION
10729	1454901.788	2058764.384	33.968377	-84.013098	APPROACH	TREE	1129.09	-1083.62	335.67	1102.57	28	NATURAL	PENETRATING	NO ACTION
10730	1454851.699	2058697.767	33.968239	-84.013336	APPROACH	TREE	1128.90	-1142.90	327.75	1102.57	28	NATURAL	PENETRATING	NO ACTION
10731	1454801.610	2058631.150	33.968100	-84.013574	APPROACH	TREE	1128.71	-1202.18	319.83	1102.57	28	NATURAL	PENETRATING	NO ACTION
10732	1454751.521	2058564.533	33.967962	-84.013812	APPROACH	TREE	1128.52	-1261.46	311.91	1102.57	28	NATURAL	PENETRATING	NO ACTION
10733	1454701.432	2058497.916	33.967823	-84.014050	APPROACH	TREE	1128.33	-1320.74	303.99	1102.57	28	NATURAL	PENETRATING	NO ACTION
10734	1454651.343	2058431.299	33.967685	-84.014288	APPROACH	TREE	1128.14	-1380.02	296.07	1102.57	28	NATURAL	PENETRATING	NO ACTION
10735	1454601.254	2058364.682	33.967546	-84.014526	APPROACH	TREE	1127.95	-1439.30	288.15	1102.57	28	NATURAL	PENETRATING	NO ACTION
10736	1454551.165	2058298.065	33.967408	-84.014764	APPROACH	TREE	1127.76	-1498.58	280.23	1102.57	28	NATURAL	PENETRATING	NO ACTION
10737	1454501.076	2058231.448	33.967269	-84.015002	APPROACH	TREE	1127.57	-1557.86	272.31	1102.57	28	NATURAL	PENETRATING	NO ACTION
10738	1454450.987	2058164.831	33.967131	-84.015240	APPROACH	TREE	1127.38	-1617.14	264.39	1102.57	28	NATURAL	PENETRATING	NO ACTION
10739	1454400.898	2058098.214	33.966992	-84.015478	APPROACH	TREE	1127.19	-1676.42	256.47	1102.57	28	NATURAL	PENETRATING	NO ACTION
10740	1454350.809	2058031.597	33.966854	-84.015716	APPROACH	TREE	1127.00	-1735.70	248.55	1102.57	28	NATURAL	PENETRATING	NO ACTION
10741	1454300.720	2057964.980	33.966715	-84.015954	APPROACH	TREE	1126.81	-1794.98	240.63	1102.57	28	NATURAL	PENETRATING	NO ACTION
10742	1454250.631	2057898.363	33.966577	-84.016192	APPROACH	TREE	1126.62	-1854.26	232.71	1102.57	28	NATURAL	PENETRATING	NO ACTION
10743	1454200.542	2057831.746	33.966438	-84.016430	APPROACH	TREE	1126.43	-1913.54	224.79	1102.57	28	NATURAL	PENETRATING	NO ACTION
10744	1454150.453	2057765.129	33.966300	-84.016668	APPROACH	TREE	1126.24	-1972.82	216.87	1102.57	28	NATURAL	PENETRATING	NO ACTION
10745	1454100.364	2057698.512	33.966161	-84.016906	APPROACH	TREE	1126.05	-2032.10	208.95	1102.57	28	NATURAL	PENETRATING	NO ACTION
10746	1454050.275	2057631.895	33.966023	-84.017144	APPROACH	TREE	1125.86	-2091.38	201.03	1102.57	28	NATURAL	PENETRATING	NO ACTION
10747	1453999.186	2057565.278	33.965884	-84.017382	APPROACH	TREE	1125.67	-2150.66	193.11	1102.57	28	NATURAL	PENETRATING	NO ACTION
10748	1453949.097	2057498.661	33.965746	-84.017620	APPROACH	TREE	1125.48	-2209.94	185.19	1102.57	28	NATURAL	PENETRATING	NO ACTION
10749	1453899.008	2057432.044	33.965607	-84.017858	APPROACH	TREE	1125.29	-2269.22	177.27	1102.57	28	NATURAL	PENETRATING	NO ACTION
10750	1453848.919	2057365.427	33.965469	-84.018096	APPROACH	TREE	1125.10	-2328.50	169.35	1102.57	28	NATURAL	PENETRATING	NO ACTION
10751	1453798.830	2057298.810	33.965330	-84.018334	APPROACH	TREE	1124.91	-2387.78	161.43	1102.57	28	NATURAL	PENETRATING	NO ACTION
10752	1453748.741	2057232.193	33.965192	-84.018572	APPROACH	TREE	1124.72	-2447.06	153.51	1102.57	28	NATURAL	PENETRATING	NO ACTION
10753	1453698.652	2057165.576	33.965053	-84.018810	APPROACH	TREE	1124.53	-2506.34	145.59	1102.57	28	NATURAL	PENETRATING	NO ACTION
10754	1453648.563	2057098.959	33.964915	-84.019048	APPROACH	TREE	1124.34	-2565.62	137.67	1102.57	28	NATURAL	PENETRATING	NO ACTION
10755	1453598.474	2057032.342	33.964776	-84.019286	APPROACH	TREE	1124.15	-2624.90	129.75	1102.57	28	NATURAL	PENETRATING	NO ACTION
10756	1453548.385	2056965.725	33.964638	-84.019524	APPROACH	TREE	1123.96	-2684.18	121.83	1102.57	28	NATURAL	PENETRATING	NO ACTION
10757	1453498.296	2056899.108	33.964499	-84.019762	APPROACH	TREE	1123.77	-2743.46	113.91	1102.57	28	NATURAL	PENETRATING	NO ACTION
10758	1453448.207	2056832.491	33.964361	-84.020000	APPROACH	TREE	1123.58	-2802.74	105.99	1102.57	28	NATURAL	PENETRATING	NO ACTION
10759	1453398.118	2056765.874	33.964222	-84.020238	APPROACH	TREE	1123.39	-2862.02	98.07	1102.57	28	NATURAL	PENETRATING	NO ACTION
10760	1453348.029	2056699.257	33.964084	-84.020476	APPROACH	TREE	1123.20	-2921.30	90.15	1102.57	28	NATURAL	PENETRATING	NO ACTION
10761	1453297.940	2056632.640	33.963945	-84.020714	APPROACH	TREE	1123.01	-2980.58	82.23	1102.57	28	NATURAL	PENETRATING	NO ACTION
10762	1453247.851	2056566.023	33.963807	-84.020952	APPROACH	TREE	1122.82	-3039.86	74.31	1102.57	28	NATURAL	PENETRATING	NO ACTION
10763	1453197.762	2056499.406	33.963668	-84.021190	APPROACH	TREE	1122.63	-3099.14	66.39	1102.57	28	NATURAL	PENETRATING	NO ACTION
10764	1453147.673	2056432.789	33.963530	-84.021428	APPROACH	TREE	1122.44	-3158.42	58.47	1102.57	28	NATURAL	PENETRATING	NO ACTION
10765	1453097.584	2056366.172	33.963391	-84.021666	APPROACH	TREE	1122.25	-3217.70	50.55	1102.57	28	NATURAL	PENETRATING	NO ACTION
10766	1453047.495	2056299.555	33.963253	-84.021904	APPROACH	TREE	1122.06	-3276.98	42.63	1102.57	28	NATURAL	PENETRATING	NO ACTION
10767	1452997.406	2056232.938	33.963114	-84.022142	APPROACH	TREE	1121.87	-3336.26	34.71	1102.57	28	NATURAL	PENETRATING	NO ACTION
10768	1452947.317	2056166.321	33.962976	-84.022380	APPROACH	TREE	1121.68	-3395.54	26.79	1102.57	28	NATURAL	PENETRATING	NO ACTION
10769	1452897.228	2056099.704	33.962837	-84.022618	APPROACH	TREE	1121.49	-3454.82	18.87	1102.57	28	NATURAL	PENETRATING	NO ACTION
10770	1452847.139	2056033.087	33.962699	-84.022856	APPROACH	TREE	1121.30	-3514.10	10.95	1102.57	28	NATURAL	PENETRATING	NO ACTION
10771	1452797.050	2055966.470	33.962560	-84.023094	APPROACH	TREE	1121.11	-3573.38	3.03	1102.57	28	NATURAL	PENETRATING	NO ACTION
10772	1452746.961	2055899.853	33.962422	-84.023332	APPROACH	TREE	1120.92	-3632.66	-4.89	1102.57	28	NATURAL	PENETRATING	NO ACTION
10773	1452696.872	2055833.236	33.962283	-84.023570	APPROACH	TREE	1120.73	-3691.94	-12.81	1102.57	28	NATURAL	PENETRATING	NO ACTION
10774	1452646.783	2055766.619	33.962145	-84.023808	APPROACH	TREE	1120.54	-3751.22	-20.73	1102.57	28	NATURAL	PENETRATING	NO ACTION
10775	1452596.694	2055700.002	33.962006	-84.024046	APPROACH	TREE	1120.35	-3810.50	-28.65	1102.57	28	NATURAL	PENETRATING	NO ACTION
10776	1452546.605	2055633.385	33.961868	-84.024284	APPROACH	TREE	1120.16	-3869.78	-36.57	1102.57	28	NATURAL	PENETRATING	NO ACTION
10777	1452496.516	2055566.768	33.961729	-84.024522	APPROACH	TREE	1119.97	-3929.06	-44.49	1102.57	28	NATURAL	PENETRATING	NO ACTION
10778	1452446.427	2055500.151	33.961591	-84.024760	APPROACH	TREE	1119.78	-3988.34	-52.41	1102.57	28	NATURAL	PENETRATING	NO ACTION
10779	1452396.338	2055433.534	33.961452	-84.024998	APPROACH	TREE	1119.59	-4047.62	-60.33	1102.57	28	NATURAL	PENETRATING	NO ACTION
10780	1452346.249	2055366.917	33.961314	-84.025236	APPROACH	TREE	1119.40	-4106.90	-68.25	1102.57	28	NATURAL	PENETRATING	NO ACTION
10781	1452296.160	2055300.300	33.961175	-84.025474	APPROACH	TREE	1119.21	-4166.18	-76.17	1102.57	28	NATURAL	PENETRATING	NO ACTION
10782	1452246.071	2055233.683	33.961037	-84.025712	APPROACH	TREE	1119.02	-4225.46	-84.09	1102.57	28	NATURAL	PENETRATING	NO ACTION
10783	1452195.982	2055167.066	33.960898	-84.025950	APPROACH	TREE	1118.83	-4284.74	-92.01	1102.57	28	NATURAL	PENETRATING	NO ACTION
10784	1452145.893	2055100.449	33.960760	-84.026188	APPROACH	TREE	1118.64	-4344.02	-99.93	1102.57	28	NATURAL	PENETRATING	NO ACTION
10785	1452095.804	2055033.832	33.960621	-84.026426	APPROACH	TREE	1118.45	-4403.30	-107.85	1102.57	28	NATURAL	PENETRATING	NO ACTION
10786	1452045.715	2054967.215	33.960483	-84.026664	APPROACH	TREE	1118.26	-4462.58	-115.77	1102.57	28	NATURAL	PENETRATING	NO ACTION
10787	1451995.626	2054900.598	33.960344	-84.026902	APPROACH	TREE	1118.07	-4521.86	-123.69	1102.57	28	NATURAL	PENETRATING	NO ACTION
10788	1451945.537	2054833.981	33.960206	-84.027140	APPROACH	TREE	1117.88	-4581.14	-131.61	1102.57	28	NATURAL	PENETRATING	NO ACTION
10789	1451895.448	2054767.364	33.960067	-84.027378	APPROACH	TREE	1117.69	-4640.42	-139.53	1102.57	28	NATURAL	PENETRATING	NO ACTION
10790	1451845.359	2054700.747	33.959929	-84.027616	APPROACH	TREE	1117.50	-4699.70	-147.45	1102.57	28	NATURAL	PENETRATING	NO ACTION
10791	1451795.270	2054634.130	33.959790	-84.027854	APPROACH	TREE	1117.31	-4758.98	-155.37	1102.57	28	NATURAL	PENETRATING	NO ACTION
10792	1451745.181	2054567.513	33.959652	-84.028092	APPROACH	TREE	1117.12	-4818.26	-163.29	1102.57	28	NATURAL	PENETRATING	NO ACTION
10793	1451695.092	2054500.896	33.959513	-84.028330	APPROACH	TREE	1116.93	-4877.54	-171.21	1102.57	28	NATURAL	PENETRATING	NO ACTION
10794	1451645.003	2054434.279	33.959375	-84.028568	APPROACH	TREE	1116.74	-4936.82	-179.13	1102.57	28	NATURAL	PENETRATING	NO ACTION
10795	1451594.914	2054367.662	33.959236	-84.028806	APPROACH	TREE	1116.55	-4996.10	-187.05	1102.57	28	NATURAL	PENETRATING	NO ACTION
10796	1451544.825	2054301.045	33.959098	-84.029044	APPROACH	TREE	1116.36	-5055.38	-194.97	1102.57	28	NATURAL	PENETRATING	NO ACTION
10797	1451494.736	2054234.428	33.958959	-84.029282	APPROACH	TREE	1116.17	-5114.66	-202.89	1102.57	28	NATURAL	PENETRATING	NO ACTION
10798	1451444.647	2054167.811	33.958821	-84.029520	APPROACH	TREE	1115.98	-5173.94	-210.81	1102.57	28	NATURAL	PENETRATING	NO ACTION
10799	1451394.558	2054101.194	33.958682	-84.029758	APPROACH	TREE	1115.79	-5233.22	-218.73	1102.57	28	NATURAL	PENETRATING	NO ACTION
10800	1451344.469	2054034.577	33.958544	-84.029996	APPROACH	TREE	1115.60	-5292.50	-226.65	1102.57	28	NATURAL	PENETRATING	NO ACTION

Figure 6-21: Runway 7-25 Approach Obstruction Tables



RUNWAY 25 50:1 (PIR) APPROACH SURFACE NATURAL OBSTRUCTIONS

RUNWAY 25 50:1 (PIR) APPROACH SURFACE NATURAL OBSTRUCTIONS

Gwinnett

GWINNETT COUNTY AIRPORT
BRISCOE FIELD

Michael Baker
INTERNATIONAL

Robert C. Farrar

Jim Dugiay

Rolanda Shelton

190819

NOTES:

REVISIONS

AIRPORT MASTER PLAN UPDATE

RUNWAY 25 APPROACH OBSTRUCTION TABLES

AIP023-9652-45(135)

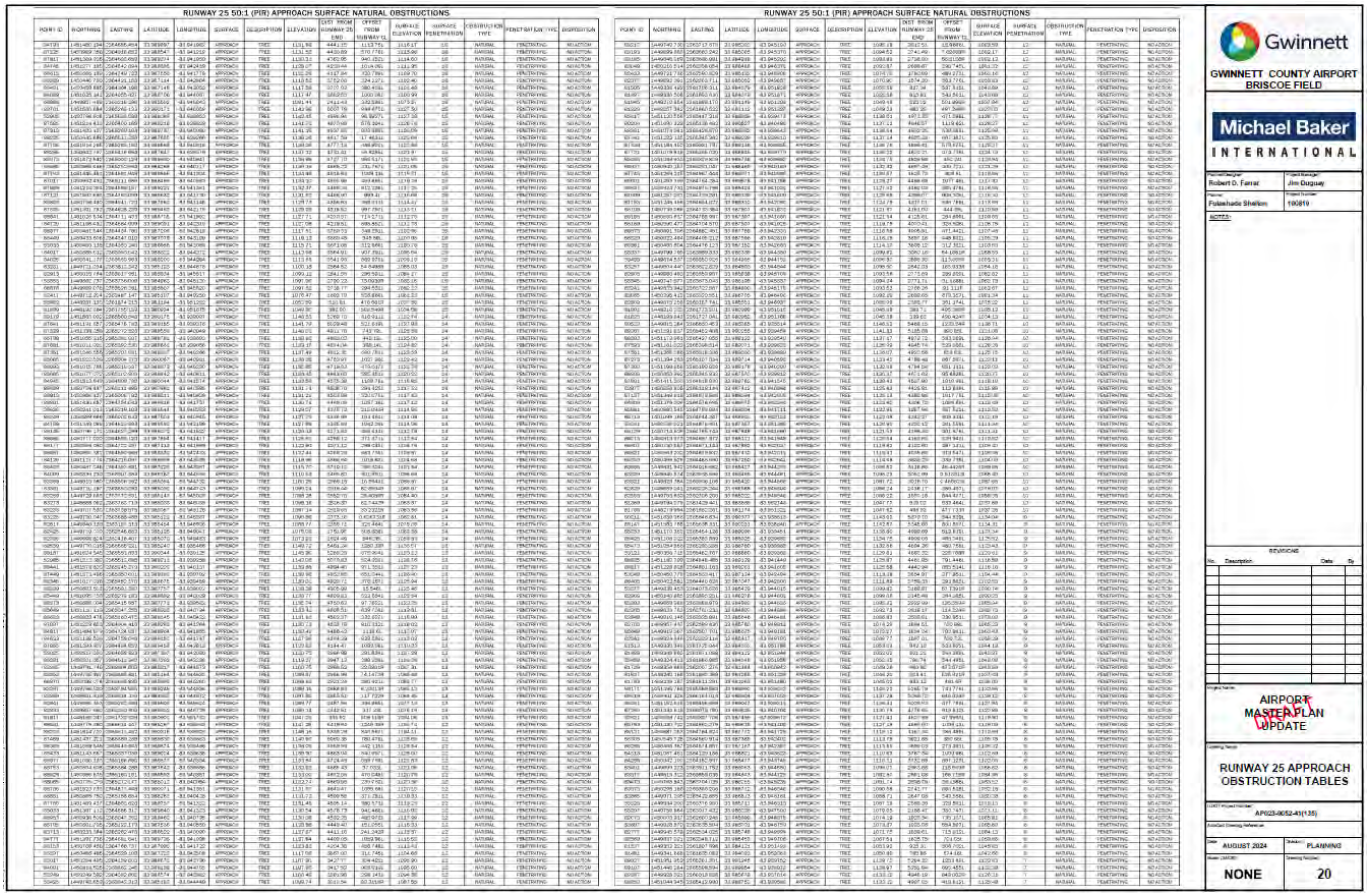
AUGUST 2024

PLANNING

NONE

19

Figure 6-22: Runway 7-25 Approach Obstruction Tables



RUNWAY 25 50:1 (PIR) APPROACH SURFACE NATURAL OBSTRUCTIONS

RUNWAY 25 50:1 (PIR) APPROACH SURFACE NATURAL OBSTRUCTIONS

Gwinnett

GWINNETT COUNTY AIRPORT
BRISCOE FIELD

Michael Baker
INTERNATIONAL

Project Engineer: Robert D. Ferrer
Project Manager: Jim Duguay
Phone: Polashek Shelton
Project Number: 190810

NOTES:

REVISIONS

No.	Description	Date	By

AIRPORT MASTER PLAN UPDATE

RUNWAY 25 APPROACH OBSTRUCTION TABLES

AP023-6052-43(135)

AUGUST 2024

PLANNING

NONE

20

Figure 6-23: Runway 7-25 Approach Obstruction Tables

RUNWAY 25 50:1 (PIR) APPROACH SURFACE NATURAL OBSTRUCTIONS

POINT ID	NORTHING	EASTING	LATITUDE	LONGITUDE	SURFACE	DESCRIPTION	ELEVATION	DIST. FROM RUNWAY 25 END	OFFSET FROM RUNWAY CL	SURFACE ELEVATION	SURFACE PENETRATION	OBSTRUCTION TYPE	PENETRATION TYPE	DISPOSITION
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	APPROACH	TREE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NATURAL	PENETRATING	NO ACTION

RUNWAY 25 50:1 (PIR) APPROACH SURFACE NATURAL OBSTRUCTIONS

POINT ID	NORTHING	EASTING	LATITUDE	LONGITUDE	SURFACE	DESCRIPTION	ELEVATION	DIST. FROM RUNWAY 25 END	OFFSET FROM RUNWAY CL	SURFACE ELEVATION	SURFACE PENETRATION	OBSTRUCTION TYPE	PENETRATION TYPE	DISPOSITION
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	APPROACH	TREE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NATURAL	PENETRATING	NO ACTION

RUNWAY 25 TABLE 3-4 TYPE 5 (34:1) APPROACH SURFACE NATURAL OBSTRUCTIONS

POINT ID	NORTHING	EASTING	LATITUDE	LONGITUDE	TABLE 3-4 SURFACE	DESCRIPTION	ELEVATION	DIST. FROM RUNWAY 25 END	OFFSET FROM RUNWAY CL	SURFACE ELEVATION	SURFACE PENETRATION	OBSTRUCTION TYPE	PENETRATION TYPE	DISPOSITION
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TYPE 5	TREE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NATURAL	[illegible]	LOWER/REMOVE

RUNWAY 25 TABLE 3-4 TYPE 6 30:1 GQS SURFACE NATURAL OBSTRUCTIONS

POINT ID	NORTHING	EASTING	LATITUDE	LONGITUDE	TABLE 3-4 SURFACE	DESCRIPTION	ELEVATION	DIST. FROM RUNWAY 1 END	OFFSET FROM RUNWAY CL	SURFACE ELEVATION	SURFACE PENETRATION	OBSTRUCTION TYPE	PENETRATION TYPE	DISPOSITION
NO OBSTRUCTIONS NOTED														

Gwinnett

GWINNETT COUNTY AIRPORT
BRISCOE FIELD

Michael Baker INTERNATIONAL

Robert O. Farrar | Jim Duguay
Fulani Sheldon | 190819

NOTES:

REVISIONS

No.	Description	Date	By

AIRPORT MASTER PLAN UPDATE

DRAFT

RUNWAY 25 APPROACH OBSTRUCTION TABLES

AP023-9052-41(135)

AUGUST 2024 | PLANNING

NONE | 21

Chapter Seven: Capital Improvement Plan

Introduction

The final chapter of a master plan is intended to provide guidance on what will be required to demonstrate the airport sponsor's ability to fund the projects in the master plan. A more general discussion of the funding of medium- and long-term projects is more reasonable because of the uncertainty of future federal and state funding and possible shifts in the overall importance of those projects in reaction to aviation demand at the airport and changes in the economic climate in a community. LZU's ability to fund the recommended projects is a major consideration in preparing the Capital Improvement Plan. The recommended development plan for Gwinnett County Airport is based on the facility requirements as presented in Chapter 4.

Implementation Plan

Future airport development at LZU is included in this Airport Master Plan and covers a 20-year planning period. Development items are grouped into three phases:

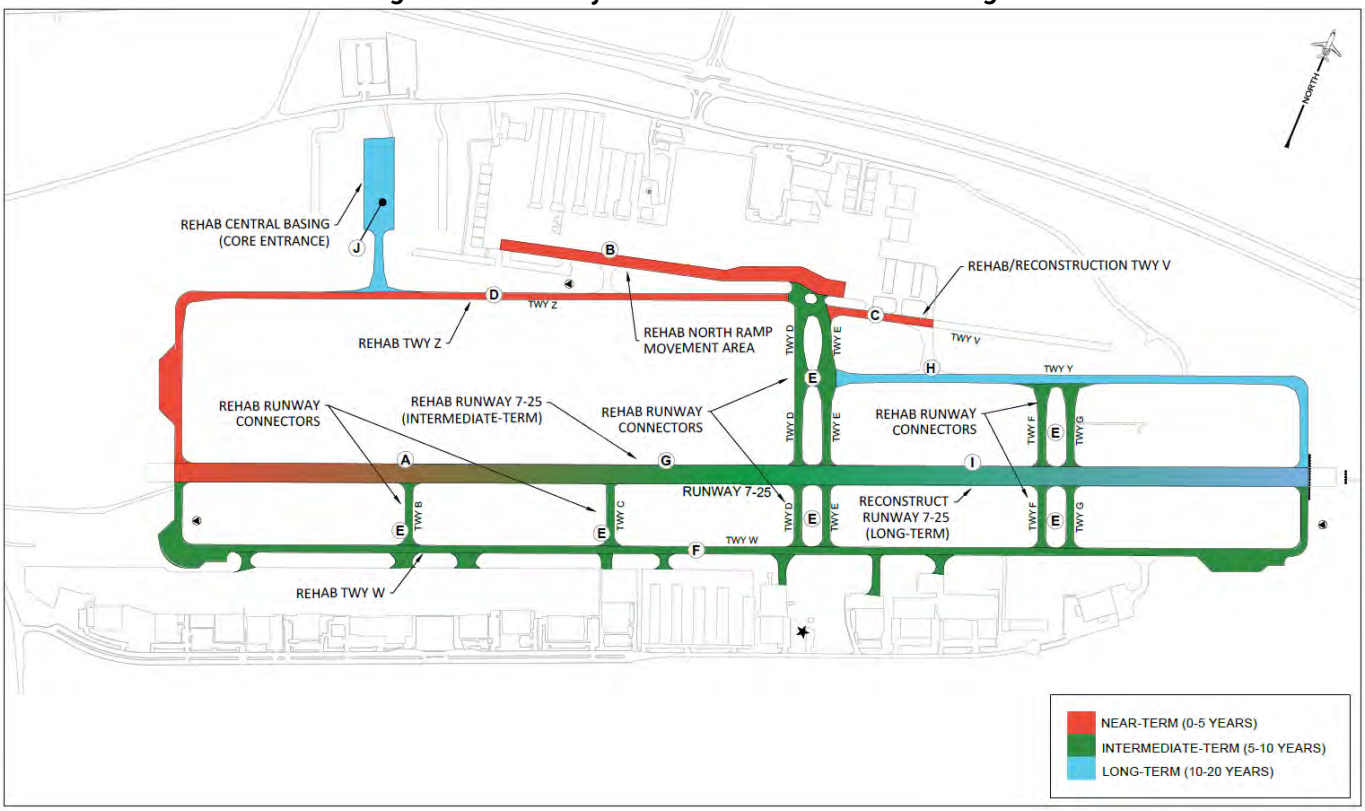
- Phase I, Near-term (1 to 5 years)
- Phase II, Intermediate-term (6 to 10 years)
- Phase III, Long-term (11 to 20 years)

The refined development costs contained in this chapter are based on the proposed improvements as shown on the Airport Layout Plan and are included for each item in the financial development plan. The phasing of projects assists the airport sponsor in budgetary planning for future construction projects. **Table 7-1**, **Table 7-2**, and **Table 7-3** outlines the 20-year financial development plan. **Figure 7-2** provides a graphical summary of the proposed phasing plan.

Pavement Maintenance

In addition to planned improvements and the replacement of facilities as they near their useful life, pavement maintenance is vital to the preservation of major infrastructure investments. Drawing from the GDOT PCI Study and the Airport Asset Useful Life Table detailed in the Inventory chapter, a strategic approach to pavement maintenance has been formulated to optimize the longevity of pavement infrastructure. Preventative maintenance priorities are set within the planning period as illustrated in **Figure 7-1**. This figure provides a useful reference for recommended actions and timelines based on useful life of pavements. The timing and estimated cost of these projects are included in **Table 7-1** and **Table 7-2**.

Figure 7-1: Taxiway Pavement Maintenance Phasing



Source: Michael Baker International, 2024.

Funding Sources

Potential funding sources for the development plan identified in Chapter 5, Airport Recommended Development, provide the basis for financial analysis. Funding comes from the FAA and local entity contributions. This section will identify and quantify the expected sources of capital funds. As indicated, FAA funds represent the most expected capital; however, several sources are identified and described below.

Federal Aviation Administration

The FAA's Airport Improvement Program is the primary source of funding for airport capital projects for NPIAS airports. As discussed in Chapter 1, Inventory, LZU is included in the NPIAS as a general aviation airport and is eligible for AIP funding. AIP grants currently cover up to 95% of an eligible project's cost. Eligible projects include airport planning, airfield improvement, and some terminal area development. The three major categories of funding for commercial airports include entitlement grants, discretionary grant programs, and Passenger Facility Charge programs.

LZU is eligible to receive nonprimary entitlement funding at $150,000 per fiscal year. Further, each annual nonprimary entitlement grant can be held for up to three years and enable the airport to use up to $450,000 in nonprimary entitlement grants for one project. Nonprimary entitlements are based upon the level of funding allocated by Congress periodically. For the purpose of this report, it is assumed this entitlement will continue throughout the planning period.

Discretionary grants above the annual nonprimary entitlement grant are available to LZU for specific projects that enhance safety, security, and capacity. The FAA has established the national priority system for the award process of AIP discretionary grants, and each project must show proper justification in accordance with the system. The FAA AIP discretionary grants typically fund 90 to 95% of the total project cost.

In addition to traditional AIP funding sources, the Coronavirus Aid, Relief, and Economic Security Act (H.R. 748, Public Law 116-136), signed into law on March 27, 2020, included $10 billion in funds to be awarded as economic relief to eligible U.S. airports affected by the prevention of, preparation for, and response to the COVID-19 pandemic.

In 2021, Congress passed the Bipartisan Infrastructure Law, a five-year $25 billion investment in the national airport system by improving air traffic facilities, airport infrastructure, and airport terminals. Projects normally considered eligible for AIP funding can be considered for BIL funding. BIL funding ranges from $760,000 to $844,000 per airport per year and through fiscal year 2026.

State Funding

GDOT operates the Georgia Airport Aid Program to provide funding for planning, capital improvements, maintenance, and approach aids to 103 publicly owned airports in Georgia. As federally funded projects are typically funded at 90% by the FAA and GDOT funding assistance is usually 5% with a 5% local match. Further, some airport projects not eligible for or not included in FAA AIP funding may be funded by GDOT at 75% or 100%.

With respect to funding priority, all projects funded by the FAA that are eligible for state funding assistance are given the highest priority for GAAP funds. However, for federally funded projects, general aviation airport projects are given priority for state funding assistance over commercial service airport projects because general aviation airports typically generate less local revenue and are thus more dependent upon state funding assistance.

Local Funding

The remaining project costs after FAA and GDOT funds are granted to LZU are the responsibility of the Gwinnett County Board of Commissioners and Gwinnett County Airport Authority, the airport's owner and operator. The airport is overseen by the Gwinnett County Department of Transportation. As an enterprise fund, the airport generates its own revenue for use in operations, maintenance, and capital improvements at LZU.

Local funds are typically those generated from leases, fuel flowage fees, and other sources of airport income. Additional funds are sometimes obtained from other sources including the use of Special Purpose Local Option Sales Tax. For large, costly projects, it may be necessary to consider long-term debt, normally in the form of a loan or an airport revenue bond. Historically, the airport has not used SPLOST or long-term debt to fund projects.

Private Funding

At LZU, significant private investment may be required for the successful implementation of some of the recommended projects. Typically, a private developer will lease land on a long-term basis in order to construct airport businesses. LZU will still hold authority for approval of private development plans on airport property. Common areas for private investment include projects such as aircraft storage hangars, specialized general aviation businesses, as well as fixed base operations.

Cost Estimates and Phasing

Each of the project costs shown are estimated planning figures in 2024 dollars. Unless noted, the costs include items such as design, engineering, planning, grading, supplies, construction, and associated utilities. These costs should be used for planning purposes only, and detailed cost estimates should be obtained before implementation of each project. Recommended improvements for the near, intermediate, long, and ultimate terms with the

associated costs and funding sources are displayed in **Table 7-1**, **Table 7-2**, and **Table 7-3**. A graphical depiction of the proposed phasing plan is depicted in **Figure 7-2**.

Table 7-1: Near-Term Capital Improvements Plan

Near Term Airport Capital Improvement Plan (ACIP) 2025 – 2029						
2025						
Project ID	**Project**	**Source**	**Total Cost**	**FAA Funds**	**State Funds**	**Local Funds**
1	Obstruction Clearing Design	FEDERAL	$75,000	$67,500	$3,750	$3,750
1	Obstruction Clearing/Easements	FEDERAL	$1,000,000	$900,000	$50,000	$50,000
A	Rubber Removal	FEDERAL	$200,000	$180,000	$10,000	$10,000
B	Design North Ramp and Taxiway Z Rehab	FEDERAL	$145,000	$130,500	$7,250	$7,250
2	Passive Use/Pollinator Habitat	LOCAL	$165,000	$0	$0	$165,000
3	Septic System Improvements (Macerator)	LOCAL	$145,000	$0	$0	$145,000
			$1,730,000	**$1,278,000**	**$71,000**	**$381,000**
2026						
Project ID	**Project**	**Source**	**Total Cost**	**FAA Funds**	**State Funds**	**Local Funds**
4	Install Fuel Storage Barriers Design	LOCAL	$75,000	$0	$0	$75,000
5	Ramp Lighting Design	FEDERAL	$45,000	$40,500	$2,250	$2,250
6	Relocate AWOS and Upgrade to ASOS	FEDERAL	$450,000	$405,000	$22,500	$22,500
7	New Air Traffic Control Tower - Design, Construction, Furnishings, Equipment, and Testing	FEDERAL-BIL	$6,500,000	$6,500,000	$0	$0
8	Construct Run-up Area for Taxiway Yankee	FEDERAL	$555,556	$500,000	$27,778	$27,778
B	Rehabilitate North Ramp Movement Areas	FEDERAL	$775,000	$697,500	$38,750	$38,750
			$8,400,556	**$8,143,000**	**$91,278**	**$166,278**

Table 7-1: Near-Term Capital Improvements Plan (Continued)

2027						
Project ID	**Project**	**Source**	**Total Cost**	**FAA Funds**	**State Funds**	**Local Funds**
C	Rehabilitate Taxiway V	FEDERAL	$775,000	**$697,500**	**$38,750**	**$38,750**
9	Install Fuel Storage Barriers Construction	LOCAL	$200,000	$0	$0	$200,000
10	Relocate Fenceline - RSA/ROFA- Close Cedars Road	FEDERAL	$250,000	$225,000	$12,500	$12,500
1	Obstruction Clearing/Easements	FEDERAL	$1,000,000	$900,000	$50,000	$50,000
5	Install Ramp Lighting - Construction	FEDERAL	$100,000	$90,000	$5,000	$5,000
			$2,325,000	**$4,792,500**	**$106,250**	**$306,250**
2028						
Project ID	**Project**	**Source**	**Total Cost**	**FAA Funds**	**State Funds**	**Local Funds**
D	Design Taxiway Z Rehab	FEDERAL	$175,000	$157,500	$8,750	$8,750
--	Environmental Assessment/Permitting Northeast Basing Area	FEDERAL	$250,000	$225,000	$12,500	$12,500
1	Obstruction Clearing/Easements	FEDERAL	$1,000,000	$900,000	$50,000	$50,000
			$1,425,000	**$1,282,500**	**$71,250**	**$71,250**
2029						
Project ID	**Project**	**Source**	**Total Cost**	**FAA Funds**	**State Funds**	**Local Funds**
11	Rehabilitate Airport Beacon	FEDERAL	$150,000	$135,000	$7,500	$7,500
12	Wash Rack/Waste Oil Storage	LOCAL	$350,000	$0	$0	$350,000
D	Rehabilitate Taxiway Z	FEDERAL	$3,000,000	$2,700,000	$150,000	$150,000
13	Design Taxiway Filet Improvements TDG2D	FEDERAL	$165,000	$148,500	$8,250	$8,250
	18B Obstruction Survey	FEDERAL	$75,000	$67,500	$3,750	$3,750
			$3,740,000	**$3,051,000**	**$169,500**	**$519,500**
5-Year Total (2030 – 2034)			**$17,620,556**	**$15,667,000**	**$509,278**	**$1,444,278**

Table 7-2: Intermediate, Long Term, and Ultimate Capital Improvements Plan

Intermediate Airport Capital Improvement Plan (ACIP) 2030 – 2034						
Project ID	**Project**	**Source**	**Total Cost**	**FAA Funds**	**State Funds**	**Local Funds**
13	Construct Taxiway Fillet Improvements TDG2D and Upgrade Blast Pad Size	FEDERAL	$5,900,000	$5,310,000	$295,000	$295,000
E	Rehabilitate Taxiways B, C, D, E, F, G	FEDERAL	$3,000,000	$2,700,000	$150,000	$150,000
14	Repair Replace PAPIs	FEDERAL	$150,000	$135,000	$7,500	$7,500
15	Northeast Basing Area Site Improvements (Design, Permitting, Construction)	FEDERAL	$6,400,000	$5,760,000	$320,000	$320,000
F	Rehabilitate Taxiway W	FEDERAL	$2,000,000	$1,800,000	$100,000	$100,000
16	Repair Replace Fencing	FEDERAL	$350,000	$315,000	$17,500	$17,500
17	Perimeter Road Improvements	FEDERAL	$2,800,000	$2,520,000	$140,000	$140,000
--	ALP Update	FEDERAL	$250,000	$225,000	$12,500	$12,500
G	Rehabilitate Runway 7-25	FEDERAL	$3,500,000	$3,150,000	$175,000	$175,000
--	Environmental Assessment/Permitting Long-Term Improvements	FEDERAL	$500,000	$450,000	$25,000	$25,000
Intermediate Total (2030-2034)			**$24,850,000**	**$22,365,000**	**$1,242,500**	**$1,242,500**

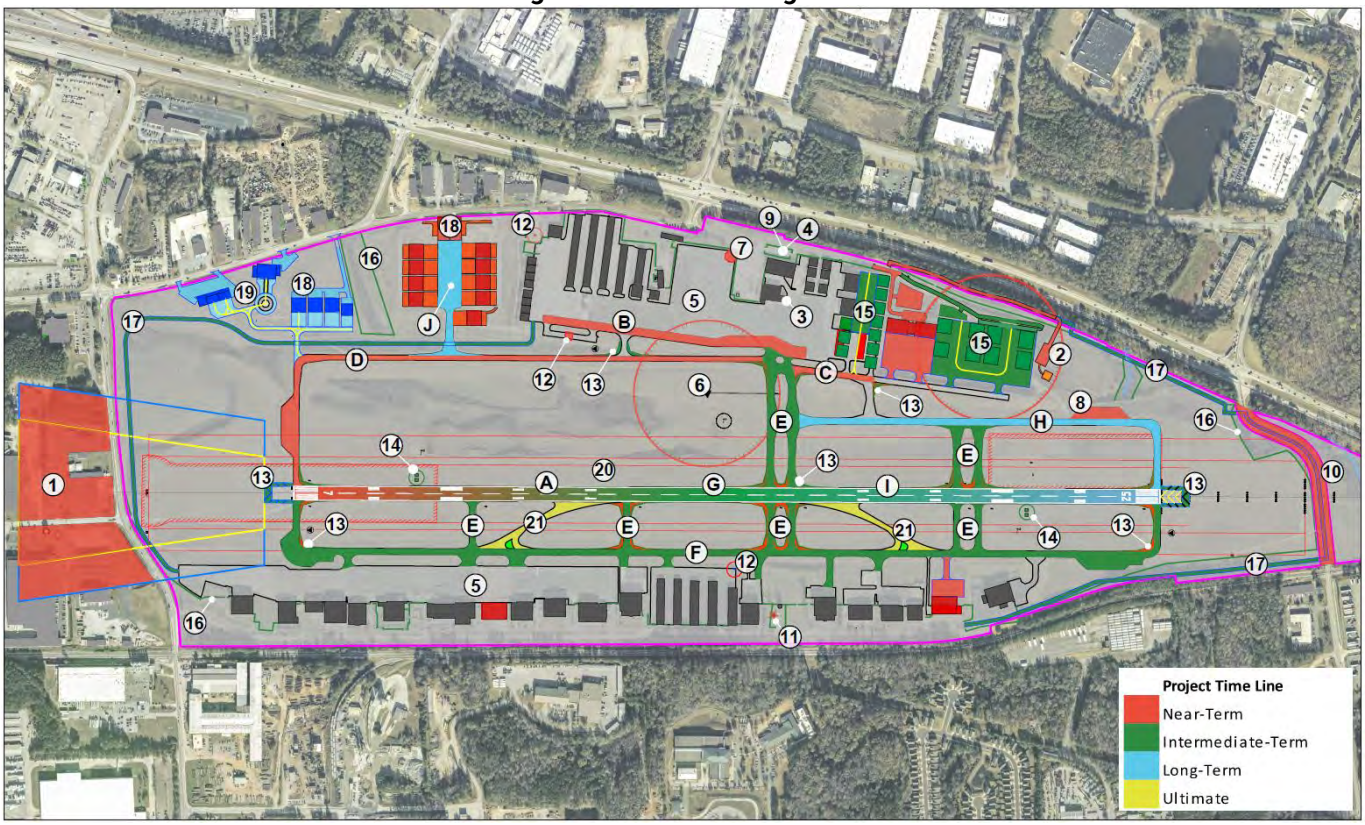
Long Term (2035 – 2044) Total CIP						
Project ID	**Project**	**Source**	**Total Cost**	**FAA Funds**	**State Funds**	**Local Funds**
18	Northwest Basing Area Site Improvements (Sitework)	FEDERAL	$4,000,000	$3,600,000	$200,000	$200,000
19	Vertiport	FEDERAL	$1,200,000	$1,080,000	$60,000	$60,000
20	Repair Replace Airfield Lighting	FEDERAL	$3,500,000	$3,150,000	$175,000	$175,000
H	Rehabilitate Taxiway Y	FEDERAL	$2,000,000	$1,800,000	$100,000	$100,000
I	Reconstruct Runway 7-25	FEDERAL	$8,000,000	$7,200,000	$400,000	$400,000
J	Rehabilitate Central Basing Area	FEDERAL	$1,000,000	$900,000	$50,000	$50,000
	Master Plan Update	FEDERAL	$650,000	$585,000	$32,500	$32,500
Long Term Total (2030 – 2034)			**$20,350,000**	**$18,315,000**	**$1,017,500**	**$1,017,500**

Table 7-3: 20-Year Capital Improvement Plan Costs (Summary)

Total 20-Year Master Plan CIP				
	Total Cost	**FAA**	**State**	**Local**
Total Near Term	$17,620,556	$15,667,000	$509,278	$1,444,278
Total Intermediate Term	$24,850,000	$22,365,000	$1,242,500	$1,242,500
Total Long Term	$20,350,000	$18,315,000	$1,017,500	$1,017,500
Total 20 Year*	**$62,820,556**	**$56,347,000**	**$2,769,278**	**$3,704,278**

* Does not include projects in the ultimate timeframe.

Figure 7-2: LZU Phasing Plan



Note: Unnumbered near-term projects were planned outside of this Airport Master Plan.
Source: Michael Baker International, 2024

EXHIBIT D

Design & Development Guide

(Architecture and Building Design Standards V.3)

Gwinnett County, GA
Gwinnett County Airport-Briscoe Field

Development Manual

Issue Date: February 10, 2022

Gwinnett

Submitted By:

Michael Baker
INTERNATIONAL

DESIGN AND DEVELOPMENT GUIDE
Gwinnett County Airport-Briscoe Field

Table of Contents

I. INTRODUCTION 5
A. Definitions: 5
II PERMITS, CODES, AND REGULATIONS 8
A. Airport Design Review Policy and Procedures 9
1. The Airport Construction Inspections 9
2. Changes in the Scope of Work 9
B. Gwinnett County Construction Permits 10
C. Environmental Guidelines and Regulations 10
1. Erosion and Sedimentation Controls 11
2. Storm Water Pollution during Construction 11
3. Storm Water Pollution from Industrial Activities 11
4. Wetlands and Floodplain Areas 12
5. Noise 12
6. Asbestos / Hazardous Materials 12
D. Federal Aviation Administration (FAA) 16
E. U.S. Customs and Border Protection (CBP) 16
F. Public Health Agencies 16
G. Accessibility Standards 16
H. Federal Communications Commission (FCC) 16
III. GENERAL AIRPORT DEVELOPMENT CONSIDERATIONS 17
A. Professional Licensing Requirements 17
B. Leased Property Restrictions 17
C. Public Access 17
D. Height Restrictions 17
E. Noise 18
F. Security 18
G. Minimum Insurance Requirements during Construction 18
1. General Requirements 19
2. Required Coverage 19
3. Indemnity 22
IV. GENERAL AIRPORT DESIGN STANDARDS 23
A. Glare 23
B. Acoustics 23
C. Aesthetics 23
D. Building Orientation & Architectural Detail 24
E. Architectural Finishes, Exterior 24
1. Walls 24
2. Roofs 26
F. Architectural Finishes, Interior 26
G. Equipment 26
H. Security 26
I. Signage and Graphics 26
J. Lighting 27
1. Interior 27
2. Exterior 27

K. Refuse..... 27
L. Roadways and Pavement 27
M. Landscaping 27
V. GENERAL AIRPORT CONSTRUCTION GUIDELINES 29
A. General Coordination..... 30
B. Pre-Construction Conference 30
C. Airport Construction Safety..... 30
1. Aircraft Operations Area Requirements..... 31
2. Clean-up 31
3. Existing Airfield Lighting Systems 31
4. Airfield Work Communications 31
5. Traffic Control 32
6. Hazardous Area Markings 32
7. Welding/Cutting/Open Flame 32
D. Job Supervision 33
E. Temporary Utility Connections 33
F. Haul Routes..... 33
G. Temporary Buildings, Partitions, and Displays 34
H. Clean-Up 34
I. Record Drawings and Specifications 34
VI. GEOTECHNICAL DESIGN STANDARDS..... 36
A. Subsurface Investigations 36
B. Foundation Design Criteria..... 36
1. Structure Types 36
2. Foundation Types..... 36
3. Design Criteria 36
C. Groundwater Control Criteria 37
D. Protection of Adjacent Structures and Facilities 37
VII BUILDING DESIGN STANDARDS..... 38
A. Building Criteria 38
1. Hangar Buildings 38
2. Hangar/Building Characteristics..... 39
B. Site Work..... 40
1. Setbacks & Lease Site Boundaries 40
2. Planters, Trash/Recycling Receptacles, and Street Furniture 40
3. Chain-Link Fence and Gates 41
4. Utility Meters and Service Lines 41
5. Utility Corridors..... 41
6. Fire Protection..... 42
C. Concrete Structures 42
1. Cast-in-Place Concrete 42
2. Precast Concrete 42
D. Masonry 42
E. Metals 42
1. Structural Steel..... 42
2. Light-Gauge Metal Framing..... 43
3. Handrails and Guardrails..... 43
F. Thermal and Moisture Protection 43
1. Manufactured Metal Wall Panels..... 43

2. Metal Roof and Soffit Panels 43
G. Doors and Windows 43
1. General 43
2. Metal Doors and Frames 43
3. Flush Wood Doors 43
4. Overhead Doors 43
5. Aluminum Entrances and Storefront 44
6. Aluminum Windows 44
7. Door Hardware 44
H. Interior Finishes 44
1. Tile/ Resilient Flooring 44
2. Acoustic Panel Ceilings 44
3. Carpet 44
4. Paint 44
I. Specialties 45
1. Signage and Graphics 45
2. Fire Extinguishers and Accessories 45
3. Loading Docks 46
VIII. BUILDING MECHANICAL, ELECTRICAL, PLUMBING STANDARDS 50
A. General 50
B. Miscellaneous 50
C. Communications, Life-Safety, and Security Systems 51
D. Water Conservation 51
IX. CIVIL and SITE WORK STANDARDS 52
A. General 52
B. Apron Pavements 52
C. Roadways 54
1. Pavements 54
2. Curbs and Gutters 54
3. Sidewalks 54
4. Driveways 55
5. Lighting 56
6. Embankments 56
D. Parking Areas 56
1. Layout & Configuration 56
2. Lighting 57
3. Pavement 58
4. Employee and Visitor Surface Parking 59
E. Drainage 59
1. Storm Water Drainage 59
2. Curb Inlets 60
3. Area Inlets 60
4. Storm Drains 60
5. Manholes 61
F. Water and Wastewater 61
G. Utilities 62
H. Landscaping 62
I. Refuse & Sanitation 64
J. Fencing & Gates 65

X. MAINTENANCE..... 66
A. Paved Areas
B. Lawn Maintenance
C. Trees and Other Plants
D. Watering
E. Building Maintenance Cleaning
F. Radiation and Electrical Emissions
G. Other Nuisance Characteristics

Supplemental Appendices
A. Sustainable Design Guidelines Check List
END OF DDG Table of Contents

I. INTRODUCTION

A. Definitions:

AHJ: Authority Having Jurisdiction
Airport: Gwinnett County, GA Airport- Briscoe Field
ALP: Airport Layout Plan
CBP: U.S. Customs and Border Protection
CIP: Capital Improvements Program
City: City of Lawrenceville, Georgia
Contractor: The prime contractor employed by the County, the Airport, a Leasee, or Developer, or an Airport tenant to construct new facilities or revise existing facilities
County: Gwinnett County, Georgia
Director: The Director of Gwinnett County Airport
DDG: The Airport Design and Development Guide
EPA: U.S. Environmental Protection Agency
FAA: Federal Aviation Administration of the United States
FCC: Federal Communications Commission
GCP&D: Gwinnett County Department of Planning and Development
GDLR: Georgia Department of Licensing and Professional Regulation Boards
GaDOT: Georgia Department of Transportation
LPDD: City of Lawrenceville Planning and Development Department
NPDES: National Pollutant Discharge Elimination System
OSHA: U.S. Occupational Safety and Health AdministrationEPA: U.S. Environmental Protection Agency
Owner: Assigned Airport Representative(s) with decision authority delegated bythe Director
Owner's Representative: Airport Staff assigned as liaison between Leasee, or Developer, and Owner
Tenant: Lease holder representative for space or property at the Airport
Leasee, or Developer,/ Design Professional: Tenant representative or consultant (typically a licensed architect or engineer) responsible for project design,permitting and ensuring compliance with all applicable codes and regulations
Sub / Subcontractor: Contractors (frequently trade-specific) employed by the prime contractor to construct certain portions of a construction project
TSA: U.S. Transportation Security Administration
UDO: Unified Development Ordinance

Gwinnett County Airport Design and Development Guide (DDG)-Development Manual is a set of standards, guidelines, and design criteria for development, design, construction, and renovations implemented at the Airport to ensure airport developments meet the Gwinnett Standard.

These architectural and building design standards shall be applied to airport construction or improvement on or within Gwinnett County Airport – Briscoe Field boundaries. These design standards are used by Gwinnett County Board of Commissioners and/or Gwinnett County Airport Authority as its basis for beginning the approval process for any construction on the Airport. All construction must meet current adopted Building Codes, Gwinnett County (County) and/or City of Lawrenceville (City) Ordinances, and National Fire Prevention Association (NFPA) requirements. In cases of conflict between these standards and County/City codes or regulations, the more stringent provisions shall apply unless specifically addressed within the terms of any written agreement with the County and the Airport.

Where during the implementation of these standards a conflict arises between these standards and any Ordinance of Gwinnett County (or the City of Lawrenceville for Airport projects located within the City), the provision of Gwinnett County or City (for Airport projects located within the City) Ordinances shall prevail.

The DDG includes aesthetic, functional, regulatory, and technical site development and facility design standards and processes established by the Gwinnett County Borad of Commissioners and the County Airport Authority. Consultants, tenants, and/or design professionals shall comply with the DDG and incorporate these standards when developing project work designs at the Airport.

Products, means, and materials meeting the criteria are to be investigated and utilized whenever possible. These standards do not preclude other design approaches if a particular standard does not apply or if it presents functional or aesthetic difficulties. A variance may be requested by submitting a written request for consideration on a case-by-case basis through the Owner's Representative.

The County, or the Airport, shall consider and may grant a variance to these design guidelines, conditions, and restrictions. Request for variance must include a full explanation as to why these codes or requirements cannot be fully met.

These standards have been developed to facilitate the short-term and long-term goals for future development of the Gwinnett County Airport. These goals are varied but include: 1) ensuring a high quality of design; 2) promote design consistency throughout the development; and 3) protect the long-term values of the development. It is the Purpose of these standards to compliment the Gwinnett County Airport Master Plan by unifying the Airport Master Plan concepts during the implementation phases of the aviation and non-aviation related land use developments.

The manual will serve as the structure for controlling the development, performance, and aesthetic standards. These standards are to be strictly adhered to and do not alleviate the Leasee, or Developer, from other necessary regulatory responsibilities.

These standards have been written with flexibility to allow for a wide range of land use categories, adoption for a wide variety of site sizes, locations, and infrastructure improvements.

The manual will afford Gwinnett County control over the development of the Airport to assure the long-term integrity of the development. Further objectives of these standards include:

- Promote measures that will assure airport safety and security are properly addressed.
- Promote efficient use of land to minimize environmental impacts.
- Assure compatibility of the development proposed by the various uses.
- Designate and maintain appropriate corridors for utilities, public access to various airport facilities and controlled airside access (if available).
- Provide adequate separation between buildings and public right-of–ways.
- Provide ample off-street parking with appropriate landscaping to screen vehicle and equipment storage.
- Minimize to the maximum extent possible conflicts with applicable regulations of the Federal Aviation Administration, Georgia Department of Transportation, Gwinnett County, and the various other agencies having jurisdiction.

Requests for information and assistance regarding these development standards and the application of these objectives to the proposed development should be directed to the Airport.

All Leasees, or Developers/owners leasing property within the Airport must have, prior to placing any parcel of land into use, written authorization from Gwinnett County.

No use of the land shall be permitted which is offensive by reason of odor, fumes, dust, smoke, noise, or pollution, or which is injurious to a building or person on the land or on neighboring property or which is in violation of any governmental statutes or regulations.

END OF INTRODUCTION

II. PERMITS, CODES, AND REGULATIONS

Gwinnett County Ordinances, Codes and Regulations along with those of the various other agencies apply, to a greater or lesser extent, to all construction and development on the Airport.

Development approval by Gwinnett County (or the City of Lawrenceville for Airport projects located with the City) does not guarantee the proposal will be permitted or otherwise approved for any intended use or purpose, or that required regulatory development permits or approvals can be obtained.

All pertinent requirements of public agencies must be adhered to in the development of Gwinnett County Airport property, and all plans must be routed through the permitting/approval process of Gwinnett County (or the City of Lawrenceville for Airport projects located within the City). Prior to development each Leasee, or Developer, must verify the current code requirements, as they may be amended from time to time. These Airport Development Standards outlined in the DDG may be more restrictive than local land use regulations, site development standards, landscape requirements, or in other matters. In every case in which these standards are at variance with public agency requirements, the more restrictive regulations will govern.

Acquisition of all required regulatory permits and approvals, including construction permits and development approval by Gwinnett County (or the City of Lawrenceville for Airport projects located within the City), are the sole responsibility of the Leasee, or Developer, proposing a particular development. The consequences of failure to obtain required approvals or permits shall rest solely with the Leasee, or Developer.
Federal agencies, including the FAA, TSA, FCC, CBP, US Public Health Service, OSHA, and EPA, all have specific requirements for design, construction, and operations at this Airport.

Accessibility standards are required by the Americans with Disabilities Act (ADA) and are enforced by the U.S. Department of Justice. Other State of Georgia agencies which may have jurisdiction include the Georgia Environmental Protection Division (EPD) and Georgia Department of Natural Resources. Given the Airport's location within Gwinnett County (and the City of Lawrenceville), any project located on the Airport property is also subject to ordinances, codes, policies, standards, and design criteria required by the County (or the City of Lawrenceville for Airport projects located within the City) . Regulations of Gwinnett/Newton/Rockdale County Health Department may also apply.

Design and construction shall be compliant with the latest adopted editions of the referenced codes, publications, and manuals, including all revisions effective at the time the project is submitted for permitting, unless specifically indicated otherwise.

Manuals adopted by the County (or the City of Lawrenceville for Airport projects located within the City) establish drainage, environmental, transportation, and utilities criteria and standards. Standard specification manuals have also been adopted.

The listing of regulatory agencies in the DDG is not to be considered complete; the Leasee, or Developer, is responsible for identifying and complying with all permitting and code requirements.

The DDG is the primary guideline for development of all facilities at the Airport. Gwinnett County, State of Georgia, and Federal regulatory agencies' requirements shall take precedence whenever they are more stringent and/or in conflict with this Manual.

Development approval by the Airport and Gwinnett County (or the City of Lawrenceville for Airport projects located within the City) is required prior to the undertaking of any site improvements, construction or installation including clearing, grading, paving, signs, walls, fences, and drainage facilities, as well as lighting, building structures, landscaping and all alterations considered external to a building. This approval shall be in writing and shall become part of the file for each individual development. Although Gwinnett County shall not be responsible for monitoring or otherwise administering the actions of the various other jurisdictional agencies, copies of all permit applications and approvals shall be forwarded to the County and/or to the Airport.

A. Airport Design Review Policy and Procedures

Proposed changes at the Airport by lease holders, proposed lease holders, or Developer's shall be compliant with Airport DDG requirements. The process for submitting proposed changes shall be as directed by the Gwinnett County Board of Commissioners and/or the Gwinnett County Airport Authority.

Gwinnett County Capital Improvement Program (CIP) projects are excluded from application for changes procedures because design documents are reviewed through a different process.

Maintenance work or repairs which are approved by the Airport or done under the terms of the Lease Agreement are also excluded unless they will significantly alter the appearance or function of a facility or affect airport operations. However, maintenance work is not excluded from compliance with applicable permitting regulations.

1. The Airport Construction Inspections

The Airport's authorized representatives may inspect construction sites for the purpose of determining compliance with the terms and requirements of the DDG, the Airport's policies, or regulatory requirements. Construction work may be inspected or re-inspected any time.

2. Changes in the Scope of Work

Changes in the work during construction (via RFI's or ASI's) shall be carefully documented by the Design Professional and brought to the attention of the Owner's Representative prior to proceeding with those changes. The Owner's Representative will review the proposed changes and furnish comments to the Design Professional within one week of receipt of the change proposal. Work related to the change of scope shall not commence until the Owner's Representative has given explicit approval to do so.

Changes shall include all modifications, additions, deletions, substitutions,

or variations between the contract documents and the work. Changes incorporated into the work shall be accurately reflected in the job site drawings and the "as-builts."

Changes shall conform to the terms and provisions of the DDG.

B. Gwinnett County (or the City of Lawrenceville for Airport projects located within the City) Construction Permits

All requirements for Gwinnett County (or the City of Lawrenceville for Airport projects located within the City) construction activities are applicable at the Airport, including, but not limited to, site development permits, building permits, and trade permits.

No occupancy of any building shall be permitted before the building is completed and a certificate of occupancy is issued.

In addition to Airport guidelines, policies, and standards, a development is subject to the provisions of the latest edition of the Gwinnett County (of City of Lawrenceville) Development Ordinances and Regulations , and

Building Codes, (and where Airport projects are located within the City of Lawrenceville, the latest edition Development Regulations and Ordinances of the City), including adopted amendments and related publications for both AHJs.

Design Professionals are encouraged to consult with Gwinnett County's Department of Planning and Development Staff (or the City of Lawrenceville's Planning and Development Department Staff for Airport projects located with the City) early in the design process in order to minimize potential difficulties during project work, design, or construction.

Inspections, reviews, fees, testing, and permits required for design and construction in Gwinnett County, (or the City of Lawrenceville when Airport projects are located within the City) and State of Georgia, are the responsibility of the Leasee, or Developer.

In preparing the Airport master plans, assumptions were made regarding configuration of developments, including those which would not be constructed prior to the first flights. The estimated impervious cover of those developments was included in the master plan calculations.

As required, the Design Professional must coordinate through the Airport's Representative to determine how accurately the master plan assumptions anticipated the facilities under design. Variances from these assumptions are to be highlighted for Gwinnett County (or City for Airport projects located within the City of Lawrenceville) plan reviewers in the AHJ permit process, and mitigation measures may be necessary to compensate for these variations.

C. Environmental Guidelines and Regulations

The County is committed to being environmentally-responsible. Facility development

at the Airport must meet appropriate community standards of environmental sensitivity.

All Airport development shall conform to the specific regulatory requirements of applicable State and Federal Agencies pertaining to threatened and endangered plant and animal species that may be present at any site proposed for development. Specifically, the requirements of the Georgia Department of Natural Resources shall be adhered to during the development

All construction at the Airport shall align with the County's commitment to sustainability and environmental responsibility. Design Professionals shall incorporate sustainable principles and provisions into each construction project, where these reasonably may apply or are required by the building code. A Sustainable Design Check List of possible design and operation procedures for consideration is provided within the Appendix of the DGG. A copy of the check list with the sustainable objectives of the proposed development shall be submitted with the plans for approval by the Airport.

1. Erosion and Sedimentation Controls

Any construction projects which involve excavation, backfill, or disturbance of the existing ground will require erosion and sedimentation control measures.

The Design Professional shall provide temporary and permanent erosion and sedimentation control plans, narrative, and details in the construction documents in accordance with local, state, and federal requirements.

2. Storm Water Pollution during Construction

When applicable, any development disturbing the Airport land surface shall submit a Notice of Intent (NOI) under the National Pollutant Discharge Elimination System (NPDES) rules regarding storm water discharges from construction activities.

The Airport has interpreted these requirements to mean that both the landowner - who does not retain day to day control of the site storm water discharge - and the Tenant - who does - shall submit NOIs.

The Design Professional and the Owner's Representative shall coordinate the required submittals.

3. Storm Water Pollution from Industrial Activities

The Airport is to be included in the NPDES Multi-Sector General Permit.

In the Airport developments where storm water runoff is subject to industrial permit requirements, the Design Professional and/or Tenant may obtain permit by submitting an NOI referencing the Airport permit number or may obtain separate coverage and develop a project-specific Storm Water Pollution Prevention Plan (SWPPP).

The SWPPP for the Airport, as an operating airport, does not include developments which are separately permitted and covered.

4. Wetlands and Floodplain Areas

Federal regulations control the development and use of land that is designated as either floodplain areas or wetlands to avoid environmental hazards and/or to protect environmentally sensitive areas from encroachment by development.

5. Noise

Local, State and Federal regulations control the development and use of land at the Airport and the latest the Airport Master Plan has information relevant to proposed land developments at the Airport.

The Leasee, or Developer, shall fully coordinate noise impacts of any proposed changes at the Airport with the Owner's Representative and all local, state, and federal authorities, including but not limited to the FAA and Gwinnett County.

6. Asbestos / Hazardous Materials

All Leasees, Tenants, or Developers, that will use, handle, store, display or generate hazardous materials as that term may be defined under state or federal law (i.e., materials that are ignitable, corrosive, toxic or reactive) shall do so in accordance with the statutes, rules, and regulations of local, state, and federal governmental authorities.

The outside storage of hazardous materials or hazardous waste shall be prohibited.

The following list includes, but is not limited, those commonly occurring waste types that have the potential of being hazardous. Additions to this list may be made based on the discretion of the County.

- Waste pesticides.
- Washing and rinsing solutions containing pesticides.
- Empty pesticide containers.
- Spent toxaphene solutions or sludges from dipping.
- Spent pesticide solutions or sludges other than toxaphene from dipping.
- Dust containing heavy metals.
- Washing and rinsing solutions containing heavy metals.
- Wastewater treatment sludges containing heavy metals.
- Waste ink.
- Ignitable paint wastes containing flammable solvents (flash point less than 140 degrees F),

- Liquid paint wastes containing heavy metals (cadmium, chromium, mercury, or lead).
- Spent solvents.
- Still bottoms from the distillation of solvents.
- Filtration residues from dry cleaning operations.
- Cyanide wastes.
- Strongly acidic or alkaline wastes.
- Spent plating wastes.
- Waste ammonia.
- Photographic wastes.
- Ignitable wastes (flash point less than 140 degrees F).
- Wastewater sludges containing pentachlorophenol, creosote, or arsenic.
- Waste formaldehyde.
- Lead-acid batteries.
- Waste explosives.
- Waste oil.
- Other ignitable, corrosive, reactive and EP toxic, as these waste types are defined in 40 CFR 26L21, 261,22, 261.23 and 261,24.

Buildings where significant amounts of hazardous materials or hazardous wastes, as generally defined above, are to be used, displayed, handled, generated, or stored shall be constructed with impervious floors, without drains, to ensure containment and facilitate cleanup of any spill or leakage. The temporary or permanent storage of hazardous materials shall be in a facility with impervious floor and side walls adequate to contain the hazardous materials.

The outside storage of hazardous materials or hazardous waste shall be prohibited.

All hazardous waste generators shall contract with a licensed public or private hazardous waste disposal service or processing facility and the County shall be provided copies of the following forms of documentation of proper hazardous waste management practices:

- a hazardous waste manifest.
- a shipment to a permitted hazardous waste management facility, or,
- a confirmation of receipt of materials from a recycling or a waste exchange operation.

The generation of hazardous effluent shall be prohibited unless adequate facilities, approved by the County and the Georgia Environmental Protection Division (EPD) and the Metropolitan North Georgia Water Planning District (Metro Water District) are constructed, and used by tenants generating such effluent.

Hazardous sludge materials generated by effluent pretreatment shall be disposed of in a manner approved by the U.S. Environmental Protection Agency and the Georgia Environmental Protection Division (EPD).

Proper on-site handling and temporary storage procedures for all hazardous waste that may be generated on site shall be identified in accordance with local, regional, state, and federal hazardous waste programs,

Reasonable access to facilities shall be provided for monitoring by the County and all applicable regulatory agencies.

Hazardous spill contingency plans shall be developed and approved as indicated below for all industrial parcels prior to beneficial occupancy of the leasehold development.

- The plan shall be submitted to the Airport Director and the Georgia Environmental Protection Division (EPD) (if applicable) for review and approval prior to development of any industrial leaseholds.

- Upon approval, the plan shall be submitted to the Airport, the EPD and the Metro Water District and the County Department of Planning and Development (or the City of Lawrenceville for Airport projects located within the City) . In addition, a copy of the approved plan shall be submitted to the Airport Director with documentation indicating regulatory approval.

This plan shall be implemented immediately in the event of any future spills.

Incorporation of any asbestos-containing materials (ACM) in design or construction at the Airport is prohibited. Forms documenting the non-use of ACM before and after project design (Design Consultant's responsibility) and before and after construction (Contractor's responsibility) shall be submitted for the Owner's project files, as required by the Owner's Representative.

The use of CFCs is limited to refrigerant use in accordance with local, state, and federal guidelines. Lead components shall not be included in the assemblies of domestic water systems.

a. Removal

If the Leasee, or Developer, detects the potential for use or disturbance of ACM or other hazardous materials during a project, immediate notification of the Owner's Representative is required.

ACM abatement and disposal shall only be accomplished by personnel specifically qualified in asbestos handling and shall be performed in accordance with all local, state, and federal requirements.

The removal of other potentially hazardous materials, including but not limited to, lead paint, Polychlorinated Biphenyls (PCBs),

Chlorofluorocarbons (CFCs), pesticides, etc., may be necessary prior to or during facility construction.

The proper identification, handling, removal, and disposal of hazardous materials are the sole responsibility of the Leasee, or Developer, and shall only be accomplished by qualified personnel and be performed in accordance with all local, state, and federal requirements.

b. Hydrocarbons and Other Hazardous Materials

All storage and distribution systems for hydrocarbons and other hazardous materials at the Airport, with the exception of natural gas, shall be constructed above ground to reduce the potential for environmental contamination. In addition, containment may be required.

Such installations shall comply with all applicable codes and industry standards and shall be installed in accordance with all local, state, and federal requirements.

c. Minimizing Deleterious Effects on the Environment

Local, state, and federal regulatory agencies have established air and water quality standards which are in effect at the Airport. Hazardous materials, whether a primary product such as fuel, fertilizer or motor oil, or a secondary product such as residue on paved vehicle parking areas, shall be handled responsibly.

Filtration, containment, or treatment may be required before materials are released into the environment. The Leasee, Tenant or Developer, is responsible for providing all necessary equipment and/or systems for compliance with all Authorities Having Jurisdiction (AHJ).

d. Wash Facilities

The conservation of water resources is of great importance at the Airport. Any Leasee, Tenant, or Developer's proposed wash facility shall provide water treatment systems required by local, state, and federal regulations.

e. Waste and Sustainability

Any Leasee, proposed Leasee, or Developer's facilities shall include provisions for participation in the refuse recycling and sustainability programs, as coordinated with, and approved by, the Airport's Representative.

Any construction project on the Airport that includes more than 5,000 square feet of new, added, or remodeled floor area shall comply with Gwinnett County Ordinances regarding construction and demolition

recycling rules).

D. Federal Aviation Administration (FAA)

Design and construction shall be in accordance with all applicable FAA design standards criteria, as set forth in FAA Advisory Circulars (ACs) and Federal Aviation Regulations (FARs).

The latest edition ACs may be obtained from the Federal Aviation Administration, U.S. Department of Transportation at:
www.faa.gov/regulations_policies/advisory_circulars

Refer to Section III. General Airport Development Considerations for information regarding height restrictions.

E. U.S. Customs and Border Protection (CBP)

The Department of Homeland Security – CBP is authorized to control the entrance and clearance of aircraft arriving in and departing from the United States and to inspect the crews, passengers, baggage, stores, and cargo carried thereon.

CBP enforces a large array of different laws for other agencies in protecting the borders of the United States. Any development of an international facility shall meet all U.S. Customs rules and regulations.

F. Public Health Agencies

The design and construction of projects that affect a food or beverage handling service at the Airport will be reviewed by Local, County, State, and Federal regulatory health agencies as appropriate.

G. Accessibility Standards

All projects at the Airport shall equally accommodate persons with disabilities, as provided for in the Americans with Disabilities Act (ADA) latest edition.

H. Federal Communications Commission (FCC)

All projects at the Airport shall comply with any applicable FCC rules and regulations. All types of proposed wired and wireless communication systems shall be coordinated with the Owner's Representative and will be designed to ensure they do not interfere with any Air Traffic Control Tower transmissions.

END OF PERMITS, CODES AND REGULATIONS

III. GENERAL AIRPORT DEVELOPMENT CONSIDERATIONS

The use of the Airport property shall remain consistent with the aesthetic and functional standards of The Airport. These standards derive from The Airport Layout Plan (ALP) of the Airport (latest version) and The Airport Master Plan (latest version). Federal, State, and Local (County or City) statutes and regulations also apply and may restrict development.

A. Professional Licensing Requirements

All Design Professionals signing and sealing drawings and project manuals (bid specifications) on behalf of the Leasee, or Developer, shall be currently licensed for their respective disciplines in the State of Georgia.

B. Leased Property Restrictions

Where the Airport development includes work to be owned, operated, and maintained by Gwinnett County, transfer of responsibility shall be by means of a document setting forth the facilities and conditions of acceptance.

As requested by the Owner's Representative, the Design Professional may be required to submit documents which may indicate lease lines, building setback lines, building frontage lines, and/or surveys conducted by a Registered Professional Land Surveyor for a particular area.

Landscape features, paving, and other pertinent features affecting development or operations will be included whenever possible.

All improvements shall be limited to within the boundaries of the leasehold, except for the required utility extensions and access roadways. Any proposed improvements which significantly impact areas outside of the project sponsor's leasehold – especially those which may affect other leaseholders – must be approved the Airport prior to commencement of the project design.

C. Public Access

The primary mission of the Airport is the efficient and safe movement of passengers and their property to and from aircraft and flight operations. All facilities in which public activity occurs shall meet all requirements for public accessibility and safety.

D. Height Restrictions

Per FAR Part 77, structures and objects within designated areas are height- restricted to prevent interference with air navigation, flight and navigation surfaces, radar shadowing, and the requirement that air traffic controllers be able to see all aircraft operating pavement under the control of Air Traffic Control personnel.

The Design Professional shall submit FAA Form 7460-1, *Notice of Proposed Construction or Alteration,* to the Owner's Representative at least 60 calendar days prior to the scheduled start of construction activities. FAA approval of the 7460 is required prior to issuance of the notice to Proceed (NTP).

E. Noise

Facilities within The Airport may be subjected to average noise exposure from airport operations in excess of 65 dB. Activities sensitive to excessive noise are discouraged within these areas, and structures accommodating noise- sensitive uses must be sound-insulated in accordance with applicable codes and/ or standards.

Since the leaseholds are subject to noise levels associated with the Airport, noise abatement building construction techniques are required for office buildings and other buildings where people are located inside for a substantial portion of the workday.

F. Security

All Leasees, or Developers shall be aware of the specific Airport security requirements. TSA and federal security regulations require that access to the Air Operations Area (AOA) be strictly controlled, and the design and operation of all airport facilities shall not permit access to the AOA by unauthorized persons.

Improvements and operations within 10 feet of an AOA fence are severely limited. Written approval of the Owner's Representative is a prerequisite to improvements and/or operations in this area.

All persons performing work at the Airport shall be familiar with security measures and be aware that substantial fines may be assessed for violations of the security provisions of the Airport. The Gwinnett County Police Department and/or the City of Lawrenceville Police Department has jurisdiction on Airport property.

The Airport reserves the right to install, or to have installed, security devices including, but not limited to, security fencing, gate controls, video cameras, magnetic card readers and associated electronics and power sources within the project limits of any development on the Airport.

The Airport Security Plan is maintained by the Airport Director, and questions about plan provisions may be submitted to the Airport for review and response, as required.

G. Minimum Insurance Requirements During Construction:

It is incumbent on the Leasee, or Developer, to assure that its construction contractor has sufficient insurance provided by a reliable insurance company authorized to do business in the State of Georgia to protect the interests of the County. These insurance requirements shall not relieve or limit the liability of the Leasee, or Developer, or construction contractor. The County does not in any way represent that these types or amounts of insurance are sufficient or adequate to protect the Leasee, or Developer, or construction contractor's interests or liabilities but are merely minimums. No insurance is provided by the County to cover Leasee, or Developer, or contractor(s). Prior to the

issuance of a building permit, the Leasee, or Developer, shall provide the County with documentation acceptable to the County that its contractor has satisfied the following minimum requirements:

1. General Requirements

a Leasee, or Developer, shall require that each contractor take out and maintain insurance of such types and in such amounts as are necessary to cover his responsibilities and liabilities on each leasehold development and shall require all his subcontractors to carry similar insurance. The Airport, Airport Authority, and the Gwinnett County Board of Commissioners shall be listed as additional insured entities within the Leasee's or the Developer's insurance policy.

b No contractor or subcontractor shall commence work until he has obtained all insurance required by this Section and/or any Lease Agreement and such insurance has been approved by the County. In the event that a contractor's insurance, or any portion of it should lapse, the Leasee, or Developer, shall immediately require its contractor to suspend operations until such time as adequate coverage is reinstated.

c Each contractor shall file with the County a Certificate of Insurance. Any certificate submitted and found to be altered or incomplete will be returned as unsatisfactory. If requested by the County, contractor through the Leasee, or Developer, shall furnish the County with true copies of each policy required of the contractor or its subcontractors.

2. Coverage

Insurance under this Section shall, as a minimum, include the following coverage:

1. Statutory Workers' Compensation Insurance
- (a) Employers Liability:
  - ✓ Bodily Injury by Accident - $100,000 each accident
  - ✓ Bodily Injury by Disease - $500,000 policy limit
  - ✓ Bodily Injury by Disease - $100,000 each employee

2. Commercial General Liability Insurance
- (a) $500,000 limit of liability per occurrence for bodily injury and property damage
- (b) The following additional coverage must apply:
  - ✓ 1986 (or later) ISO Commercial General Liability Form
  - ✓ Dedicated Limits per Project Site or Location (CG 25 03 or CG 25 04)
  - ✓ Additional Insured Endorsement (Form B CG 20 10 with a modification forcompleted operations or a separate endorsement covering Completed Operations)
  - ✓ Blanket Contractual Liability

- ✓ Broad Form Property Damage
- ✓ Severability of Interest
- ✓ Underground, explosion, and collapse coverage
- ✓ Personal Injury (deleting both contractual and employee exclusions)
- ✓ Incidental Medical Malpractice
- ✓ Hostile Fire Pollution Wording

3. Auto Liability Insurance

(a) $500,000 limit of liability per occurrence for bodily injury and property damage

(b) Comprehensive form covering all owned, non-owned, leased, hired, and borrowed vehicles

(c) Additional Insured Endorsement

(d) Contractual Liability

4. Umbrella Liability Insurance - $1,000,000 limit of liability

(a) The following additional coverage must apply

- ✓ Additional Insured Endorsement
- ✓ Concurrency of Effective Dates with Primary
- ✓ Blanket Contractual Liability
- ✓ Drop Down Feature
- ✓ Care, Custody, and Control - Follow Form Primary
- ✓ Aggregates: Apply Where Applicable in Primary
- ✓ Umbrella Policy must be as broad as the primary policy

5. Gwinnett County Board of Commissioners AND the Gwinnett County Airport Authority should be shown as an additional insured on General Liability, Auto Liability and Umbrella Liability policies.

6. The cancellation should provide 10 days' notice for nonpayment and 30 days' notice of cancellation.

7. Certificate Holder should read:

Gwinnett County Board of
Commissioners 75 Langley Drive
Lawrenceville, GA 30046-6935

And

Gwinnett County Airport Authority
600 Briscoe Boulevard
Lawrenceville, GA 30046

8. Insurance Company, except Worker' Compensation carrier, must have an A.M. Best Rating of A- 5 or higher. Certain Workers' Comp funds may be acceptable by the approval of the Insurance Unit. European markets including those based in London and domestic surplus lines markets that operate on a non-admitted basis are exempt from this requirement provided that the contractor's broker/agent can provide financial data to establish that a market is equal to or exceeds the financial strengths associated

with the A.M. Best's rating of A-5 or better.

9. Insurance Company should be licensed to do business by the Georgia Department of Insurance.

10. Certificates of Insurance, and any subsequent renewals, must reference specific bid/contract by project name and project/bid number.

11. The Contractor shall agree to provide complete certified copies of current insurance policy (ies) or a certified letter from the insurance company (ies) if requested by the County to verify the compliance with these insurance requirements.

12 All insurance coverages required to be provided by the Contractor will be primary over any insurance program carried by the County.

13. Contractor shall incorporate a copy of the insurance requirements as herein provided in each and every subcontract with each and every Subcontractor in any tier, and shall require each and every Subcontractor of any tier to comply with all such requirements. Contractor agrees that if for any reason Subcontractor fails to procure and maintain insurance as required, all such required Insurance shall be procured and maintained by Contractor at Contractor's expense.

14. No Contractor or Subcontractor shall commence any work of any kind under this Contract until all insurance requirements contained in this Contract have been complied with and until evidence of such compliance satisfactory to Gwinnett County as to form and content has been filed with Gwinnett County. **The Acord Certificate of Insurance or a preapproved substitute is the required form in all cases where reference is made to a Certificate of Insurance or an approved substitute.**

15. The Contractor shall agree to waive all rights of subrogation against the County, the Board of Commissioners, its officers, officials, employees, and volunteers from losses arising from work performed by the contractor for the County.

16. Special Form Contractors' Equipment and Contents Insurance covering owned, used, and leased equipment, tools, supplies, and contents required to perform the services called for in the Contract. The coverage must be on a replacement cost basis. The County will be included as a Loss Payee in this coverage for County owned equipment, tools, supplies, and contents.

17. The Contractor shall make available to the County, through its records or records of their insurer, information regarding a specific claim related to any County project. Any loss run information available from the contractor or their insurer relating to a County project will be made available to the County upon their request.

18. Compliance by the Contractor and all subcontractors with the foregoing requirements as to carrying insurance shall not relieve the Contractor and all Subcontractors of their liability provisions of the Contract.

19. The Contractor and all Subcontractors are to comply with the Occupational Safety

and HealthAct of 1970, Public Law 91-956, and any other laws that may apply to this Contract.

20. The Contractor shall at a minimum apply risk management practices accepted by the contractors' industry.

3. Indemnity

The Leasee, or Developer, and contractor shall indemnify and hold harmless the Airport, the Airport Authority and the Gwinnett County Board of Commissioners and their elected officials, employees and volunteers from and against all claims, losses and expenses, including legal costs, arising out of or resulting from, the performance of any agreement with the County, or the Airport, provided that any such claims, damage, loss or expense is attributed to bodily injury, sickness, disease, personal injury or death, or to injury to or destruction of tangible personal property including the loss or loss of use resulting therefrom and is caused in whole or in part by any negligent act or omission of the Leasee, or Developer, or contractor.

END OF GENERAL AIRPORT DEVELOPMENT CONSIDERATIONS

IV. GENERAL AIRPORT DESIGN STANDARDS

Development shall follow the applicable sequences and processes established in the complete set of documents comprising the DDG. Project-specific information, especially which relate to variations in development requirements due to site or program constraints, shall be coordinated with the Owner's Representative. Examples of Airport preferred development aesthetics and building materials are found in Section VII - Building Design Standards.

A. Glare

Airport operations require maximum visibility for communications and safety. Building designs shall control solar glare within and without. Glazed surfaces shall not have reflective glass. Maximum reflectivity of exterior surfaces is not to exceed 20%. Interior glare shall not disturb Airport operations.

B. Acoustics

The acceptability of noise levels depends upon the development program. Exterior noise from aircraft, vehicles, and equipment, and interior noise from building systems and equipment shall be included in any analysis and design.

C. Aesthetics

Architectural designs will be evaluated by the Airport in terms of the sensitive integration of form, textures, and colors with the particular landscape and topographical character of each site.

Colors, textures, exposed aggregate, and other details must be reviewed by the Airport and approved by the County as a part of the plans submitted by the Leasee, or Developer, during the site plan review process. The suggested color includes Gwinnett County blue. There shall be no obligation or requirement for the County to approve any proposed material. Building materials that produce glare or other effects that are hazardous to aircraft operation shall not be permitted. The color palette shall be approved by the County and the Airport, prior to color selections by the Leasee, or Developer,

A consistency of construction and visual interpretation is described in these guidelines. The intent is to establish broad-based relationships and criteria to unify aesthetic and technical elements of airport structures. Specific building design is not provided. These guidelines provide a basis for evaluation of new designs for construction.

Airport aesthetics have been established and it is intended that the nature and character of the County and the building exterior examples be expressed throughout the site. Building materials should be selected for durability, ease of maintenance, and for their relationship to the structure and its intended use. Building materials shall be locally sourced whenever possible.

The Airport has functional requirements for all projects. Public access and convenience, and federally mandated security requirements are primary. Each development is to incorporate the functional requirements of that specific program, as well as those of The Airport.

All building systems shall be highly efficient over the intended life cycle. Energy should be conserved, and operational and maintenance requirements
minimized. Systems shall be based upon aesthetic, climatic, and environmental conditions of the North Georgia and Gwinnett County areas.

D. Building Orientation and Architectural Detail

Distinct entrances for users shall be provided. Building footprints shall be presented on the site plan. The building on each site shall be oriented to minimize public view of service docks and overhead doors.

The building, or any component thereof, shall be oriented to preclude it from becoming an obstruction to a clear line of sight from the proposed Air Traffic Control Tower (ATCT) to any portion of the air operations area. The Leasee, or Developer, shall submit a scaled plan that depicts the status of any impact on the ATCT's clear line of sight for approval by the County.

Passive solar design considerations are encouraged. Some aspects of passive solar design which may be considered in the planning are noted below:

- Orientation and location of the building on a site.
- Massing of buildings or building parts to create shadows for reducing heat gain and wind velocities which affect infiltration during the winter months.
- Configuration of the building to incorporate such features as interior courtyards or clustering of parts of the building.
- Amount, location and shading of windows.
- Use of vestibules to reduce infiltration at the entrance.
- Natural ventilation is encouraged and can be achieved by proper orientation of the building and appropriate location of windows, etc.
- A higher level of architectural detail is encouraged for building entries.

Paving, lighting, and site architectural features are recommended to further entrance the entrance detail.

E. Architectural Finishes, Exterior

The Design Professional shall submit to the Owner's Representative a complete exterior material colors and finishes board (in physical form - digital material boards are insufficient) for Owner review and comments. A location plan shall be provided, and all materials and finishes included in the submittal shall be identified and located thereon. Representative examples of Airport preferred buildings and their exterior aesthetics are included in Section VII - Building Design Standards.

1. Walls and Fascia

All wall surfaces subject to damage from materials handling, equipment, or vehicles shall be of durable, low-maintenance, impact- resistant materials.

Examples of acceptable materials include stone, masonry, and flat metal panel systems.

Non reflective glazed windows, storefront, or curtain wall systems within the Airport boundaries may be used. Storefront systems, and individual windows in opaque walls shall meet aesthetic, energy, and functional standards, and provide high quality performance for their life- cycle. The tinting of the glass shall be “gray tone”, or blue and shall be subject to the approval of the Airport and the County. Metal frames for all new windows, storefronts, or curtain wall systems should be painted with a UV resistant PFVD (Kynar) paint system or supplied with an anodized aluminum finish with a UV protected seal or coating.

Subject to written approval through the Owner's Representative, daylighting glazing may be permitted. Sloped or horizontal glazing systems will not be permitted.

The following types of building materials may be approved by the Airport and the County:

a. Exterior walls:

(1) FBO, Office and Industrial Buildings or portions of building containing offices:
  (a) Tilt up or precast concrete panels.
  (b) Precast concrete with exposed granite aggregate
  (c) Stucco
  (d) Smooth and Split Face Exposed Aggregate Block
  (e) Vertical ribbed metal panels with PVFD (Kynar); color to match Airport Standards

(2) Incidental type buildings or Aircraft Hangars including Maintenance Hangars:
  (a) Same as paragraph1(a) of this above, or as otherwise approved.
  (b) Metal walls for aircraft hangars only are acceptable, but other materials may be approved.

(3) Warehouse space:
  (a) Same as paragraph 1(a) of this Section, or as otherwise approved.
  (b) A minimum of 10 feet of block or other material in combination with metal may be approved.

b. Exterior Fascia:

(1) Split face or fractured face (exposed aggregate) concrete masonry
(2) Flush profile metal panels
(3) Painted stucco.

2. Roofs

A Class A, Factory Mutual approved roof system with a minimum of 20 year, no-dollar-limit manufacturer's warranty is required.

A "Cool Roof" system (as defined by the U.S. Energy Department) should be incorporated where possible.

Acceptable systems may include KEE single ply roof membranes with closed cell insulation substrate or standing seam interlocking metal. Exposed materials shall be light-colored for solar reflectance, but must not produce significant glare, which could adversely affect aircraft operations. Roofing materials shall be resistant to aircraft fuels and UV degradation and finish fading.

Roof-mounted equipment and roof penetrations should be avoided unless necessary. Where roof-mounted equipment is necessary, the equipment shall be screened for visual compatibility in such a way as to allow for proper maintenance of equipment, and roof protection pads shall be provided where foot traffic is anticipated.

Since roofs are highly visible from aircraft using the Airport, roofs shall be attractively designed and constructed. Signs, lettering, designs, or other graphics shall not be placed, painted, or otherwise located on roofs. Roofs shall not be constructed of materials that are reflective or create glare. Roofs shall not be white in color unless approved by the County.

F. Architectural Finishes, Interior

All finishes shall be durable, low-maintenance, and fire-resistant. A complete interior materials colors and finishes board (in physical form - digital materials boards are insufficient) shall be submitted to the Owner's Representative during design. All materials and finishes included in the submittal shall be identified and located thereon. Materials for public and non-public areas shall be clearly delineated.

G. Equipment

All exterior equipment shall be screened from view of the general public or otherwise made discreet and must be approved through the Owner's Representative.

H. Security

The integrity of The Airport-wide security system must be maintained. The Owner's Representative will assist the Leasee, or Developer, in coordinating project- specific design, construction, and operations security requirements, which will vary with location and operation.

I. Signage and Graphics

Any publicly displayed signage (including logos, and promotional or advertising

signage) will be allowed only when included in design documents reviewed and approved through the Owner's Representative - and then only when compatible with the Airport aesthetics and any adopted signage standards for the airport. Airport approval is required prior to any sign installation.

In general, signage and graphics will be designed in harmony with the architecture of the leasehold improvements and other signage and development on the Airport.

Only those signs that conform to the Zoning Ordinances of Gwinnett County (or the City of Lawrenceville's Zoning Ordinances for Airport projects located within the City), and with the Airport Signage Standards will be approved. No sign will be erected until plans, elevations, sections, details, and specifications have been reviewed and approved.

All signs shall be maintained in a safe and attractive condition so as to preserve the aesthetic qualities established for the Airport.

If illuminated, signs must not create glare or block views.

J. Lighting

Energy-efficient lighting shall be specified.

1. Interior

Interior lighting of all Airport developments shall provide for the efficient and safe performance of all functions within that facility.

2. Exterior

Exterior lighting shall be shrouded and not create a glare hazard to aircraft operations.

K. Refuse

The Leasee, or Developer, shall be responsible for design and construction for trash handling devices, containers, and visual screening. Refer to Section IX Civil and Site Work Standards for additional requirements regarding refuse.

Exterior trash receptacles shall include a closed top to reduce blowing trash, limit overflow, and protect the contents from weather. Visual screening of all waste receptacles shall be provided by Leasee, or Developer, or Tenant as approved by the Airport.

Trash and recycling collection and removal services are the responsibility of the Leasee, or Developer.

L. Roadways and Pavement

Roadway and pavement designs, as well as other civil engineering work, are addressed in the DDG Section VIII, Civil and Site Work Standards.

M. Landscaping

Development, including landscaping, shall conform to the County's Ordinances and Regulations (or City of Lawrenceville's Ordinances and Regulations for Airport projects located within the City) and shall be approved by Gwinnett County. All landscaping design shall complement the Airport's requirements outlined in the DDG.

Landscaping shall be appropriate to the primary airport operations. Landscaping and irrigation systems required for a particular development shall generally be constructed within the lease lines of that development.

The Leasee, or Developer, is responsible for meeting the requirements of the Code, Ordinances or Regulations, whether modified or not, through coordinated construction documents.

Additional landscape and irrigation work requirements are included in the DDG Section VIII, Civil and Site Work Standards.

END OF GENERAL AIRPORT DESIGN STANDARDS

V. GENERAL AIRPORT CONSTRUCTION GUIDELINES

The Design Professional shall ensure that on-site activity by construction contractors does not begin before insurance requirements, pertinent permits, and security clearances are obtained by the contractor.

No work shall commence without a Notice-to-Proceed (NTP) issued by the designated Owner's Representative.

A. General Coordination

Work hours may be restricted to prevent interference with normal airport activities or to meet other airport concerns. Based on a list of parties affected by the proposed construction and identified by the Owner's Representative, coordination with tenants affected by each project shall be provided by the Owner's Representative.

Restrictions on work hours, as approved by the Owner's Representative, are to be included in the construction documents. Contractors will be required to comply with provisions of the DDG and the work hours approved by the Airport.

For operations on public roadways and the landside portion of the Airport, the contractor shall provide the Owner's Representative and other appropriate agencies with a traffic control plan per Gwinnett County requirements.

The operation of all ground equipment, mobile or stationary, required for construction, repair, or any other purpose within the limits of County property shall be governed as follows:

1. All equipment and materials when not in use or, about to be installed shall be stored on the leasehold or in a location approved for this purpose by the Airport Director.

2. All equipment on the airside of any leasehold, whether or not it is in use, shall be properly marked with yellow, or orange and white checkered flags of a size not less than 2 feet square during the day and with amber electric flasher lights at night, or as otherwise instructed. No equipment shall be parked within 750 feet of the centerline of any runway or within 250 feet of the centerline of any taxiway, unless specifically authorized by the Airport. Equipment parked on the airfield area shall be kept to an absolute minimum and restricted to equipment actually used or needed for the work under progress. Prior to erecting cranes on site a FAA 7460 application shall be filed for the crane, in addition to the building.

3. Parking areas for Contractor equipment, supplies, materials, and employee vehicles will be as established by the Airport Director or as indicated on the plans.

4. Contractor shall conform to the requirements of the Airport Director as to the placement, type and service of special barricades, obstruction and hazard marking and lighting devices used to identify danger areas.

5. Neither equipment nor personnel shall use any runway, taxiway, or apron for the purpose of hauling materials or access to the work, unless approved by the Airport Director. Authorized equipment operating on any hard surface is limited to that equipment with pneumatic tires. Prior to use of any hard surface, permission shall be obtained from the Airport Director. All drivers shall be instructed to be alert for aircraft and to follow routes designated for vehicular traffic All vehicles will be clearly marked to identify owner. No privately- owned vehicle will be operated on runways or taxiways.

6. Prior to initiation of operations which will require the crossing of any hard surface used by aircraft, the Contractor shall assure himself that a signalman, with visual or radio contact with the Air Traffic Control Tower (if applicable), or capable of monitoring air traffic, is on duty at the site of the crossing to regulate traffic. Moving aircraft have priority over all other traffic on the field. Only equipment equipped with pneumatic tires shall be allowed to cross paved areas. It shall be the responsibility of the Contractor to keep paved surfaces free of any material at all times that might drop from moving vehicles while crossing paved areas.

7. Hauling across Runway Protection Zones of any runway will not be permitted, unless authorized by the Airport Director.

8. Contractor must agree to permit only his bona fide employees and those of his subcontractors' access during actual hours of work.

B. Pre-Construction Conference

In addition to pre-construction conferences required by others, the Owner's Representative requires a pre-construction conference to be conducted by the Design Professional for each project, no less than one week prior to the scheduled start of on-site activities.

The pre-construction conference shall be attended by representatives of the Design Professional, the Contractor, and Airport staff. The agenda, date, and time shall be coordinated through the Owner's Representative.

C. Airport Construction Safety

Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the work.

Contractor shall comply with all applicable laws and regulations of any public body having jurisdiction for safety of persons or property. Contractor shall erect and maintain all necessary safeguards for the safety and protection of personnel and property.

Contractors will be required to comply with provisions of Airport's requirements for Hot Work and Fire Alarm-Sprinkler impairment whenever construction work may affect or interact with the Airport's or other Airport facility fire alarm and fire sprinkler systems.

1. Aircraft Operations Area Requirements

For work performed on the airfield, the contractor shall adhere to all federal, state, and local construction safety regulations.

All materials and equipment, when not in use, shall be placed in approved areas where they will not constitute a hazard to aircraft operations and not penetrate clearance surfaces defined in Federal Aviation Regulation Part 77 (14 CFR Part 77).

2. Clean-up

For construction within the AOA, operational safety requires additional clean up and restoration measures. Debris resulting from work on the airfield must be continuously removed during the course of the work. Debris from work on runways, ramps, or active taxiways shall be vacuum swept prior to opening this area to aircraft traffic.

Prior to the end of contractor's shift work on the airfield, the Contractor shall coordinate with the Airport's Representative to have inspected for debris or safety violations any runway, taxiway or ramp area that has been either closed for work or used as a crossing point or haul route.

The debris shall be cleaned up to the satisfaction of Airport personnel prior to opening the area to aircraft traffic. The inspection time shall be mutually agreeable and coordinated to allow timely opening of the area.

3. Existing Airfield Lighting Systems

The contractor shall provide advance notice of at least fourteen (14) Airport business days when requesting to initiate work anticipated to interfere with existing airfield lighting, and thirty (30) working days advance notice for work anticipated to interfere with navigational systems.

Any service and/or system interruption shall be done in accordance with the specifications and with the approval of the Airport's Representative.

4. Airfield Work Communications

Construction activities shall not be permitted within the Runway Protection Zones (approach areas of the runways) or within the Runway Safety Areas of an active runway without prior coordination with the Airport's Representative.

Contractor's vehicles or personnel shall not enter or cross active runways, active taxiways, or clear zones without the express permission of the Control Tower or Ground Control, depending on the location of the work.

Communication with the Tower shall be made primarily on the Airport

communication frequency provided through the Airport's designated construction representative. The standard phonetic alphabet is used in aviation and use of CB “Citizens band Radio” language or jargon is prohibited.

No equipment or personnel shall proceed onto any active runway or active taxiway until the Airport Air Traffic Control Tower (Tower) has granted permission by radio to proceed to those areas.

In instances where the Airport Operations officials deem it necessary for a representative to act as a radio controller and escort, the contractor shall not proceed onto any active runway or taxiway without the designated escort.

5. Traffic Control

For operations on the AOA, the contractor shall furnish, at contractor expense, flag personnel in radio communication with Tower personnel to control traffic in accordance with airport regulations, unless directed otherwise.

All contractor vehicles that are required to cross runways, ramp areas, taxiways, and aprons shall do so under the direct control of competent flag personnel. All aircraft traffic on runways, ramp areas, taxiways, and aprons shall have priority over contractor vehicles.

The Owner's Representative shall be notified at least 45 days prior to any road or parking restriction; runway, taxiway, or aircraft apron closure or restriction; or any activity which may hinder or restrict normal airport operations and access.

More specific notification policies may be noted elsewhere regarding any proposed construction activities.

6. Hazardous Area Markings

Open trenches, excavations, stockpiled material, or other hazardous areas within which no part of an aircraft may enter, shall be indicated by the use of barricades, supplemental flags, and lights shall be in accordance with FAA Advisory Circular 150/5370-10H (latest edition).

The intensity of the supplemental lights and the spacing for the barricades, flags, and lights must adequately delineate the hazardous area. Provisions shall be made for 24 hour/day, 7 day/week, maintenance of all hazardous area lighting and barricades.

7. Welding/Cutting/Open Flame

Five calendar days prior to each on-site welding, torch cutting, or open flame operation, the Owner's Representative shall be contacted for a welding permit. Welders shall be properly certified for the type of welding to be performed.

No welding, torch cutting, or open flame operations shall be permitted in any hangar when the hangar is occupied by aircraft. Open flame work shall not be conducted in the vicinity of aircraft parking positions when these parking positions are occupied by aircraft.

No open flames and/or lighted flame devices shall be permitted within seventy-five (75) feet of any aircraft parking area.

D. Job Supervision

Each Airport project job site shall have on-site at all times a construction supervisor who speaks fluent English. The name and 24-hour, on-site and off- site contact information for the designated supervisor shall be furnished to the Owner's Representative.

The supervisor shall have the authority to respond to any requests or directions of the Owner's Representative. The supervisor is responsible for the safety, security, and cleanliness of the work site at all times.

E. Temporary Utility Connections

The acquisition and termination of all temporary utility services for the construction period is the responsibility of the Design Professional and shall be coordinated with the appropriate utility company.

F. Haul Routes

Haul routes at the Airport shall be developed by the Design Professional in coordination with the Owner's Representative and identified in the Construction Contract documents. Deviations from the indicated route(s) during construction require written authorization from the Owner's Representative.

Dust control and removal of debris along the routes shall be specified by the Design Professional and provided by the Leasee, or Developer. It shall be the Design Professional's responsibility to coordinate the off-site haul routes (State highways, County roads, or Airport streets) with the appropriate, respective authorities.

Haul routes on the Airport site shall be continuously maintained by the Leasee, or Developer, during the period of their use and restored to original or better condition at the conclusion of the hauling operation. All existing property, including turf outside of areas designated for improvement, which is disturbed or damaged by the construction operations shall be restored to the satisfaction of the Owner's Representative.

Haul route "BEFORE" and "AFTER" conditions shall be photographically documented by the Leasee, or Developer.

When it is necessary to cross curbs, sidewalks, or other assets, the Contractor shall make reasonable efforts to protect those assets from damage. The Contractor shall immediately repair any damaged roads, curbs, sidewalks, or other assets at no cost to the Airport.

G. Temporary Buildings, Partitions, and Displays

The use of temporary buildings is restricted to the construction phase of a project. All such buildings shall be removed from the Airport at the conclusion of the construction phase. Restoration of the area to original or better condition, as deemed by the Owner's Representative, shall be completed in a timely manner.

Temporary dust control partitions shall be installed around all construction work areas within occupant spaces.

These partitions shall fully enclose the work from floor to ceiling and provide a dust free environment beyond. Partitions may consist of gypsum wall board or other approved materials, on metal or wood studs, finished and painted on the "public" side, as required by the Tenant or the Airport representative in public buildings.

Except for a standard construction project sign, all signs, displays, or company identification may be approved by the Airport's Representative in public Airport facilities.

H. Clean-Up

Each construction site shall be cleaned of all debris and trash at the end of each workday. The contractor shall provide suitable trash containers with latch-type lids, fastened to secure the contents.

All trash containers shall be emptied, and interior spaces of construction sites within Airport facilities shall be swept clean at the close of each business day. All trash and debris shall be disposed of at an approved off-airport site in accordance with EPA, state, and local environmental protection regulations.

At the end of each work period, the contractor shall secure all loose equipment and material to prevent potential weather-related damage. The Contractor shall be responsible for monitoring weather reports and taking precautions based on the worst weather forecast.

Should the Airport issue an emergency weather warning, the contractor shall immediately remove, tie-down, or otherwise secure any object which could conceivably damage property or personnel.

I. Record Drawings and Specifications

All construction drawings shall be provided in AutoCAD (latest version) and electronic pdf format. Project deliverable requirements are referenced that comply Georgia CADD standards.

All drawings shall utilize Gwinnett County Airport Coordinate System (NAD 83). Record project drawings and specifications acceptable to the Owner's Representative are required prior to final acceptance of each project.

An accurate record of actual site and building construction performed, shall be provided as a CADD record copy (electronic file), a pdf file, a full-size paper record copy, and a neatly marked-up copy of the project manual. Information shall include exact locations of actual work - especially, any work that is concealed, such as underground utilities or in-wall wiring, fire suppression systems, security systems, irrigations systems.

A marked-up set of the Airport-project permit documents, accurately reflecting approved changes to the work, are to remain at the site to be available for review throughout the construction period, and to reflect the current status of the work at any time.

As-built drawings in CADD, pdf, and full-size paper formats shall be provided to the Owner's Representative no later than ninety (90) calendar days after completion of construction. These documents shall be for the exclusive use of the Airport, the Leasee or Developer, should retain a copy of these documents for their specific use and needs.

The Airport will be responsible for updating the Airport Layout Plan (ALP).

END OF GENERAL AIRPORT CONSTRUCTION GUIDELINES

VI. GEOTECHNICAL DESIGN STANDARDS

Geological conditions vary and no warranty for the site conditions is expressed or implied. The Leasee's or Developer's Design Professional shall have qualified professionals prepare the geotechnical report and the recommendations made by the geotechnical engineer hired by the Leasee or Developer's Design Professional review.

A. Subsurface Investigations

The Design Professional's Geotechnical Engineer shall follow all Airport, FAA, Federal, State, and Local guidelines during all field operations.

Any indications of soil/groundwater contamination shall be made known to the Owner's Representative immediately. Work shall cease in the affected area until the site condition has been investigated and resolved.

Proposed drilling locations shall be submitted to the Owner's Representative prior to commencement of drilling activities for review.

B. Foundation Design Criteria

The Design Professional shall employ a qualified professional engineer licensed in the State of Georgia to provide a foundation design for the intended structure. This engineer shall have available the results of the Design Professional's Geotechnical Engineer's investigation.

1. Structure Types

The Design Professional - Engineer shall ensure the building structure is appropriate for the foundation type selected in regard to the stresses and differential movement likely to be experienced due to the soils at this location.

2. Foundation Types

The Design Professional - Engineer shall investigate the alternative foundation types suitable for the soil conditions and the proposed building type.

3. Design Criteria

The foundation criteria will typically be that found in the Building Code, as well as recommendations provided by the Design Professional - Geotechnical Engineer. The Design Professional - Engineer shall identify on the drawings the floor, column, and pier bearing/friction loads designed for the assumed differential movement to be withstood by the building foundation and system, the deflection limits designed within.

C. Groundwater Control Criteria

The Design Professional - Engineer shall investigate and confirm the existing groundwater conditions at the building site and provide a plan for both temporary control of the water during construction and permanent control of the water to prevent deterioration of the building, the adjacent pavements, and the surrounding facilities.

D. Protection of Adjacent Structures and Facilities

The Design Professional - Engineer shall prepare plans for locations where proposed construction will endanger other facilities. These may consist of other foundations, roads, buried or overhead utilities, Navigational Aids (NAVAIDS), drainage system components or conveyances, airfield pavements, and temporary installations (such as other construction).

The Design Professional - Engineer shall require the contractor(s) to install and maintain proper protection in any situation where other facilities are identified as likely to be endangered during construction, or when this is discovered in the field.

No blasting will be allowed. No unusual vibration or noise shall be allowed to unduly disturb adjacent operations or occupied spaces due to construction activities or use of the new facility or related activities.

END OF GEOTECHNICAL DESIGN STANDARDS

VII. BUILDING DESIGN STANDARDS

Airport facilities are subject to all federal, state, local, and Airport requirements depending on the location and nature of the development. The Airport's Representative will advise the Design Professional of Airport specific construction requirements and information required to be incorporated into the Construction Project Manual.

A. Building Criteria

1. Hangar Buildings:

A primary building is an aircraft hangar with use as addressed in the lease.

Stand- alone non hangar buildings are not permitted within the airport perimeter fence unless for aeronautical use and approved by County.

Outbuildings may be permitted as an ancillary to the primary building. An outbuilding must be attached or in near proximity to the primary building. Such outbuildings must be directly related to the operation of the primary building and will be limited to office(s), storage area, or related work area.

The portion of the building adjacent to the public roadway shall be the front of the building.

Minimum bulk hangar size is 50 x 50 feet (2,500 square feet). Minimum T-hangar construction is 5 units per side (minimum of 10 units per building).

Any hangar must have a concrete floor; any building must have finished flooring.

Any hangar constructed shall meet all State and Gwinnett County Storm Water rules, regulations, ordinances and laws, and the Leasee shall have sole responsibility to maintain any required detention ponds, oil water separators, etc.

Hangars/buildings shall meet all appropriate fire codes for the proposed use of building.

No residential occupancy is permitted.

Maximum building height shall be dictated by the airport’s imaginary surfaces but shall never exceed . the Part 77 Standards. New construction will require a Federal Aviation Administration (FAA) Form 7460 be submitted to FAA for review. Submittal of the approved Form 7460 to the Airport Director’s office is required prior to beginning construction on the airport.

Since roofs are highly visible from aircraft using the Airport, roofs shall be attractively designed and constructed. Signs, lettering, designs, or other graphics shall not be placed, painted, or otherwise located on roofs.

Roof materials shall be non-reflective, not create glare, and be of a neutral color that is complimentary to the required building color palette as discussed below.

2. <u>Hangar/Building Characteristics:</u>

At least one restroom with at least one toilet is required for any stand-alone hangar/outbuilding development whether for personal or commercial use. The restroom shall be Americans with Disabilities Act (ADA) compliant as required by local/state building code.

Hangar/building materials shall be a pre-engineered metal building, with metal siding. The front of the building (facing the street) shall have an entrance way and/or office space constructed with brick, stucco, stone veneer or related material as approved by the Board of Commissioners and/or Gwinnett County Airport Authority. Airport preferred examples of entrance way/office space construction and exterior materials are shown in the sample building photographs included within this document.

Hangar/building materials that produce glare or other effects that are hazardous to aircraft operation shall not be permitted.

Hangar/building colors shall be Gwinnett County "Blue" sky tones, using blues as the primary color and greys, and whites for accents. Final color palette shall be approved by the Airport Authority's Lease Committee PRIOR to beginning construction.

The location of outside storage areas and materials used for screening shall be a part of the site plan submitted by Leasee. All materials used for screening shall be opaque and the same as or similar to the main or primary building or by installation of berms and landscaping acceptable to the Airport, County, and/or City.

Any above ground fuel tanks shall provide for secondary containment of not less than 115% of the maximum storage capacity of all fuel tanks present. Above ground fuel tanks shall also be located inside the airport perimeter fence, or individually fenced to prevent unauthorized access. Fuel containment shall be in accordance with FAA regulations and the County Ordinances and Regulations (or City of Lawrenceville Ordinances and Regulations for Airport projects located in the City), NFPA and the Building Code.

Any exterior equipment shall be enclosed or screened so as to be an integral part of the architectural design and not in public view. Large pieces of equipment shall be located at ground level.

Any hangar or building abutting or a part of the Airport Operation Area (AOA) is also considered part of the security fence system. Such hangar or building shall provide the only entrance through the security fencing unless approved

by the airport. In addition, Leasee shall provide a chain link fence without gates separating the airside and the landside with not less than 6 feet chain link and three strands of barbed wire between buildings to the property line to establish a security perimeter. If landscaping screening is provided, it shall be located on the landside and no closer than 6 feet from the fence and maintained in a manner to preclude overgrowth of the security fence. Refer to the DGG Section IV Civil and Site Work Standards for additional requirements regarding fencing.

Adequate lighting required for both airside and landside shall be uniform in style and shall be constructed so as to not inhibit the night vision of the Air Traffic Control Tower, pilots operating on the airport, pilots operating in the vicinity of the airport, or vehicles utilizing the public roadways.

B. Site Work

Additional site work information is located in the DDG Section IX, Civil and Site Work Standards and additional building requirements are located in the DDG Section IV, General Airport Design Standards of this Manual.

1. Setbacks and Lease Site Boundaries

The County and the Airport will determine setback distances for construction based on FAA advisory circulars and/or regulations, the most recent FAA approved Airport Layout Plan and other County regulations that may be enacted from time to time. No part or portion of any building shall be erected, constructed, or extended into any setback area. No building construction equipment or materials shall be staged, placed, or operated in a manner that impedes the movement of aircraft along taxi lanes or taxiways or encroaches into a safety or object free areas without the prior permission of the County.

The minimum building setback shall be 25 feet from any adjacent ground lease boundary, unless approved by the Airport and must comply with the Building Code and NFPA required fire rated assembly separation requirements.

Minimum building separation requirements shall be complied with as set forth by the current-State of Georgia and local AHJ-adopted version of the National Fire Protection Agency (NFPA) 409, *Standard on Aircraft Hangars*, irrespective of ground lease boundary line location.

Adjoining hangars sharing a common center wall shall be built by the same Leasee, and shall be fire rated, where required to be rated by NFPA the local building code, or the local Fire Marshall. Not sure about the ‘sharing’ a common center requirement

2. Planters, Trash/Recycling Receptacles, and Street Furniture

Planters, trash/recycling receptacles, and street furniture shall be as submitted and approved by the Airport.

3. Chain-Link Fence and Gates

All fencing and gates shall meet the current applicable FAA Advisory Circular unless approved or directed otherwise by the Owner's Representative.

Airside: Security fencing shall comply with FAA specifications for chain link fence. The fence separating the airside and the landside shall be chain link not less than 6 feet high and topped with 3 strands of barbed wire. The barbed wire shall be slanted away from the airside at a 45-degree angle. A landscaped screening shall be provided and located no closer than 10 feet from the fence. The screen shall be maintained in a manner to preclude overgrowth of the security fence.

All other leasehold fencing shall be concrete, masonry or poly galvanized chain link. A 10-foot landscape border screening the chain link fence shall be placed on the public side of the fence.

Wood and polyvinyl fencing is not permitted.

Under no circumstances will Leasee, or Developer's fences be located on lands other than those leased by the Leasee, or Developer. Fences shall be provided, as needed, to prevent uncontrolled access from landside areas to airfield areas (if applicable).

All fences shall be designated on any site plan as to the location and type.

4. Utility Meters and Service Lines

The Design Professional shall make application, submit for reviews, pay fees, and comply with construction and maintenance requirements of each utility company for both temporary and permanent service.

The location of all buried or otherwise hidden utility structures, including pull boxes or spare conduits, shall be accurately recorded in the Record Drawings, which shall be turned over to the Airport's Representative.

5. Utility Corridors

Protection of utility corridors is required during construction and operation. No structure or landscaping is to be installed within the metes and bounds of the utility corridors.

Paving may be installed provided utility lines below are sleeved in accordance with requirements of the service provider.

Modifications to the utility corridor, including locating paving within the corridor, are to be accurately documented by the Design Professional with each utility company and with The Airport. Survey information, including

metes and bounds, is required for any reconfiguration of the corridor.

6. Fire Protection

Flow and pressure testing shall be specified by the Design Professional - Engineer and performed by the contractor according to the standards of Gwinnett County Fire Department and Factory Mutual. Systems shall be in accordance with the requirements of Section VII, Mechanical, Electrical, & Plumbing Building Systems.

C. Concrete Structures

1. Cast-in-Place Concrete

At a minimum, all cast-in-place concrete work, including forming, placement, and finishing, shall be performed in accordance with the American Concrete Institute (ACI) and applicable national standards.

Floor slabs shall be level within a tolerance of 1/8-inch in 10-feet. Pitch to drains in planes shall be true to the same tolerance.

2. Precast Concrete

At a minimum, all precast architectural concrete shall be designed and constructed in accordance with the ACI, ASTM, and all applicable national standards.

Precast concrete sample panels shall be required in the construction contract for all precast concrete work in a development, reviewed and approved by the Owner's Representative, and shall illustrate the quality, color, and texture of the final surface finish.

D. Masonry

Acceptable masonry products include brick, concrete masonry units, and stone. The finish and color shall be approved by the Owner's Representative. ASTM standards are acceptable for mortars and grouts.

E. Metals

Installation work shall adhere to requirements as noted below:

1. Structural Steel

All structural steel shall conform to all applicable national standards.

2. Light-Gauge Metal Framing

The gauge and spacing of metal framing members shall equal or exceed the recommendations of the wall or ceiling sheathing materials manufacturer.

3. Handrails and Guardrails

Design and construction shall comply with all requirements of the building codes and accessibility standards. Welding work shall comply with American Welding Society (AWS) standards. Returns with closed ends at wall-mounted handrails shall be provided.

F. Thermal and Moisture Protection

1. Manufactured Metal Wall Panels

Manufactured metal panel systems and profiles are subject to approval by the Owner's Representative. Wall panels shall be no less than 22 gauge.

2. Metal Roof and Soffit Panels

Manufactured metal roofing systems and profiles are subject to approval by the Airport's Representative and must be installed by a contractor certified by the respective roofing manufacturer.

G. Doors and Windows

Installation work shall comply with requirements noted below.

1. General

In the interest of safety, vision panels shall be provided in all locations unless security of the operation dictates otherwise.

2. Metal Doors and Frames

Exterior doorways shall be constructed of hollow metal doors and frames. Frames subject to wet conditions shall be galvanized.

3. Flush Wood Doors

Interior wood doors shall be solid core wood construction.

4. Overhead Doors

Overhead doors and grilles, sectional, rolling, or coiling, shall be equipped with a safety stop and a manual override, if the operators are motorized. Exterior sectional doors and grilles shall be galvanized metal.

5. Aluminum Entrances and Storefront

When storefront is permitted, it shall be equipped with extra-heavy- duty hardware. Storefront assembly design shall be for heavy-duty use.

6. Aluminum Windows

Exterior windows shall be fixed glass is acceptable other. Polycarbonate glazing is not permitted. Insulation of windows to reduce noise transmission and energy efficiency shall be incorporated. All windows and glass surfaces and shall be non-reflective glass. The tint shall be per the DGG requirements.

No aluminum window shall be installed in a metal frame unless the installation incorporates a design to prevent galvanic action. Kynar coatings shall be used for all exterior window frames.

7. Door Hardware

Keying shall be compatible with the Airport seven pin removable core keying system and shall be coordinated through the Owner's Representative. All key systems are part of the Airport security system and are subject to review by the Airport security personnel.

H. Interior Finishes

Finish work shall comply with requirements noted below:

1. Tile / Resilient Flooring

The acceptable grade is commercial or industrial.

2. Acoustic Panel Ceilings

White, acoustic panels, two feet by four feet, set in an exposed grid are preferred. Concealed spline ceilings are prohibited.

3. Carpet

Adhesive-backed, non-padded, tiled carpet is preferred.

4. Paint

Only low-VOC paint is acceptable. No lead content will be allowed. Paint colors shall be approved by the Airport.

I. Specialties

Specialty work shall comply with requirements noted as follows:

1. Signage and Graphics

Signage and graphics at the Airport shall be designed and constructed in accordance with the following and as reviewed, approved, and/or directed by the Airport.

a. All building signage required by County, State, and Federal regulations and accessibility standards shall be specified by the Design Professional. This includes interior and exterior signage..

b. All site signage within the lease or project limits is to be specified by the Design Professional based on the Airport standards and approved through the Airport's Representative.

c. Where identification of an operation or business beyond the lease line and at, or near, the access-way or roadway thereto is agreed between the Leasee, or Developer, and the Owner's Representative to be desirable, proposed prototypical signage shall be provided by the Leasee, or Developer.

d. No corporate logo signage will be permitted beyond the lease lines. The proposed signage location, utilities, and associated work shall be approved in writing by the Owner's Representative prior to fabrication. The Leasee, or Developer, shall be responsible for maintenance of such signage.

e. All public building signage shall conform to Airport signage and graphics standards.

f. Signage or graphic identification of food service or lease spaces on the exterior of buildings is strictly controlled. Location, size, color, materials, and type of any signage proposed by a Leasee, or Developer, or operator of such space shall be clearly represented in design submittals to be submitted for approval by the Airport.

2. Fire Extinguishers and Accessories

Design Professional shall specify recessed or semi-recessed fire extinguisher cabinets, except in warehouse or storage facilities. In exterior locations, warehouse or storage facilities, surface-mounted cabinets or mounting brackets are allowed. Fire extinguishers for use in electrical and IT/Data rooms shall be halon type fire extinguishers or an extinguisher that will not be harmful to electrified equipment.

3. Loading Docks

Loading dock work shall comply with requirements noted below.

Bumper and Leveler: Loading docks shall be equipped with dock bumpers. Safety bells or chimes for hydraulic dock levelers in motion shall be required. Exposed metal of bumpers shall be galvanized steel.

Dock levelers: Safety devices required include toe guards, cross-traffic support safety stops, support mechanism for unit in an elevated position, maintenance strut, and free fall.

All truck loading docks and areas shall be visually screened from public view. No loading docks or areas shall be permitted on the fronts of buildings except for warehouse operations with proper screening approved by the County. Trucks are prohibited from using common passage service roads for access to loading docks and/or area. It shall be the Leasee, or Developer's responsibility to provide adequate off-street parking for trucks awaiting access to loading areas or docks.

All loading areas shall be designed to enable all truck maneuvering to occur in the Leasee, or Developer's parking area, not on the street system.

Open storage in loading areas is prohibited. Loading areas shall be identified on any site plan. Standard turning radius shall be required for specific truck sizes intending to use loading areas.

EXAMPLE 1:

BRICK CLADDING WITH STUCCO EXTERIOR & STANDING SEAM METAL ROOF

EXAMPLE 2:

CONCRETE STUCCO EXTERIOR WITH LINEAR GLASS & ARCH'D ROOF

EXAMPLE 3:

CONCRETE STUCCO EXTERIOR & ARCH'D ROOF & COVERED DROP OFF

EXAMPLE 4:

BRICK VENEER & STUCCO ACCENT WITH COVERED ENTRY

EXAMPLE 5:

HORIZONTAL METAL SIDING WITH ACCENTS TO DEFINE OFFICE AREA

EXAMPLE 6:

HORIZONTAL METAL SIDING WITH GLASS AND CANTILEVERED ELEMENTS

END OF BUILDING DESIGN STANDARDS

VIII. BUILDING MECHANICAL, ELECTRICAL, PLUMBING STANDARDS

A. General

Mechanical, Electrical, and Plumbing (MEP) systems for building construction and renovations at the Airport shall be designed to be constructed, installed. and operated safely and in compliance with requirements of authorities having jurisdiction.

These systems shall fully address the comfort and use needs of the building Owner and occupants in an energy-efficient and sustainable manner that minimizes impact on the environment.

All electrical and telecommunication transmission lines on the Leasee's parcel shall be installed and maintained underground.

All mechanical equipment shall be housed within the building when possible. When roof-mounted equipment is required, it must be concealed by parapet walls taller than the tallest piece of roof mounted equipment. Plumbing vents are the only non-screened roof penetrations allowed.

Any exterior mechanical or electrical equipment, satellite dishes or other large pieces of equipment, shall be screened so as to be an integral part of the architectural design and not in public view.

All electrical installations will conform to the National Electric Code, the Building Codes and Gwinnett County Ordinances and requirements (or the City of Lawrenceville for projects located within the City).

All hangar buildings will be submitted to the Local Fire Marshall for a written determinization of any required fire sprinklers or fire suppression systems. All maintenance hangars shall be fire sprinklered. Al building separations and fire sprinkler requirements shall be installed in accordance with the latest NFPA Standards and the Building Code.

All mechanical equipment shall be housed within the building when possible. When roof mounted equipment is required, it must be concealed by parapet walls sufficient to screen the equipment but no more than 42”. Such parapet does not count against building height restriction but shall be subject to compliance with the Airport’s imaginary surfaces. Plumbing vents are the only non-screened roof penetrations allowed.

B. Miscellaneous

Lead or asbestos-containing materials (ACMs) shall not to be specified or installed. Roof-mounted equipment shall be avoided for ease-of-maintenance and security purposes. Refer to the DGG Section II for more information regarding Hazardous Materials.

C. Communications, Life-Safety, and Security Systems

Both wired and wireless telecommunications systems installed at the Airport shall be compatible with existing systems.

Systems design and proposed installations shall be fully coordinated with the Airport information requirements and current infrastructure. This includes, but is not limited to, voice, data, security, alarm, fire protection, and entertainment television systems.

D. Water Conservation

Water conservation measures shall be incorporated in all developments. These measures may include the use of water- saving plumbing devices, drought resistant native vegetation for landscaping, limited irrigation during drought conditions, and all requirements of the Building Code, or the County Ordinances and Regulations for Airport projects located within the City.

END OF BUILDING MECHANICAL, ELECTRICAL, PLUMBING STANDARDS

IX. CIVIL AND SITE WORK STANDARDS

A. General

In the design of civil and (flat) site work the Leasee, or Developer, is required to continue the parameters established by preceding facilities, which have been the subject of review and permit by Authorities Having Jurisdiction (County, State and Federal agencies). There are specific areas which require such attention including, but not limited to the following:

1. Erosion and sedimentation control, both temporary and permanent: This requires an awareness of the potential to pollute existing drainage-ways with construction-related run-off and the design of temporary measures to mitigate such damage. Further, it is required that permanent erosion control is incorporated into the design of disturbed areas by the introduction and maintenance of native and adapted grasses.

2. Storm Water Drainage: Design for storm water drainage issues requires data on the capacities of existing systems to determine where the need for on- site detention of run-off is necessary. Consistent with the concern for erosion and sedimentation control, is that of water quality (WQ).

   The Design Engineer shall determine at an early stage whether it is necessary to incorporate WQ ponds into the run-off logistic. In general, the major storm water outfalls from the Airport have incorporated WQ facilities; however, in the event that other outfalls are utilized, this concern shall be addressed.

3. Sub-grades: Care should be taken by the Design Professional Engineer to ensure that pavement base thicknesses are adequate to resist loading requirements and geological requirements, and compliance with the Georgia DOT requirements and standards.

4. Americans with Disabilities Act (ADA): All facilities on the Airport are subject to the provisions of the ADA, both in public areas and employee areas.

B. Apron Pavements

Taxi lanes shall be designed to comply with all design standards set forth in FAA Advisory Circular AC 150/5300-13A (latest edition) – Airport Design (or any other publication issued by the FAA to supersede AC 150/5300-13A). Gwinnett County Airport is an Airport Design Group (ADG) II airport. As such, standards used from AC 150/5300-13A (latest edition) shall meet the ADG II standards as a minimum (ADG III or ADG IV standards may be used at the Tenant's discretion and may be required if the Airport Design Group changes).

In addition to the hangar, an apron shall be designed so that any aircraft capable of being parked in the designed hangar can be pulled completely out of the hangar without encroaching on any adjacent taxiway(s) or taxi lane(s) or blocking the ingress/egress of other aircraft.

Under no circumstances shall required apron/ramp areas encroach into the taxi lane or taxiway objective free area (TOFA) except for the entrance pavement.

Airside pavement shall have a compatible look and performance as to any airport taxi lanes/taxiways/apron to which it may abut. All leasehold pavements must be of sufficient quality and weight bearing capacity for the aircraft to be parked on the leasehold.

Landside pavement shall have a compatible look and performance as to any street/driveway pavement it shall abut.

All pavements shall be designed for a minimum 20-year life. Airside (pavements within the Airport Operating Areas) shall use FAA standards for the aircraft expected to be parked. Landside (pavements outside the Airport Operating Areas) shall meet equivalent axel load projections, or any other standard specified by Gwinnett County Department of Transportation Director or his/her designee.

Any permitted airside vehicle access routes are to be a minimum of 12 feet wide.

Taxilanes within hangar areas provided by the County are generally designed to accommodate an aircraft with a wingspan no greater than forty-nine (49) feet. Facilities designed for larger wingspan aircraft shall provide direct access to taxiways, unless otherwise approved by the County and the Airport, or designee, subject to grant assurances provided to the FAA and FAA regulations, specifically the FAA Advisory Circular 150/5300-13A.

Entrance pavement is required from the hangar door to the taxi lane or taxiway, shall be at least twenty (20) feet wide.

All required apron/ramp areas shall be constructed to remain outside the taxi lane or taxiway object free area except for the entrance pavement noted above.

Apron space between the hangar and the adjacent taxi lane or taxiway shall be sufficient to support the proposed use and potential future use of the hangar. The design of the apron is subject to review and approval by the County and the Airport.

All airside leasehold pavements must be of sufficient quality and weight bearing capacity for the largest aircraft that could be hangared on the leasehold and shall be designed for a minimum twenty (20) year life (or the terms of the lease) using any applicable current FAA standards. Due to potential for creation of foreign object debris, pervious pavements shall not be permitted for use on the airside of airport property. Any pavement areas required to be rehabilitated for a new lease shall be the responsibility of the Leasee.

Any improvements to the existing pavements, or infrastructure, proposed by the Leasee shall be permitted and approved by the County and the Airport, prior to construction.

C. Roadways

Roadway design and construction shall conform in general to the provisions of Gwinnett County Department of Planning and Development standards and shall meet or exceed the Georgia Department of Transportation (GDOT) Standards.

Design shall provide a 20-year life for identified traffic type and frequency. The special needs of airport development may override the commercial and residential minimum standards.

Horizontal geometry of the Airport is defined in The Airport Layout Plan.

1. Pavements

In general, all road pavements shall be of flexible design, incorporating asphalt wearing surfaces, an asphalt base course, and a granular or crushed rock base. The top eight-inches, at a minimum, of sub-grade is required to be lime-stabilized and compacted in accordance with GDOT specifications. The use of proprietary geo-grid is permitted and may, in certain circumstances, permit a reduction in the required depth of base.

Both lime-stabilization and road base shall extend a minimum of 18 inches beyond the outside edge of the pavement, curb, or sidewalk, whichever is the greater.

Traffic lanes in parking lots and other areas of heavy vehicular traffic shall comply with the roadway design standards.

2. Curbs and Gutters

Spill and catch designs shall be applied where appropriate in super- elevated or cross-hung road sections.

3. Sidewalks

Where sidewalks are required, they shall conform to the ADA regulations and the Gwinnett County Department of Planning and Development standards. Gwinnett County approved sidewalk ramps and crosswalks shall be installed at intersections and other areas of high pedestrian traffic. Handicap ramps shall be located at all pedestrian crossings through curbs and at handicapped parking spaces. All sidewalks shall be designed in accordance with the requirements of the County.

Sidewalks shall be permitted only to provide for internal circulation on leasehold property. Additional sidewalks may be approved based on a showing of necessity if required to accommodate pedestrian traffic between leaseholds.

Sidewalks shall be designed, and pedestrian roadway crossings located to minimize pedestrian/vehicle conflicts and to provide adequate sight distance

for both the pedestrians and the vehicle drivers. Proper warning signs and special markings shall be provided if deemed necessary by the County.

4. Driveways

Where the lease line is off set from the roadway, the Leasee, or Developer, shall be responsible for the construction of vehicular access driveways. Protection of all buried utilities, including sleeving of pipes and conduits beneath the driveways, and continuity of drainage conveyances, is the responsibility of the Leasee, or Developer.

Driveway design shall be consistent with the most stringent pavement design within the project area and provide turn out radii consistent with Gwinnett County standards, except that the radii shall be no less than 25 feet. In driveways subject to tractor-trailer or large truck traffic, the radii shall be no less than 50 feet.

Onsite vehicular circulation should follow a clear hierarchy to provide:

- Proper ingress and egress based on projected traffic volume.
- Ease of orientation for visitors.
- Clear sense of arrival.
- Sight distance.

The width and number of driveways for a parcel or leasehold shall be determined by the type of use to which the leasehold is put, and the volume of traffic projected to use the driveway(s). In general, driveways will conform to the requirements of Gwinnett County.

Access and egress points shall be designed to minimize hazards, inconvenience, and congestion by providing simple circulation patterns and ample stacking room.

No access points shall lead directly into a parking bay. Instead, access shall lead into distribution roads which in turn feed into parking bays.

Landscaping or commercial signs located within an island in a driveway may be approved by the County. Landscaping shall not block sight distance or pose a traffic hazard.

The Leasee, or Developer, shall be responsible for all arrangements and agreements with adjacent property owners when joint use driveways or internal cross easements are permitted by the County. Said agreements shall be in writing and subject to the approval of the County.

Permits: A permit to work within any public right-of-way will be required for all driveways constructed on County owned and maintained roadways. All building plans submitted for permits shall show all existing and proposed

driveways, including any required acceleration/ deceleration or left- turn lanes. The County shall review all such building plans on both County and State roadways.

A separate permit from GDOT will be required for all driveways on State roads.

Driveway permits will not be issued and access to a parcel will be denied unless a site plan showing the existing or proposed development is submitted or other documents submitted indicating the proposed usage of the driveway and parcel.

5. Lighting

Roadway lighting shall conform to the Gwinnett County Department of Planning and Development standards (or City of Lawrenceville standards if development is within City limits) , County Ordinances and Building Code requirements (or City Ordinances and Codes if applicable). Lighting support columns that are in parking areas shall have an extended concrete foundation shaft.

6. Embankments

The Airport roadway embankment slopes which are not mechanically stabilized shall not exceed five (horizontal) to one (vertical). Embankments with slopes less than three (horizontal) to one (vertical) require mechanical stabilization.

Acceptable stabilization means vary with the conditions and location. Dry stack, geo-grid, and other mechanical stabilization methods are acceptable, depending on these factors.

D. Parking Areas

On-street parking is not allowed at the Airport. Gwinnett County Development Ordinances and Regulations, (or the City of Lawrenceville's Development Ordinances and Regulations for Airport projects located within the City) apply to all areas of the Airport, except where variances have been granted or alternative compliance allowed in the interest of aviation safety and continuous long-term occupancy; The design of all parking areas shall comply with Development Ordinances and Requirements at a minimum.

Sufficient parking shall be provided on the leasehold for each Leasee's, Tenant's or Developer's employees, patrons, and visitors.

1. Layout & Configuration

All parking must be identified in site plan.

Parking shall not be established or designated within the Air Operations Area.

Parking shall not be established or designated along the front of a building if the front of the building is on the airside of the Airport.

Vehicle parking spaces quantities and type shall be as required by the County Ordinances and Regulations (or City of Lawrenceville Ordinances and Regulations for Airport projects located in the City) and ADA regulations and shall be sized and marked in accordance with requirements outlined within the current County Land Development Code.

All parking areas shall have car stops or curbs placed at least five feet from the closest sidewalk, hangar, or building.

All parking areas shall be setback at least 10 feet from the Leasee's lease lines.

Commercial use of a hangar must comply with the quantity, sizing, and marking of ADA parking spaces outlined within the current County Ordinances and Regulations (or City of Lawrenceville Ordinances and Regulations for Airport projects located in the City), the Building Code and ADA Regulations . Handicapped parking spaces will be located in areas convenient to building entrances. The number and dimensions of spaces so provided shall be consistent with ADA regulations.

No parking shall be permitted on or adjacent to streets or driveways. All parking areas shall be paved and marked.

Parking in areas between buildings and roads shall be acceptable if these are designated on the site plan as parking areas, are screened from roadways by landscaping and/or berms.

Electric vehicle charging stations shall be provided at parking lots, where required by the Gwinnett County Ordinances and Regulations (or City of Lawrenceville Ordinances and Regulations for Airport projects located within the City).

2. Lighting

The Leasee, or Developer, is required to illuminate parking areas to provide a safe secure environment. All security lighting shall have photocells for automatic turn-on during poor visibility and nighttime hours. Lights shall be shielded and adjusted to light intended areas only.

Reflectors shall be designed to minimize upward light scatter. Lighting mounted on buildings for area lighting security purposes may be acceptable, with the Owner's Representative's approval.

Plans for lighting shall be submitted by the Leasee, or Developer, to the County and Airport for approval. Lighting in parking areas shall be a uniform style throughout the development.

Where pedestrian walkways are not adequately illuminated by street lighting or parking lot lighting, uniform walkway lights shall be used consistent with the style and design of the street lighting system.

Lighting poles in parking lots shall be located within parking medians or islands.

Any plaza, courtyard, terrace, or other exterior pedestrian area adjacent to buildings or incorporated as part of the individual site plan shall use lighting compatible with the lighting styles of the walkway and parking areas.

All lighting shall be restricted to down lighting or shielded. Such lighting shall be restrained in design and levels of illumination so as not to be a hazard to Airport operations or interfere in future air traffic control tower operations.

If so, requested by the County to resolve a question of interference, the Leasee, or Developer, shall submit a signed and sealed drawing and photometric analysis provided by a registered lighting engineer.

The illumination levels and foot candle requirements for parking lots, site development and walkways shall be in accordance with the Gwinnett County Ordinances and Regulations (or City of Lawrenceville Ordinances and Regulations if within City limits), which set minimum and average levels of illumination. A photometric analysis shall be submitted to the Airport and the County for approval.

All aircraft apron lighting shall be designed and constructed in accordance with current FAA Advisory Circulars.

3. Pavement

All pavements where heavy traffic, heavy trucks, and delivery vehicles will travel must meet at least the minimum design standards for roadways. This includes traffic lanes in parking lots. Minimum paving for private vehicle parking is not acceptable in these areas.

In circumstances where heavy truck maneuvering is planned, an eight- inch minimum thickness of reinforced Portland Cement Concrete (RPPC) paving surface is required. This includes areas where containerized waste is located.

The standard construction and material specifications of Gwinnett County shall be used for roadway, driveway, and parking lots for all non-aviation related aircraft operational areas. Those prepared by the Federal Aviation Administration shall be used for aircraft operational areas.

All airfield pavement design shall conform to the relevant FAA Advisory Circulars for pavement design, using as the design aircraft the most critical aircraft proposed to be used over the life of the development.

4. Employee and Visitor Surface Parking

At a minimum all parking space pavement shall consist of a two-inch asphalt layer over an eight-inch aggregate base with a minimum eight- inch lime stabilized sub-grade. Vehicular circulation aisles shall be perpendicular to the building entrance facade and stalls shall be at 90 degrees to the circulation aisles.

Parking spaces shall be designed at right angles to the horizontal access of the building wherever possible. Exceptions to this layout may include loading areas and ADA-compliant accessible stalls. Parking stalls shall be 10 feet wide by 18.5 feet deep.

E. Drainage

Installation and maintenance of water quality structures or devices (such as grease traps, oil-water separators, filtration beds, areas of containment, etc.) required by Gwinnett County, the Building Code or the Health Department shall be the responsibility of the Leasee, or Developer.

All leasehold development shall satisfy the drainage and retention and/or detention requirements of Gwinnett County, the Georgia Environmental Protection Division (EPD), and the Metropolitan North Georgia Water Planning District (Metro Water District).

Specific requirements for each leasehold area should be coordinated with each regulatory agency early in the development of site engineering. This coordination should include a conceptual drainage plan which outlines the impact of the proposed development.

1. Storm Water Drainage

Design requirements for water quality, erosion and sedimentation control, spoil storage, drainage and grading, land use, and demolition shall comply with the County's Ordinances and Regulations (or City of Lawrenceville Ordinances and Regulations for Airport projects located within the City), and the Airport's Storm Water Pollution Prevention Plan (SWPPP) and the Metropolitan North Georgia Water Planning District (Metro Water District.

Assumptions were made regarding the configuration of the Airport facilities prior to their construction. The Leasee, or Developer, must coordinate through the Owner's Representative to determine the effect of those assumptions on the Leasee, or Developer's proposed facilities.

All work associated with modifications, additions, or deletions to the

infrastructure systems at the Airport shall be the responsibility of the Leasee, or Developer.

Design documents prepared by the Leasee, or Developer, shall incorporate calculations for a two-year, a 25-year, and a 100-year rain event, although the development shall comply with the County's requirements for a design based on the 25-year event.

A drainage plan shall be submitted indicating pre-development stormwater flow, contours/elevations of the proposed development site, and elevations of adjacent property or parcels.

Drainage shall not negatively impact adjacent properties or leaseholds and shall flow into the Airport's natural or developed master drainage system. Expansion, or improvements of the master drainage system to accommodate any new development, or hard surface areas, shall be the lease holder's responsibility, unless agreed to in writing by the Airport.

The elevation of the lot shall not be changed so as to materially affect the drainage pattern of the surrounding lots.

Drainage from roofs shall not create erosion or affect adjacent properties or leaseholds. Perimeter roof drainage with gutter, downspouts and splash blocks shall be required. If down spouts are tied-in to the master Storm Water system, then clean outs shall be installed within 5'-0" minimum of the down spout. A roof drainage and a soil erosion control plan shall be indicated on plan submittal.

Oil interceptors shall be installed as part of the building floor drainage-system at all facilities performing aircraft maintenance. Grease traps are required for restaurants and food service facilities.

2. Curb Inlets

Curb inlets shall be of the recessed type. The length of the inlet(s) shall be designed to prevent overflow of the curb face and determined in conjunction with hydraulic calculations to determine the design event inflow.

3. Area Inlets

Drop inlets shall be allowed in special circumstances. Use of the grate included in the detailed diagram is limited to areas of restricted pedestrian access. Where pedestrian traffic is likely (e.g., in parking lots), gratings specified by the Leasee, or Developer, are subject to approval on a case-by-case basis.

4. Storm Drains

Storm drains shall be designed in accordance with the criteria set out in Gwinnett County's Drainage Criteria Manual. Precast concrete pipes, with 0-ring joints shall be used throughout.

5. Manholes

Manhole covers shall be round and comply with the detailed diagrams included with the Gwinnett County Department of Planning and Development standards and Department of Water Resources. Manhole covers shall be capable of supporting the traffic loading anticipated.

F. Water and Wastewater

Water and wastewater systems design shall comply with County water and wastewater utility requirements. All materials proposed for use shall be approved by the County and/or listed on the current Quality Products List.

Each Leasee, or Developer, shall outline in writing its requirements for potable water and sanitary sewer service at the proposed leasehold location.

If potential service is available through the County, the Leasee, or Developer, shall submit a written request for service. This request shall include, but not necessarily be limited to, the following types of information:

a. An estimate of the quantities of potable water and sanitary sewage that the system will be required to handle. All calculations on which these estimates were based shall also be submitted.
b. Any special requirements such as minimum potable water pressure or peak rates of sewage flow that the Leasee expects to be accommodated.
c. The composition of any sanitary sewage including the method and anticipated efficacy of the pretreatment industrial type waste by the Leasee.

If potable water and/or sanitary service is not available through the County, the Leasee, or Developer, shall submit a plan indicating the proposed source of potable water and method proposed for disposing sanitary sewage and industrial wastes.

Final details for the installation of the facilities required to provide potable water and dispose of sanitary and industrial type wastes shall be subject to all applicable local, state, and federal regulatory requirements. The lessee shall provide the County with a copy of all permits and/or approvals issued any agency with jurisdiction.

A copy of all permits obtained by the Leasee, or Developer, at the date of site plan submission, shall be submitted along with the site plan. Any permit for which approval is pending shall be so identified and submitted immediately following issuance.

All development constructed on property owned or controlled by the County shall fully conform to the requirements of the Airport and all applicable regulatory agencies.

G. Utilities

Extension and maintenance of all utilities to the facilities shall be the financial responsibility of the Leasee or Developer.

All plan submittals shall include sufficient detailed information on all utility designs and design loads. Plan submittals shall indicate above ground utilities such as, but not limited to, back flow preventers, condensers, and transformers. Sewer, gas, water, electric, and communication utilities shall be located underground.

All electrical wiring shall be in conduit and placed underground from the electrical power source to hangars or buildings.

Septic tanks are not authorized for use on the Airport.

All building water supplies shall be potable water and connected to the County water system. Fire hydrants shall be provided as required by the County or local Fire Marshall.

Work shall not commence until approval has been received by the County and all permits have been received by the Leasee or Developer.

The Leasee shall be responsible to restore all areas disturbed during the utility installation including pavement, landscaped and grass areas.

Utility right of way corridors are available for service connections along the public roads located near the Airport. A sub-surface utility survey should be conducted by the Leaseeor the Developer, prior to design and construction.

The Leasee, or Developer, is responsible for coordinating with each utility company and the County Planning Department, the information, materials, and fees necessary for temporary or permanent service connections. Design, construction, and maintenance of utilities from the point of connection at the corridor to the point of service are the sole responsibility of the Leasee, or Developer,

All underground utilities installed by the Leasee, or Developer, shall be marked with magnetic tape to provide surface detection capability.

H. Landscaping

A landscape and irrigation plan shall be prepared and submitted to the Airport and County in accordance with these standards. All landscaping shall conform to Gwinnett County Ordinances and Regulations (or the City of Lawrenceville Ordinances and Regulations for Airport projects located with the City).

Landscaping within the Air Operations Area for non-building and non-pavement areas shall have as a minimum natural ground covering and is limited to grass or very low-lying vegetation for unpaved areas. For safety reasons no trees or shrubbery shall be permitted within the air operations area (within the airport security or perimeter fence.)

At least 20% of the total gross land area of a development site shall be landscaped and can include grass or ground cover for the calculation. The landscaped areas shall be located on the site in such manner as to maximize preservation of existing trees with priority given to specimen trees (if any exist). Such landscaping should not be on the airfield side of any hangar or building construction that is not accessible by the public.

Landscaping shall not block sight distance or pose a traffic hazard.

Landscaping within the Airport Operation Area for non-building and non-pavement areas shall have as a minimum natural ground covering and is limited to grass or very low-lying vegetation for unpaved areas. No trees or shrubbery shall be permitted within the Airport Operation Area (within the Airport security or perimeter fence.), or that may contribute FOD (leaves or shedding elements) into the AOA.

Low shrubbery shall be required at the public side of the building and perimeter of the automobile parking lots and dumpster enclosures.

All landscaping shall be irrigated on an automatic timed system, with in line filters at the irrigation pump. All landscaped and sodded areas shall be provided with 100% coverage by an automatic underground irrigation system. Sod and landscape areas shall be on separate zones.

All landscaped areas shall include pine straw type mulch; no bark, or stone, mulch shall be allowed.

All gross-land area of a development site that is not paved or building shall be landscaped and can include grass or ground cover. The landscaped areas outside the AOA (outside the Airport perimeter fence) shall be located on the site in such a manner as to maximize preservation of existing trees with priority given to specimen trees. Such landscaping should not be on the airfield side of any hangar or building construction that is not accessible by the public.

Landscaping shall not block sight distance or pose a traffic hazard.

All grass, trees, and shrubbery must be kept in good appearance at all times. If the Lessee or Leasee, or Developer, fails to maintain these areas the County and the Airport reserves the right to maintain or remove them at an additional cost to the Lessee. Maintenance of all landscaping and irrigation systems shall be the responsibility of the Leasee, or Developer. All landscaped and sodded areas will be maintained in accordance with the approved plan and maintenance will be enforced.

Plant materials used in conformance with the provision of this section shall equal the standards of the County Ordinances and Regulations (or City of Lawrenceville Ordinances and Regulations for Airport projects located within the City) and other amendments thereto for the highest quality available. Plant materials must be selected

for interest, structure, texture, color, and ultimate growth in harmony with and complementary to the building and other materials.

Landscaping items shall not be greater than 2.5 feet in height when located within the line of sight required to maintain adequate sight distance at all intersections, horizontal curves, driveways, and pedestrian crossings.

All trees used in landside landscaping shall have a minimum trunk diameter of 4 inches and shall have a minimum unobstructed clear height of 7 feet from the sidewalk or roadway surface to the bottom of the branches. Trees that have a drip line which protrudes over the roadway surface shall have a minimum unobstructed clear height of 14 feet from the roadway surface to the bottom of the branches.

I. Refuse & Sanitation

The Leasee, Tenant, or Developer, shall comply with all County Ordinances and Regulations (or City of Lawrenceville Ordinances and Regulations for Airport projects located in the City) and the Building Code standards and requirements for Refuse disposal and Sanitation requirements.

The dumpster locations shall be indicated on the site plan to be submitted for approval by the County and the Airport.

Where necessary, dumpster enclosures shall be constructed at the rear of a structure/site and should be enclosed, and screened from public view, with an opaque wall constructed similar to, the primary building structure and have gates made of painted-galvanized metal tubing on pipe supports with steel pipe-hinges, with vertical slat louvers, and gate posts. All steel components shall be galvanized and painted. Dumpster enclosures shall be screened with landscaping material acceptable to the County. No dumpster enclosures shall be constructed at the front/street side of the building.

All dumpsters and trash bins shall be equipped with a closable lid.

All dumpster enclosures shall include a hose bibb for wash down of the pavement.

All dumpster slabs shall be constructed of eight (8) inch reinforced and sealed concrete and sloped to drain.

Six (6) inch galvanized pipe bollards, concrete filled and radiused capped shall be installed at the back of the dumpster and at the front of the dumpster pad to protect the dumpster encloser gates.

Restaurant or food service dumpsters shall meet all County Health Department regulations.

Tank type grease interceptors shall be below ground, or under sink type interceptors, where allowed by the County Health Department and State and County Storm Water AHJ. All barrel type grease containers shall be fully concealed and screened.

J. Fencing and Gates

Refer to Section VII Building Design Standards for requirements for the site and security fencing.

END OF CIVIL and SITEWORK STANDARDS

X. MAINTENANCE

A. Paved Areas

Pavement surfaces, sidewalks and plazas shall be kept cleaned and washed frequently and as required per seasonal demand. Parking lots shall be kept free of debris and leaves per seasonal demand. Cracks, joints, and other openings in the pavement surfaces shall be repaired promptly.

B. Lawn Maintenance

Lawns and other ground cover shall be kept well-trimmed at all times. Procedures for fertilizing, trimming, and weed control shall be set on timely basis and adhered to. Removal of leaves shall be done within a reasonable time range during the fall season. Catch basins and other drainage collection points shall be cleaned regularly. A regular schedule for pesticide control and groundskeeping shall be maintained.

C. Trees and Other Plants

Seasonal fertilizing, annual pruning and cutting dead branches shall be done as required. Extra care shall be taken far the new planting in their initial stage of establishment on the site.

D. Watering

All plants shall be watered weekly during the growing season. Lawn areas shall be watered as required to produce healthy lawns especially during the summer months.

E. Building Maintenance Cleaning

To ensure the quality standards projected for the development, all buildings shall be well maintained and clean at all times. Provision of services shall be made for necessary cleaning of masonry and washing and polishing of metals, particularly at the main entrances. Broken glass, damaged windows, light poles, and lamps shall be repaired or replaced promptly. Building exteriors that have painted surfaces that are faded or discolored shall be repainted to match the color standard approved by the Airport, with a UV resistant paint.

F. Equipment Storage

Storage of all maintenance equipment shall be within buildings or well screened. It shall not be visible from access roads, common open spaces, or adjacent lots.

G. Radiation and Electrical Emissions

No activities shall be permitted that emit dangerous radioactivity beyond enclosed areas. There shall be no electrical disturbance adversely affecting the operation at any point of any equipment other than of the creator of such disturbance.

H. Other Nuisance Characteristics

No noise, odors, vibration, smoke, air pollution, liquid or solid wastes, heat, glare, dust, or other such adverse influences shall be permitted that will in any way have an objectionable effect upon adjacent or nearby property. All wastes shall be disposed of in a manner that is not dangerous to public health and safety, nor will damage public waste transmission or disposal facilities.

END OF MAINTENANCE

SUPPLEMENTAL APPENDICES
(Available Upon Request)

The following documents are made part of the Airport DDG by reference:

A. Sustainable Design Check List (Reference)

END OF DDG - Design Review Guidelines Manual

EXHIBIT E

REPORT OF FACILITY CONDITION ASSESSMENT

520 BRISCOE BOULEVARD

Property Address:
520 Briscoe Boulevard
Lawrenceville, GA 30046

Prepared For:
Gwinnett County Airport
600 Briscoe Boulevard
Lawrenceville, Georgia 30046

Prepared By:
Axias
3675 Crestwood Parkway, Suite 222
Duluth, Georgia 30096
Project No. GA25-031
May 21, 2025

Axias
BUILDING VALUE

TABLE OF CONTENTS

Section	Page
EXECUTIVE SUMMARY	**2**
1.0 SCOPE OF SERVICES & ASSESSMENT METHODOLOGY	**8**
2.0 ACCESSIBILITY	**11**
3.0 SITE FEATURES	**15**
4.0 STRUCTURAL SYSTEMS	**18**
5.0 ROOFING SYSTEMS	**20**
6.0 BUILDING EXTERIORS	**21**
7.0 BUILDING INTERIORS & FINISHES	**22**
8.0 MECHANICAL SYSTEMS	**23**
9.0 ELECTRICAL SYSTEMS	**23**
10.0 PLUMBING SYSTEMS	**25**
11.0 FIRE AND LIFE SAFETY SYSTEMS	**26**
12.0 CONVEYANCE SYSTEMS	**28**

Appendices

A	Capital Expenditure Forecast
B	Photographs

EXECUTIVE SUMMARY

Introduction

The 520 Briscoe Boulevard building, identified as "the property" within this report, is a medium-sized hangar building utilized for aircraft storage and general maintenance. The property is located on the south side of the Gwinnett County Airport (Briscoe Field) on a leased land parcel reportedly measuring 2.09 acres. The property is surrounded by a similar building to the northeast, a standalone hangar structure to the southwest, access road to the southeast, and (along with its respective portion of the ramp apron) the taxiway to the northwest. The building is a single-story structure with a storage mezzanine constructed in 2004 with a large open hangar and an office area with a storage mezzanine above. The building is currently leased by Aircraft Specialists Inc. and primarily utilized for aircraft storage and minor maintenance activities.

Facility Overview	
Property Name:	520 Briscoe
Address:	520 Briscoe Boulevard
City, State, Zip Code:	Lawrenceville, GA 30046
Primary Use:	Aircraft Hangar
Age of Property:	2004
Years of Renovation:	None reported
Gross Square Footage:	18,500 total (approximate) • 17,300-open hangar • 1,200-office
Number of Buildings:	One
Number of Stories:	Two (office area)
Assessment Overview	
Date of Site Visit:	May 1, 2025
Weather:	Cloudy, scattered showers, 70° F
Term of Study	Ten years

Assessment

On May 1, 2025, Mr. Jonathan Bailey, CCM, EBCP, CEM, LEED AP and Mr. Taylor Ruppel, SMA, P2, CFM, LEED Green Associate, visited the property to observe and document the condition of the building and site components.

The objectives of the assessment were to:

- Identify the condition of the Property and the timing and cost of expenditures required over the next 10 years.
- Determine failure probability of the various systems and components.
- Determine criticality of system and component failure.

To meet the above objectives, we evaluated the current condition of the park, site systems and utilities, and projected future repair and replacement needs required over the next 10 years (study period).

During our assessment, Axias interviewed and/or were assisted by the personnel detailed below:

Contact	Title	Company
Jonathan Zorger	Vice President, Chief Financial Officer	Aircraft Specialists Inc.

Satellite imagery providing site overview, dated 2024.

The property is located at the south side of the Gwinnett County Airport and is accessed via Briscoe Boulevard.

The larger property boundary, which includes a portion of the ramp apron, is bordered in a dashed yellow line filled with yellow shading. This represents the reported land-leased property boundaries.

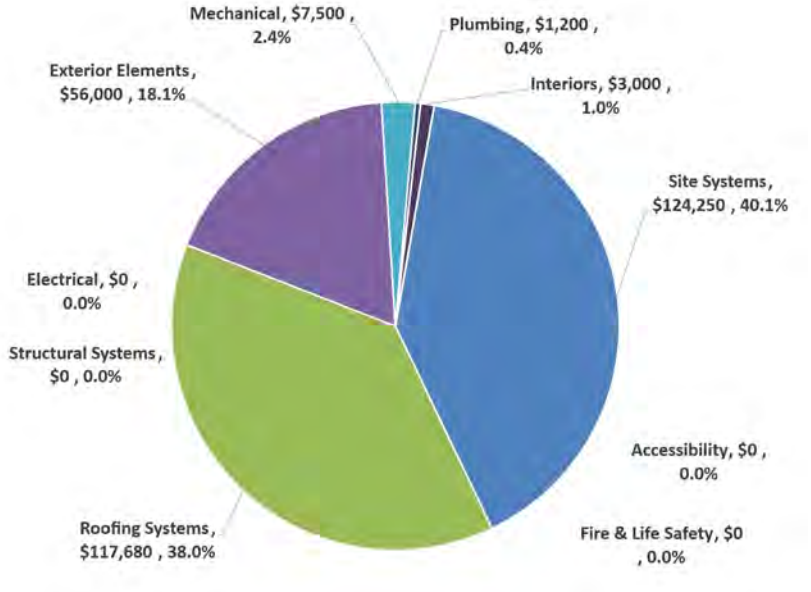
Financial Requirements

The following section provides a summary of capital expenditures for the building systems over the study period. All numbers are shown in the dollar values of the respective years, excluding compounded inflation. Refer to the capital expenditure forecast in Appendix A for further details.

Year		Expenditures
1	2027	$119,700
2	2028	$54,480
3	2029	$0
4	2030	$0
5	2031	$120,180
6	2032	$0
7	2033	$0
8	2034	$15,270
9	2035	$0
10	2036	$0
	TOTAL	**$309,630**

Expenditures by System

The chart below shows a graphical breakdown of the expenditures by building system and as a percentage of the overall expenditure required.



The majority of expenditures are related to site systems, specifically pavement works. Subsequent categories requiring a large portion of the term expenditure are the roof and exterior elements, which are to be expected from a structure of this size and design.

Expenditures by Category

The table below provides a breakdown of expenditures by category. The expenditure categories are defined in Section 1 of this report.

Category	Expenditures
Deferred Maintenance	$171,450
Scheduled Maintenance	$116,980
Capital Renewal	$21,200
Capital Improvement	$0
Energy & Sustainability	$0
TOTAL	**$309,630**

The Deferred Maintenance expenditure primarily relates to the pavement surrounding the building, which was noted to be in general disrepair. The remaining expenditures typically relate to timely Capital Renewal of the various building systems.

Expenditures by Priority

The table below provides a breakdown of expenditures by priority level. The priority levels are defined in Section 1 of this report.

Priority Level	Expenditures
Priority I - Currently Critical	$0
Priority II - Potentially Critical	$0
Priority III - Necessary / Not yet Critical	$308,130
Priority IV - Recommended	$1,500
Priority V - Appearance	$0
Priority VI - Does Not Meet Codes / Standards	$0
TOTAL	**$309,630**

Generally, the majority of the recommendations are categorized as Priority III because they are necessary to the functionality of the facility. The outlying recommendation categorized as a Priority IV relates to the site fencing, which is not critical for the facility to operate as intended, but repairs are recommended to restore the system to near original condition.

Facility Condition Index

The Facility Condition Index (FCI) provides a relative measure for comparing one building (or group of buildings) to another. This index is a calculation derived by dividing the total project cost for the first year of the study period by the total Current Replacement Value (CRV) of the building.

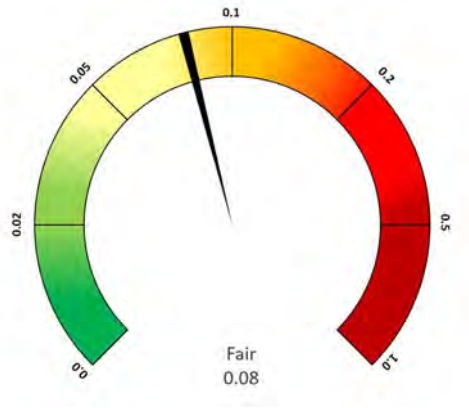
FCI Range	Condition Description
0.00 – 0.05	Good Condition, renovations occur on schedule
0.05 – 0.1	Fair Condition, in need of normal renovation
0.1 – 0.2	Below Average Condition, major renovation required
0.2 – 0.5	Poor condition, total renovation needed
0.5 – 1.0	Complete facility replacement

In addition, the Facility Condition Needs Index (FCNI) is similar to the FCI but assists in comparing the expenditure needs of one building versus a group of buildings over a period. The FCNI also shows the cumulative effects if the deferred maintenance and capital renewal expenditures are not addressed in a timely manner. This index is a calculation, derived by dividing the recommended total expenditures over the entire 10-year study period by the total Current Replacement Value (CRV) of the buildings. The index is intended to show the current and future conditions of the buildings if no capital investment is made over the next 10 years.

Year 1 Expenditures	Accumulated Expenditures	Current Replacement Value (CRV)	Facility Condition Index (FCI)	Facility Condition Needs Index (FCNI)
$119,700	$309,630	$3,756,000	0.08 / Fair	0.03 / Good

Facility Condition Index

Facility Condition Needs Index



The above information indicates that capital repairs and replacements will be required throughout the term and, if not completed in a timely manner, the condition of the building will be impacted. The FCI and FCNI do not consider the suitability of the facility regarding future program needs or space requirements.

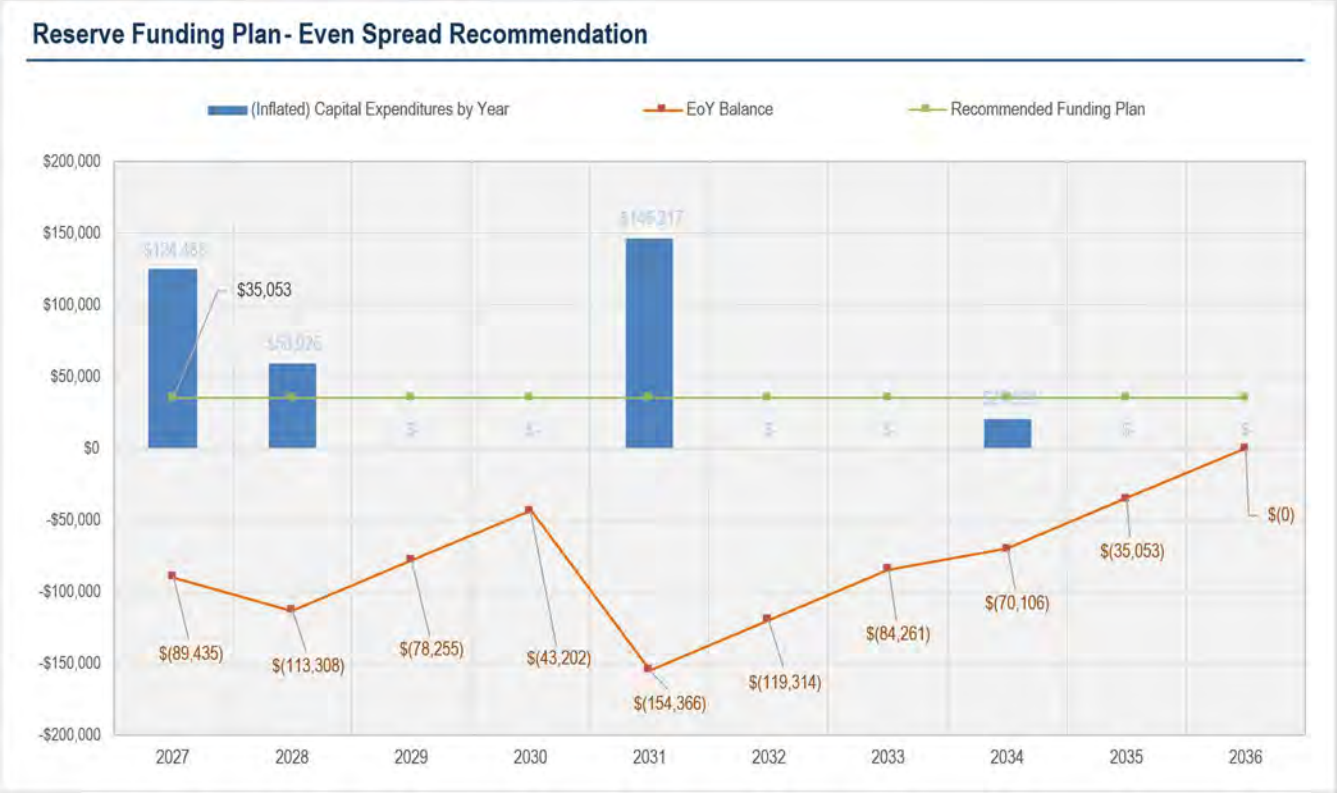
Assuming the proposed capital expenditures are budgeted for and undertaken, along with general maintenance tasks, the building should remain serviceable and operational without the need for replacement or major renovation.

Reserve Funding Analysis

To address the deferred maintenance and future capital renewal requirements, Axias has analyzed the total expenditures over the study period and developed a recommended reserve funding plan. It should be noted that this recommended funding does not include expenditures related to routine preventative maintenance and/or regulatory required inspections/testing.

As the initial reserve balance will be starting with a $0 balance, a special assessment will be required at the beginning of the lease to establish a reserve balance. Once the reserve fund has an established end of year balance, a more consistent, evenly distributed funding level can be developed. It should be noted that expenditures related more toward aesthetics, such as renovating the hangar interior finishes, are not included within the total expenditures.

The chart below compares the end of year balance with a reserve funding option that spreads the total inflated requirement costs over ten years for even payment installments to the reserve fund (10% annually). The reserve plan shown reflects an annual interest rate of 0% for the reserve balance. Capital expenditure requirements in the chart reflect anticipated inflation rate of 4%. This option would still require a special assessment in the first year to cover the total recommended expenditures but presents a stable investment rate to the reserve fund. The final end balance would result in a net income of $0.



1.0 SCOPE OF SERVICES & ASSESSMENT METHODOLOGY

The objective of this report is to produce a holistic facilities assessment and capital planning process that will result in a strong and well-developed plan to support strategic capital investment and to identify and reduce risk. In short, the objective is to assess the condition of all included buildings and site systems and develop a prioritized forecast of anticipated capital expenditures over the 10-year study period between 2027 and 2036. This will inform the long-term investment plan for the building by developing an array of projects that can be input into a planning model from which sound management decisions can be made to best utilize funding resources. Specific objectives of this study are listed below:

- Identification and documentation of the present condition and risks of the building
- Recommendation of corrections for all deficiencies
- Provision of cost estimates for such corrections
- Forecasting of future facility renewal costs based on documented methodology of the facilities and equipment in the building.
- Obtaining a Facilities Condition Index (FCI) and Facility Condition Needs Index (FCNI) to illustrate the relative condition of the subject building

The primary purpose of the facilities condition assessment was to identify visually apparent deficiencies in the building systems and site. The evaluation included site visits to observe the building and site systems, interviewing building management and maintenance personnel, and reviewing available maintenance systems, design and construction documents, and plans.

We performed a visual non-destructive assessment of the interior, exterior and site components of each building, including the following major components and systems:

Accessibility. We completed a cursory review of the building for general conformance with applicable accessibility requirements and have reported our findings.

Site Systems. We visually observed the site systems for the removal of stormwater and evidence of poor drainage and/or erosion potential. We also reviewed (where applicable) the condition of pavements, site concrete, retaining walls, fencing, landscaping, site grading, and stormwater drainage features.

Structural Systems. We observed the structures for visible signs of distress and have reported our findings.

Roof Systems. We visually evaluated the condition of accessible roof systems, accessories, and details. In addition, where applicable we discussed existing roof warranties.

Building Exterior Elements. We visually observed the exterior wall systems, windows, and door systems for visible evidence of deficiencies, continuity of seals, and other types of distress and have reported our findings. We reviewed available flashing and connection details for drainage design and observed the condition and placement of expansion joints. Our visual observations were based on those conditions that can be observed from ground level.

Interior Finishes. We visually observed the interior areas of each facility and reported on their general condition.

Mechanical/HVAC, Electrical, Plumbing (MEP) Systems. We observed the age and condition of the MEP and related building systems and have commented on their condition and visible deficiencies.

Fire and Life Safety. We observed the age and condition of the fire and life safety elements and have commented on their condition and any visible deficiencies. The elements surveyed included structural fire protection, means of egress, fire suppression systems, and fire detection and alarm systems.

Conveyance Systems. We visually evaluated the condition of the conveyance systems.

Opinion of Cost

Opinions of cost presented within this report are based upon experience with past costs for similar projects, consulting with local specialty contractors, client provided information, city cost indexes, construction costs developed by construction resources such as RS Means and assumptions regarding future economic conditions. Actual cost estimates are determined by many factors including but not limited to, choice and availability of materials, choice and availability of qualified contractors, regional climate zone, quality of existing materials, site compatibility, and access to the subject property and buildings. If any cost items listed are considered critical in decision making regarding this property, we recommend that contractor or supplier quotations be obtained for those items before making final decisions about this property.

Costs for work that we consider as normal maintenance for a commercial facility, generally including items which can be completed for less than $3,000, work normally performed by the on-site maintenance staff, or work which is routinely contracted, may not be included in our cost evaluation but may be listed as maintenance/operational items.

Opinions of cost generally excluded project costs for design fees, insurance, permitting, general contractor fees, etc. The costs provided are generally considered trade costs as how the projects will be delivered is unknown.

Useful Life Development

A fundamental part of any capital planning process is the development of the Estimated Useful Life (EUL) and Remaining Useful Life (RUL) for each piece of equipment. EUL considers the life of a system or component of that system while RUL considers the remaining life of that system.

We developed our EUL and RUL based upon the determined condition, our professional experience, and the criticality of the system. Additional factors can also impact the RUL of a system, such as the level of maintenance that is conducted. The EUL is typically derived from industry standard publications, while the RUL is typically derived by location specific factors.

Risk Prioritization Categories

To balance containment of capital investment with probability and consequence of failure, we have assigned each recommendation with a risk priority. Risk priority has been assigned based upon criticality, impact of failure, condition, and failure probability. By providing each expenditure recommendation with a risk priority, it helps further prioritize expenditures so that funding can be directed to expenditures that could potentially have the most impact if not addressed in a timely manner. Refer to the table below for details on each of the categories:

Low	to no impact of failure upon operations. Low probability of failure.
Medium	Intervention is required to maintain operations, potential for interuption of activities. Slight probability of failure.
High	Scaled back operations and interruption of activities will occur upon failure, including the possibility of primary/critical operations. Likely probability of failure.
Critical	Major system/facility shutdowns resulting from failure. Currently in state of failure.

Expenditure Categories & Priorities

Axias has assigned a classification category for each recommendation regarding why the recommendation should be completed. We have classified each recommendation by one of the five classifications:

Category	Definition	Description
SM	Scheduled Maintenance	Scheduled maintenance is major maintenance that is typically required to maintain effective operation of an asset and/or prolong the lifecycle. This does not include items related to preventative maintenance activities and typically have a requirement total of over $3,000.
CR	Capital Renewal	Capital Renewal projects correct unacceptable conditions caused by aged building components which will exceed their useful life cycle within the next ten years. These items generally function as originally intended. If execution of Capital Renewal projects is deferred for an inordinate amount of time, conditions may deteriorate, and the projects may be re-categorized as Deferred Maintenance.
DM	Deferred Maintenance	Deferred Maintenance is maintenance or repair that is past due. This work will return a component or system to an acceptable condition, prevent physical depreciation or loss in the value of a building, minimize or correct wear, and maintain the maximum reliability and current useful life of the facility or component.
ES	Energy & Sustainability	When the repair works, or replacement of equipment, or systems are recommended to improve energy and sustainability performance.
CI	Capital Improvement	When a recommendation to install or upgrade a system component improves or enhances the performance or functionality of the facility.

In addition to the classification category, we have assigned a priority rating for each recommendation to detail the timeframe of when the recommendation should be completed. We have prioritized each recommendation by one of the five classifications:

Priority	Definition	Description
I	Currently Critical	Conditions in this category require immediate action to either correct a cited safety hazard, stop accelerated deterioration, or return a facility/system to operation.
II	Potentially Critical	Conditions in this category, if not corrected expeditiously, will become critical within a year.
III	Necessary / Not yet Critical	Conditions in this category require appropriate attention to preclude predictable deterioration or potential downtime and the associated damage or higher costs if deferred further.
IV	Recommended	Conditions in this category include items that represent a sensible improvement to existing conditions. These are not required for the most basic function of the facility.
V	Appearance	Conditions in this category include finishes that have deteriorated and are required to maintain the required aesthetic standards.
VI	Does Not Meet Codes / Standards	Conditions in this category include items that do not conform to existing codes but are "grandfathered" in their condition. No action is required at this time, but should substantial work be undertaken in contiguous areas, certain existing conditions may require correction to comply with current code standards.

2.0 ACCESSIBILITY

During our site visit, a limited visual assessment for compliance with accessibility requirements was made. This report identifies physical barriers to accessibility that we observed. Our cursory review is not to be considered a full accessibility survey. A full accessibility compliance survey may reveal further aspects of the facility which are not accessible.

The ADA is a civil rights legislation enacted by the United States Congress on July 26, 1990. The ADA is not a building code. The United States Department of Justice published revised regulations for the 1990 ADA on September 15, 2010. The regulations adopted revised accessibility standards called the 2010 ADA Standards for Accessible Design that replaced the 1991 Americans with Disabilities Act Accessibility Guidelines (ADAAG).

Applicability

Determination of which standard (1991 ADAAG or 2010 ADA Standard) is applicable to this facility and the "maximum extent feasible" is beyond Axias' scope of work. We recommend consultation with legal counsel and, if determined necessary, the development and implementation of a plan for physical barrier removal that satisfies the requirements of the ADA.

The ADA in its purest form relates only to facilities occupied or significantly altered after March 13, 1991. The property was originally constructed in circa 2004 but is generally closed to the public. Due to the private operation of the facility, it is at the discretion of the tenant to comply with the ADA accessibility requirements as needed.

Description

The table below provides a summary of the cursory accessibility review at the building:

ADA ACCESSIBILITY					
Item		**Yes**	**No**	**N/A**	**Comments**
A. Building History					
1	Has an ADA survey previously been completed for this property?		×		
2	Have any ADA improvements been made to this property since original construction?		×		
3	Was the first occupancy at the subject property achieved after March 13, 1991?	✓			
B. Parking					
1	Do designated accessible parking spaces appear to be provided in sufficient number at appropriate locations?	✓			
2	Do appropriate transitions from paved areas to sidewalks appear to be provided?	✓			
3	Do walkway slopes/cross slopes appear to be adequate and not excessive?	✓			
4	Do walkways appear to be the correct width, and clear of obstructions, including overhanging vehicles?		×		Bushes along sidewalk encroach clear path.
5	Do ramps appear to have appropriate handrails and edge protection?			✓	
6	Do building entry point/access doors appear to be provided along an apparent accessible route?	✓			

7	Do the main entrances appear to be barrier free and readily accessible (that is, no steps, obstacles, or revolving doors)?	✓			
C. Exterior Accessible Route					
1	Is an accessible route present from public transportation stops and municipal sidewalks on the property?			×	
2	Are curb cut ramps present at transitions through curbs on an accessible route?	✓			
3	Do the curb cut ramps appear to have the proper slope for all components?	✓			
4	Do ramps on an accessible route appear to have a compliant slope?			✓	
5	Do ramps on an accessible route appear to have a compliant length and width?			✓	
6	Do ramps on an accessible route appear to have compliant end and intermediate landings?			✓	
7	Do ramps on an accessible route appear to have compliant handrails?			✓	
D. Building Entrances					
1	Do a sufficient number of accessible entrances appear to be provided?	✓			
2	If the main entrance is not accessible, is an alternate accessible entrance provided?			✓	
3	Is signage provided indicating the location of alternate accessible entrances?			✓	
4	Do doors at accessible entrances appear to have compliant clear floor area on each side?	✓			Door swing could make entry difficult for individuals in wheelchairs.
5	Do doors at accessible entrances appear to have compliant hardware?	✓			
6	Do doors at accessible entrances appear to have a compliant clear opening width?	✓			
7	Do pairs of accessible entrance doors in series appear to have the minimum clear space between them?			✓	
8	Do thresholds at accessible entrances appear to have a compliant height?	✓			
E. Interior Accessible Routes & Amenities					
1	Does an accessible route appear to connect with all public areas inside the building?			✓	Generally open area throughout hanger.
2	Do accessible routes appear free of obstructions and/or protruding objects?			✓	
3	Do ramps on accessible routes appear to have a compliant slope?			✓	
4	Do ramps on accessible routes appear to have a compliant length and width?			✓	

5	Do ramps on accessible routes appear to have compliant end and intermediate landings?			✓	
6	Do ramps on accessible routes appear to have compliant handrails?			✓	
7	Are adjoining public areas and areas of egress identified with accessible signage?			✓	
8	Do public transaction areas have an accessible, lowered counter section?			✓	
F. Interior Doors					
1	Do doors at interior accessible routes appear to have compliant clear floor area on each side?			✓	
2	Do doors at interior accessible routes appear to have compliant hardware?			✓	
3	Do doors at interior accessible routes appear to have compliant opening force?			✓	
4	Do doors at interior accessible routes appear to have a compliant clear opening width?			✓	
G. Elevators					
1	Are hallway call buttons configured with the "UP" button above the "DOWN" button?			✓	*No elevators*
2	Is accessible floor identification signage present on the hoist way sidewalls?			✓	
3	Do the elevators have audible and visual arrival indicators at the entrances?			✓	
4	Do the elevator hoist way and car interior appear to have a minimum compliant clear floor area?			✓	
5	Do the elevator car doors have automatic re-opening devices to prevent closure on obstructions?			✓	
6	Do elevator car control buttons appear to be mounted at a compliant height?			✓	
7	Are tactile and Braille characters mounted to the left of each elevator car control button?			✓	
8	Are audible and visual floor position indicators provided in the elevator car?			✓	
9	Is the emergency call system at the base of the control panel and does not require voice communication?			✓	
H. Toilet Rooms					
1	Do publicly accessible toilet rooms appear to have a minimum compliant floor area?			✓	Not publicly accessible, and generally do not comply with clear floor space at accessible stalls
2	Does the lavatory appear to be mounted at a compliant height and with compliant knee area?		×		Clear knee space is not provided
3	Does the lavatory faucet have compliant handles?		×		
4	Is the plumbing piping under lavatories configured to protect against contact?	✓			

5	Are grab bars provided at compliant locations around the toilet?		×		
6	Do toilet stall doors appear to provide the minimum compliant clear width?			✓	
7	Do toilet stalls appear to provide the minimum compliant clear floor area?		×		
8	Do urinals appear to be mounted at a compliant height and with compliant approach width?	✓			
9	Do accessories and mirrors appear to be mounted at a compliant height?	✓			

Condition & Recommendations

The property is a private facility, and any accessibility improvements would be completed at the discretion of the operator who currently leases the facility. Overall, the facility exhibited minor non-compliance issues such, restroom accessory mounting heights, and approach pathways were noted but may be addressed on an as needed basis.

3.0 SITE FEATURES

The property is located within a subdivided parcel, land-leased tract. A portion of the aircraft ramp apron and surrounding features around the building are directly associated with the subject property.

Parking and Roadways

Description

Parking is provided at the southeast corner of the building, with an observed 11 parking spaces provided, including one accessible space. The vehicle parking area is finished with asphalt pavement and generally delineated by cast-in-place concrete curbs.

A concrete paved apron extends 50-feet out from the hanger toward the taxiway to the north and then across the entire width of the building. The concrete apron then transitions to an asphalt paved ramp apron for aircraft staging, entering, or leaving the taxiway. The area measures approximately 8,570 square yards (45,400 square feet) and is at the end of the larger apron area. A concrete drainage channel and inlet basin with metal grating extends the entire width of the ramp apron.

No as-built drawings were provided but it is assumed that the underlying construction below the wearing course of the asphalt pavement consists of a base layer and aggregate infill. The ramp apron pavement is assumed to be rated for heavy duty traffic. This pavement is likely thicker at select layers and provided with additional stabilization and compaction.

An asphalt paved driveway is provided along the eastern site boundary and provides entry from the Briscoe Boulevard access road to the ramp area through gated access.

Condition and Recommendations

Overall, the pavement was generally in poor condition with widespread signs of alligator cracking, consistent surface deterioration, and vegetative growth. The striping at parking areas was almost completely gone, with little indication of where parking spaces are designated. The parking lot and access road should be milled and overlaid in the near term to prevent further deterioration. It is then recommended to seal coat and restripe the asphalt pavement every seven years after to prevent premature failure.

The ramp apron asphalt pavement was noted with surface degradation and widespread areas of alligator cracking. The asphalt pavement apron appeared to be beyond its useful life and in need of mill and overlay works to restore the ramp apron and to prevent the pavement from further breakdown which could pose a risk to aircraft. Based on the observed condition, the milling will likely need to reach approximately 2-inches in depth, or more. The mill and overlay works should take place at the beginning of the term, followed by a general crack fill, seal coat, and re-striping near the end of the term. These could be combined with the parking area and access road to form one project. However, since the parking lot is used minimally, we have separated the projects due to the ramp apron being a higher priority.

Sidewalks and Flatwork

Description

Sidewalks around portions of the building are constructed from cast in place concrete pavement sections. Where pavement meets the building, joints are generally not filled with elastomeric sealants.

The sidewalks at the building likely measure approximately 4 to 6-inches thick, reinforced with 10-guage metal mesh sections, and are poured atop general aggregate.

Condition and Recommendations

Overall, the flatwork was in fair condition with no notable damage, failures, or deficiencies observed. The concrete pavement can be expected to last through the term with routine maintenance and as-needed repairs.

Stormwater Drainage

Description

The overall topography of the site appears to be moderately level with gradual engineered slopes provided to drain water via sheet flow. Water enters a stormwater drainage inlet within the parking area or is directed away from paved areas via the concrete curb and gutter system. Additional area yard drains are provided to capture stormwater within the lawn areas, where it is subsequently drained to the below grade municipal storm sewer system.

Stormwater drainage at the apron is typically directed via sheet flow to adjacent yard areas. A concrete drainage channel and inlet basin with metal grating extends the entire width of the ramp apron. An additional concrete drainage channel extends from the apron down the side of the west elevation to a catch basin within the yard area.

Condition and Recommendations

Stormwater drainage appeared to shed from the surface across the property effectively, with no major signs of ponding or surface staining at pavement observed.

We did note that the concrete drainage channel at the ramp apron had areas of broken concrete which if the condition continues to worsen, could pose a risk to aircraft. It is recommended to replace damaged sections of the concrete drainage channel in the near term. This work should be done in conjunction with the concrete pavement works.

The catch basin pre-cast concrete cover at the southwest corner of the building was noted to be knocked off the support pedestals. It is recommended to have the cover repositioned, so the cover is properly supported, so stormwater drainage is not impeded. It is anticipated that this will be done as part of routine maintenance activities.

Landscaping and Irrigation

Description

Landscaping consists of small, manicured lawn sections surrounding the building and parking islands. The areas at the front elevations of the building are adorned with ornamental shrubs and general groundcover. An inground irrigation system is not provided.

Condition and Recommendations

The landscaping appeared to be in fair condition with various areas overgrown shrubs crowding portions of the front façade and overhanging the sidewalk. It is anticipated that general improvements to the lawn and landscaped areas will be completed as part of routine maintenance activities.

Site Lighting and Signage

Description

Site lighting is limited to building mounted wall pack fixtures across each elevation. The fixtures appear to be high intensity discharge (HID) bulbs but were not observed outside of daylight hours. The lights are assumed to be controlled by photocell as a time clock controller was not observed at the electrical panels.

The building is not provided with exterior identification signage.

Condition and Recommendations

Site lighting appeared to be in fair to good condition with no damaged lighting noted. The lighting levels were not observed outside of daylight hours but were assumed to be adequate; therefore, we recommend that lighting is retrofitted to LED bulbs upon failure through routine maintenance.

Fencing and Site Walls

Description

Site fencing is limited to two sections of 7-foot-tall galvanized chain-link fencing topped with barbed wire. The fencing secures access to the airport ramp apron areas and is only accessed at the east side of the property via double panel manually operated vehicle gate.

There were no retaining walls or site walls at the property.

Condition and Recommendations

Overall, the fencing appeared to be in fair condition. The galvanized finish was deteriorated across the majority, with surface rust observed at several areas. It is recommended that localized repairs are made to the fencing at the beginning of the term to ensure that it remains serviceable.

Other Site Features and Appurtenances

Description

No other site features are provided at the property.

4.0 STRUCTURAL SYSTEMS

The building features an open hangar with an interior wood-framed officed section. Building drawings were not provided and assumptions have been made based on our experience with similar buildings and observations made on site.

Substructure and Slab-on-Grade

Description

The structure is built atop a turndown slab with thickened perimeter edges supporting structural members along with isolated interior footers supporting interior members of the primary frame. The foundation slab is likely 6-inches thick and poured atop infill (crushed stone) laid at a depth of 4-to-6-inches with a protective vapor barrier sandwiched between. Sawed construction joints are provided throughout the slab at regular intervals.

Condition and Recommendations

Overall, the substructure and slab-on-grade foundation of the building appeared to be in good condition with no signs of major deficiencies observed or reported. There minimal cracks noted across the slab and only appeared to be superficial and not structural in nature. There is no anticipated capital expenditure recommended during the study period.

Superstructure and Elevated Floors

Description

The superstructure is constructed with a site-erected primary frame, consisting of flanged steel columns around the perimeter. The column sets of the primary frame feature tapered haunches, are anchored in the foundation slab, and utilize diagonal bracing at regular intervals, in the form of steel cabling and angle struts. At perimeter walls, z-profile outside steel purlins (wall girts) are provided for perpendicular bracing and to act as the exterior wall substrate.

The offices and storage mezzanine built at the south side within open hangar space are constructed of dimensional wood framing and floor joists. The wood framed structure is separate from the main building structure and set off the south wall approximately 2-feet.

The hangar door is framed with bolted steel members secured to the primary frame. The weight of the door rests directly upon the foundation concrete but features secondary steel framework integrated into the primary building frame. The top of the door frame is reinforced with horizontal purlins and column header sections braced with diagonal struts reaching the primary building frame.

Roof framing consists of a continuation of the rigid primary frame in the form of flanged steel roof rafters (I-beams), which are cleated at regular intervals to mount the steel, z-profile roof purlins. The purlins are lapped to span the length of the roof and feature diagonal bracing at regular intervals.

Condition and Recommendations

The superstructure appeared to be in good condition. There were no signs of movement, inadequate support, or premature degradation of steel members. The superstructure is anticipated to remain serviceable throughout the term with no major capital expenditures anticipated.

Stairs

Description

Only one stairway is provided to access the elevated storage mezzanine. The stairs are of wood construction and open to the hangar area. The stringers, treads, landings, and handrails are wood.

Condition and Recommendations

The stairs appeared to be structurally sound with no signs of movement, damage, or deterioration noted. The stair can be expected to last throughout the term and no capital expenditure is anticipated for the structural components of the stairs.

5.0 ROOFING SYSTEMS

Roofing Systems

Description

The hangar roof features a slight slope, does not overhang the building footprint, and lacks an enclosed attic space in the configuration. The roof surface is covered with rib-profile, galvanized standing seam metal roof panels. The panels are affixed directly to roof purlins via gasketed mechanical fasteners. The gable ridge is finished with a ridge cap and brake metal flashing is utilized along the roof perimeter to transition from horizontal roof to vertical wall surfaces. Roof penetrations are limited to exhaust vents and are finished with flashing and elastomeric sealants.

Condition and Recommendations

The metal roof at the hangar section appeared to be in fair condition but is likely original to the building's construction. Metal roofs with galvanized finishes can be expected to provide 20 years or more of service, if properly maintained. There were signs of historic leaks based upon stained and damaged insulation at the hangar ceiling, but with no active reported leaks, we recommend that the metal roof is coated with a protective acrylic polymer to extend the service life.

Roof Access

Description

Fixed direct access to the roof is not provided. The roof was observed via unmanned aerial vehicle during the assessment.

Roof Drainage

Description

Stormwater drains from roof surfaces to open top gutters along the bottom edge of each respective sloped plane. Gutters direct water to building-mounted downspouts at regular intervals, which subsequently drain away from the building perimeter.

Condition and Recommendations

No major issues were identified with roof drainage components at the property, and they can be expected to last through the term with routine maintenance and regular cleaning.

Roof Warranty

We were not provided with information regarding a manufacturer's roofing warranty for the building. It is assumed that the metal roof has outlived any warranty provided at its installation. It is likely that the TPO sections are accompanied by a manufacturer's warranty guaranteeing material, granted regular inspections are performed by qualified personnel.

6.0 BUILDING EXTERIORS

Exterior Wall Systems

Description

The exterior of the building is clad in factory-finished, profiled metal panels arranged vertically and affixed to the building's substrate via gasketed mechanical fasteners. Drip edge flashing is utilized at door and window openings, while brake metal flashing is utilized at each of the building's corners and at the roof perimeter. A layer of vinyl-backed fiberglass insulation is provided on the interior side of the walls. Ten semi-translucent, profiled fiberglass skylight panels are evenly spread across the east and western elevations for natural lighting inside the hangar.

Construction and control joint sealants are typically not provided or needed around openings or junctures of adjoining materials due to the construction methods.

Condition and Recommendations

The exterior wall systems were in fair condition but generally showed signs of weathering typically expected from systems of this age. Gasketed fasteners have exceeded their useful life and showed signs of cracked / deteriorated gaskets. The metal panels at the hangar exterior exhibited widespread signs of UV degradation and localized areas of staining, impact damage, corrosion, and cut sections. We recommend budgeting for the localized repairs and complete painting of the metal siding along with the replacement of gasketed fasteners in the near term.

Exterior Door and Window Systems

Description

The main entrance to the building is located at the east elevation. A single painted insulated metal door provides access to the main hanger in addition to man doors at the corners of the building. The hanger is not provided with glazed window units but is provided with translucent wall panels to allow some natural light into the hanger.

The hangar is provided with one full-sized aircraft door and one overhead sectional door in addition to personnel doors. The hangar door is designed as bi-parting sliding hanger door which was manufactured by Norco. The door opens from the middle with each leading door section provided with an electric motor drive system. The door is made up of multiple panels, each set on rails inset to foundation concrete. Fabric-reinforced neoprene gaskets are provided between door panels, and when retracted, all panels rest within the hangar structure.

The overhead sectional door is located on the east elevation and consists of multiple insulated panels. The overhead door is motor operated.

Condition & Recommendations

The doors were noted to be in good condition, except for some painted metal doors exhibiting signs of deterioration and minor fitment issues. It is recommended to include repainting of the exterior man doors in conjunction with the metal wall panels.

The hanger door appeared to be in fair to good condition and well maintained. It was reported that the maintenance and repair hangar door is reportedly performed in house by onsite maintenance personnel. Based on visual observation, the door has been well maintained under the existing maintenance program and is anticipated to remain serviceable throughout the term. It is possible a motor may require replacement; however, it is anticipated that this will be complete upon failure as a routine maintenance expense.

7.0 BUILDING INTERIORS & FINISHES

Common Areas, Offices, and Utilitarian Areas

Description

The interior spaces consist primarily of the open hanger space. A small office area built within the open hanger includes a kitchenette area, full bathroom with shower, and an office area.

The kitchenette and office area are provided with low-pile commercial roll carpeting. Walls throughout the space are painted gypsum board with a suspended acoustical tile ceiling.

The hangar walls consist of a band of pre-finished metal wall panels at low level up to about 8-feet and then are exposed building framing filled with vinyl-backed batt insulation and sealed concrete floor. Painted gypsum board is provided around the walls of the built-out area.

Condition and Recommendations

Overall, the interior finishes were in fair condition with signs of previous leaks at the ceiling tiles noted. We were unable to determine the cause of the leaks as the mezzanine is directly above. The finishes currently remain serviceable but will eventually require renewal. When the time comes for renewal of the interior finishes, it is anticipated that the renewal will be completed at the discretion of the tenant and included within a separate budget for the property. Based on this approach, we have excluded all costs associated with the renewal of the interior finishes from this report.

We also noted some potential suspect microbial growth which could be attributed to the lack of air circulating throughout the space. These areas should be treated and cleaned and monitored to see if they reappear.

The hangar areas were noted to have localized damage to the building insulation. We have included an allowance for sectional replacement of building insulation early in the term. The remaining limited finishes should remain serviceable throughout the term with any improvements being completed at the discretion of the respective tenant.

Restrooms

Description

One single occupant bathroom is provided within the built-out area. The bathroom is provided with vinyl plank flooring along with similar wall and ceiling finishes as the other built-out areas. Fixtures consist of porcelain flush-tank style floor-mounted toilet, premanufactured vanities featuring laminate cabinets and composite countertops with inset sink, and a fiberglass shower.

Condition and Recommendations

The restroom finishes appeared to be in fair condition but will likely need to be renewed during the term based on age and use. However, costs associated with renewal of the bathroom finishes have also been excluded.

8.0 MECHANICAL SYSTEMS

Cooling and Heating Systems

Description

The building is not provided with a means of mechanical cooling, as the built-out areas are unconditioned.

Heating of the hanger is provided by natural gas-fired infrared unit heaters suspended from the ceiling. The age and capacity were not confirmed as direct access was not provided, but likely date to the time of construction

Condition & Recommendations

The infrared unit heaters appeared to be in good to fair condition with no major deficiencies observed or reported. This type of equipment can typically expect to provide 10 to 15 years of service life or more, depending on use and environment. Based on the observed conditions and anticipated seasonal use, they are expected to last through the term with routine maintenance.

Ventilation and Exhaust Systems

Description

Ventilation of the hanger area is provided fans mounted on the roof and interlocked motorized louvers at low level on the east and west walls. Outside air is drawn through the louvers and up and out of the roof. The bathroom is served by individual ceiling mounted axial fan, which appears to exhaust to a termination in the hangar area.

Condition & Recommendations

Exhaust fans appeared to be in fair to good condition and are expected to last through the term with routine maintenance.

Building Automations Systems

Description

The building is not provided with a centralized building automation system (BAS) to monitor and control the HVAC systems. The exhaust fans are provided with hand/off/auto controllers which are tied to a thermostat to turn the fans on based on the temperature within the hanger.

Condition & Recommendations

The exhaust fan controllers should remain serviceable throughout the term.

9.0 ELECTRICAL SYSTEMS

Electrical Service Equipment

Description

Electrical service is provided to the building via an underground service main feed from the power pole along the access road. The service is routed to a CT cabinet and meter box at the southwest corner of the building. Building drawings were not provided, but based upon observations made at the breaker panels, it is assumed that the service feed is rated for 800-Amps at 208Y/120-Volts and arranged in a 3-phase / 4-wire configuration. The main panel and majority of subsequent load centers were manufactured by GE circa 2013.

Condition & Recommendations

The electrical service equipment appeared to be in good condition and should remain serviceable throughout the term. It is believed that the electrical service was upgraded in 2013 to accommodate a larger service amperage to handle additional loads for equipment.

Electrical Distribution

Description

In addition to the main panel, there is an additional sub panelboard "Panel A" rated at 400 amps adjacent to the main panel. The panelboard was manufactured by GE at the time of construction. Branch wiring is made up of copper conductors of various sizes and run in flexible armored cabling or rigid metal conduit.

Condition & Recommendations

The electrical distribution systems appeared to be in good condition. With the completion of preventative maintenance activities, the electrical distribution systems should remain serviceable throughout the term.

Emergency Power Systems

The building is not provided with an emergency power system.

Lighting Systems

Description

Lighting generally consists of ceiling-mounted or troffer fixtures throughout office spaces with select areas utilizing recessed can lighting. These fixtures generally utilize fluorescent bulbs. The hangar is lit via ceiling-mounted high-bay LED fixtures. Lighting throughout the building is controlled by local wall-mounted switches.

Condition & Recommendations

The lighting components appeared to be in good condition with the LED lighting appearing to have recently been installed. It is anticipated that the lighting systems will last through the term with routine maintenance and as needed replacements.

Security and Access Control Systems

Description

The building is provided with a combination security and fire alarm system manufactured by Honeywell with the main keypad mounted by the primary building entrance. Intrusion detection devices are provided at each of the pedestrian doors. The equipment age was not confirmed but could possibly date to the time of construction.

Condition & Recommendations

The security system can be expected to provide reliable service for 10 to 15 years depending on the hardware, manufacturer, and maintenance. Given the nature of the security system, the replacement or activation of any equipment is considered to be part of separate budgets specified to the occupying tenant and excluded from this report.

10.0 PLUMBING SYSTEMS

Domestic Water Systems

Description

The domestic water supply from the county enters the building at the south elevation via below grade copper line. A backflow preventer and utility meter were not observed but are likely located in the utility vault near the access road. A separate line for the fire sprinkler system is provided. Supply piping throughout the building is typically copper of various sizes, and uninsulated where observed.

Domestic hot water for the building is produced by storage tank water heater located at the hangar storage mezzanine. The water heater was manufactured by Rheem in 2004 with a rated storage capacity of 30-gallons.

Condition & Recommendations

The domestic water systems appeared to be in fair condition with no service issues reported. Exposed supply distribution piping observed appeared to be free from leaks or evidence of deterioration. It would be prudent to insulate supply lines during any plumbing works or through operational maintenance.

The type of water heater installed typically has a service life of 12 to 15 years, depending on water quality and level and how well they are maintained. It is recommended to budget for the replacement of the water heater at the beginning of the term.

Plumbing Fixtures

Description

Plumbing fixtures within the restroom includes a floor-mounted flush tank water closet and a vanity set vitreous china lavatory with a manual faucet. A fiberglass shower surround is also provided with the bathroom.

Condition & Recommendations

Plumbing fixtures throughout the building appeared to be in fair condition. The plumbing fixtures should be replaced during the recommended restroom renovations mid-term.

Sanitary and Stormwater Drainage Systems

Description

Sanitary drainage is assumed to consist of PVC piping. Open-site drains, floor drains, and plumbing fixtures that capture waste and are connected to piping sloped to the building's terminal drainage point, where it exits to the south side of the building below grade and is directed to the municipal sanitary sewer system under the street. Stormwater drainage is provided via exterior wall-mounted downspouts that discharge to grade.

Condition & Recommendations

The sanitary and stormwater drainage systems appeared to be in fair condition with no reported issues. The systems should remain serviceable throughout the study period with the completion of ongoing maintenance.

Natural Gas Systems

Description

Natural gas service is provided by the city to a meter and valve station at the southwest corner of the building. Natural gas is utilized for infrared heaters. Distribution piping is of black steel with threaded joints and fittings generally sized at 1-inch.

Condition & Recommendations

The natural gas systems appeared to be in fair condition and should remain serviceable throughout the study period with the completion of ongoing maintenance.

11.0 FIRE AND LIFE SAFETY SYSTEMS

As part of this assessment, Axias performed limited observations of fire protection, fire detection, emergency lighting, and egress lighting existing at the subject property.

The structure is generally constructed of fire-resistive (non-combustive) materials, such as concrete and steel with isolated wood-framed areas. The construction type is II-B, noncombustible, ordinary construction and arranged for Use Groups B (Business) and S (Storage). Additionally, per current use of NFPA 490: standard on aircraft hangars, the structure qualifies as a Group II hangar.

The specific design requirements elaborated upon in NFPA 409– Standard on Aircraft Hangars: Chapter 7, should be identified and confirmed for applicability by a qualified fire protection engineer. Our cursory assessment of the system components does not qualify as a complete evaluation of the compliance of fire suppression systems at the property. The local AHJ should be contacted to identify any requirements during any future occupancy of the facility and potential change of use (activity level). The AHJ may deem aspects of the construction of the facility as nonconforming to standards found in NFPA 409 and may require correction.

The hangar features a single fire area consisting of Type II construction, and within specific inclusive floor areas defined by NFPA 409: Table 4.1.2 (Fire Areas for Group II Aircraft Hangars); therefore, it may be required to comply with the respective fire suppression requirements found in NFPA 409: Chapter 7 (Protection of Group II Aircraft Hangars). Fixed automatic water-based sprinklers and automatic low-expansion foam are included in these requirements. Furthermore, the provisions within NFPA 409: 6.2.9, 6.3, and 6.4 may be applicable and detail the requirements of manual hand hose systems, wheeled/portable extinguishers, protection system alarms - respectively.

According to current building codes found in the IBC and standards found in NFPA 409, the building does appear to comply with contemporary regulations as the hanger area is fully sprinklered

Fire-Rated Construction

Description

Fire-rated construction is limited to the nature of the building materials contained in the building. Penetrations are not fire-stopped and structural members were not coated in fire resistant materials nor are they required to be based on the construction and occupancy types. In addition, fire rated separations between the hanger and the built-out office area of the building could not be confirmed. Given that the hanger is sprinklered, a 1-hour fire-resistance rating is to be provided.

Condition and Recommendations

Based on the occupancy of the building and construction date, it is assumed that the fire-rated construction measures are acceptable, but if the use of the facility were to change or the AHJ requires updates during the subletting, it is likely that the wall assembly between the hangar and office areas will require alteration.

The wall assembly appeared to be generic in nature, with no special measures for fire-stopping or creating a fire-rated assembly. In addition, doors leading into the office and storage areas we not provided with self-closing devices to maintain the fire barrier. The separation wall between the two areas will likely need to be confirmed given that it is less than 10% of the total hanger area, but since the ultimate determination will come from the AHJ based on larger requirements, no costs have been included.

Means of Egress

Description

The building is provided with multiple points of egress marked with illuminated exit signs and localized emergency lighting. The exits discharge directly to grade from the hangar area.

Condition and Recommendations

Means of egress appear to have been constructed in line with the code enforced at the time of construction. Emergency exit signage and lighting appeared to be in good condition. It is anticipated that any required replacements will be completed as an operations and maintenance expense.

Fire Detection and Alarm Systems

Description

The building is not provided with a hardwired fire detection and alarm system. The combination Honeywell system provides monitoring of the fire sprinkler system only.

Condition and Recommendations

The limited fire detection and alarm system appeared to be in fair operational condition.

Fire Suppression Systems

Description

A wet-pipe fire suppression system is installed throughout the hanger area. An approximate 4-inch main provides fire water service to the southwest corner of the building. A post-indicator valve and siamese fire department connection are provided near the access road within the lawn area. The building is provided with a single sprinkler riser which is monitored by an alarm valve tied into the fire and security system.

Handheld fire extinguishers are posted at various locations across the property.

Condition and Recommendations

The fire sprinkler system appeared to be in fair to good condition. Inspection tags posted on the riser indicate the last inspection was completed in 2023. In addition, we did note missing sprinkler heads from the storage cabinet. It is recommended to have the fire sprinkler system inspected and tested immediately. This should also include the 5-year internal inspection if it has not been completed either.

The fire sprinkler system design criteria should be reviewed should the hanger ever undergo a change of use or other modifications to ensure the system is designed properly.

12.0 CONVEYANCE SYSTEMS

There was no conveyance on the premises.

Condition and Recommendations

Not applicable.

Appendix A

Capital Expenditure Forecast

Axias
BUILDING VALUE

Building: **520 Briscoe Blvd.**
GSF: 18,780
Age: 2004
Address: 520 Briscoe Blvd.
Lawrenceville, GA 30046

Item No.	Recommendation	Priority Category	Deficiency Category	Risk Category	Estimated Useful Life	Remaining Useful Life	Quantity	Unit of Measure	Unit Cost	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	Required
									Year	1	2	3	4	5	6	7	8	9	10	
Accessibility																				
1	The property is generally compliant with ADA regulations. The hanger is not open to the public therefore compliance with accessibility requirements would be at the discretion of the occupying tenant.																			**$0**
Site Systems																				
1	Mill and overlay asphalt pavement at parking area.	III	DM	Low	15	2	840	SY	$22		$18,480									**$18,480**
2	Mill and overlay asphalt pavement at ramp apron.	III	DM	Medium	15	1	4,250	SY	$18	$76,500										**$76,500**
3	Crack fill, seal coat and re-stripe asphalt parking areas and ramp apron.	III	SM	Low	7	8	5,090	SY	$3								$15,270			**$15,270**
4	Allowance to complete general concrete repairs and localized sectional replacements at curbs, flatwork, and ramp apron.	III	DM	Low		1	1	ALLOW	$7,500	$7,500										**$7,500**
5	Correct site drainage at east and south elevations.	III	DM	Low		1	1	ALLOW	$5,000	$5,000										**$5,000**
6	Make repairs to chain link fencing at secured apron area.	IV	DM	Low		1	1	ALLOW	$1,500	$1,500										**$1,500**
Structural Systems																				
1	No capital expenditure anticipated.																			**$0**
Roofing Systems																				
1	Advisory Note: It is recommended to implement an annual roof inspection and repair program to ensure the full service life of the roof if realized.																			**$0**
2	Perform various roof repairs at metal roof system.	III	DM	High		1	1	ALLOW	$5,000	$5,000										**$5,000**
3	Coat the metal roof with protective approved roof coating.	III	SM	Medium	40	5	18,780	SF	$6.00					$112,680						**$112,680**
Exterior Elements																				
1	Localized repairs to metal siding.	III	SM	Low	20	2	1	ALLOW	$6,000		$6,000									**$6,000**
2	Paint exterior metal panels and doors along with replacement of gasketed fasteners.	III	SM	Low	10	2	1	ALLOW	$30,000		$30,000									**$30,000**
3	Replace 10 wall-mounted semi-translucent skylight panels.	III	CR	Medium	15	1	10	EA	$2,000	$20,000										**$20,000**
4	The maintenance and repair of the automatic bottom rolling hangar door is reportedly performed in house by onsite maintenance personnel; therefore, funds have been excluded.																			**$0**

Axias
BUILDING VALUE

Building: **520 Briscoe Blvd.**
GSF: 18,780
Age: 2004
Address: 520 Briscoe Blvd.
Lawrenceville, GA 30046

Item No.	Recommendation	Priority Category	Deficiency Category	Risk Category	Estimated Useful Life	Remaining Useful Life	Quantity	Unit of Measure	Unit Cost	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	Required
									Year	1	2	3	4	5	6	7	8	9	10	
Interiors																				
1	General allowance for insulation replacements at hangar ceiling and walls.	III	DM	Low	30	1	1,000	SF	$3	$3,000										**$3,000**
Mechanical																				
1	Overhaul exhaust fans and ventilation louvers with circulation fan replacement as needed.	III	SM	Medium	15	5	1	ALLOW	$7,500					$7,500						**$7,500**
Electrical																				
1	No capital expenditure anticipated.																			**$0**
Plumbing																				
1	Replace 30-gallon storage tank domestic water heater.	III	CR	Low	15	1	1	EA	$1,200	$1,200										**$1,200**
Fire & Life Safety																				
1	Fire suppression components can be expected to last through the term with regular testing and periodic maintenance by qualified service provider. Inspection and testing of the system is past due and should be completed.																			**$0**
Conveyance Systems																				
1	Not applicable.																			**$0**
									Required Cost (2025 US-Dollars)	**$119,700**	**$54,480**	**$0**	**$0**	**$120,180**	**$0**	**$0**	**$15,270**	**$0**	**$0**	**$309,630**
									Required Cost (Inflated @ 4%)	**$124,488**	**$58,926**	**$0**	**$0**	**$146,217**	**$0**	**$0**	**$20,898**	**$0**	**$0**	**$350,529**
									Total Cost (2025 $/ SF/ Yr.)	**$6.37**	**$2.90**	**$0.00**	**$0.00**	**$6.40**	**$0.00**	**$0.00**	**$0.81**	**$0.00**	**$0.00**	**$16.49**

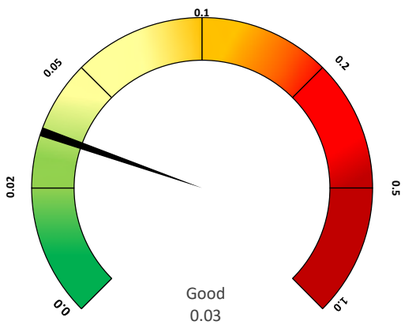
Notes:
1. Opinions of cost generally exclude A/E fees, general contractor markups, permits, etc.

Axias
BUILDING VALUE

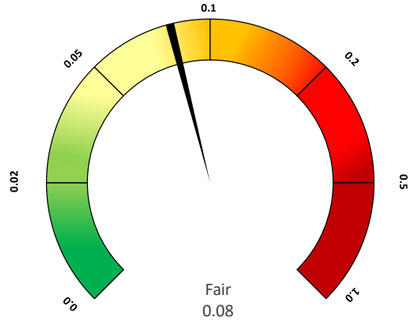
Building: 520 Briscoe Blvd.
GSF: 18780
Age: 2004
Address: 520 Briscoe Blvd.
Lawrenceville, GA 30046

Financial Summary

Facility Condition Index



10 Year Facility Condition Index



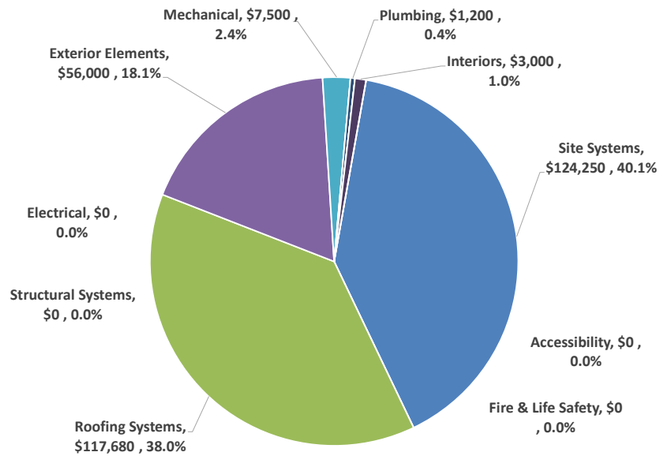
Current Replacement Value (CRV) - $450,000

FCI Range	Condition Description
0.00 – 0.02	Excellent condition, typically new construction
0.02 – 0.05	Good Condition, renovations occur on schedule
0.05 – 0.1	Fair Condition, in need of normal renovation
0.1 – 0.2	Below average condition, major renovationrequired
0.2 – 0.5	Poor condition, total renovation needed
0.5 – 1	Complete facility replacement indicated

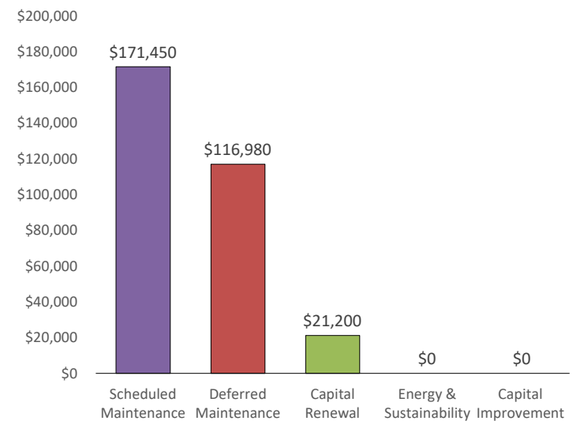
Risk	Definition
Critical	Critical (4-8)
High	High (9-13)
Medium	Medium (14-16)
Low	Low (17-20)

Priority	Definition
I	Currently Critical
II	Potentially Critical
III	Necessary / Not yet Critical
IV	Recommended
V	Appearance
VI	Does Not Meet Codes / Standards

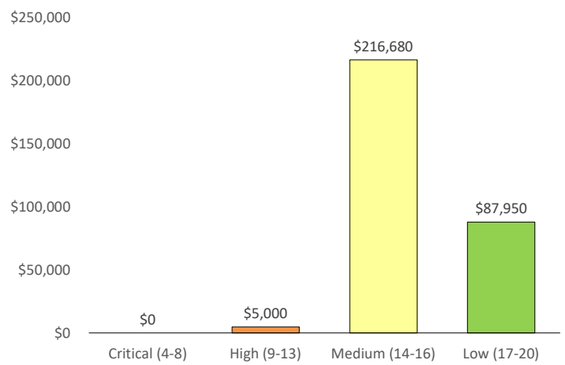
Summary by System



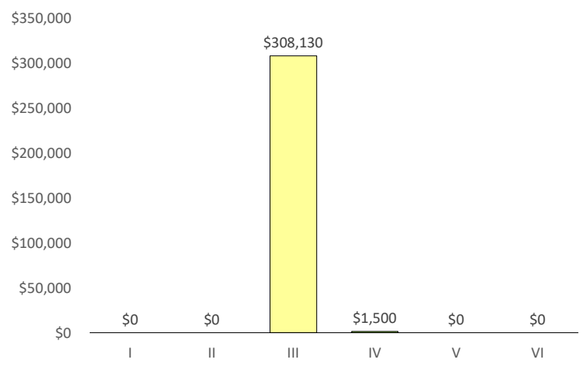
Expenditures by Deficiency Category



Expenditures by Risk



Expenditures by Priority Category



Appendix B

Photographs

Photograph 1.

Southeast elevation

Photograph 2.

Southwest elevation

Photograph 3.

Northwest elevation

Photograph 4.

Overview of ramp apron pavement

Photograph 5.

Typical pavement at parking area

Photograph 6.

Detail of concrete sidewalk

Photograph 7.

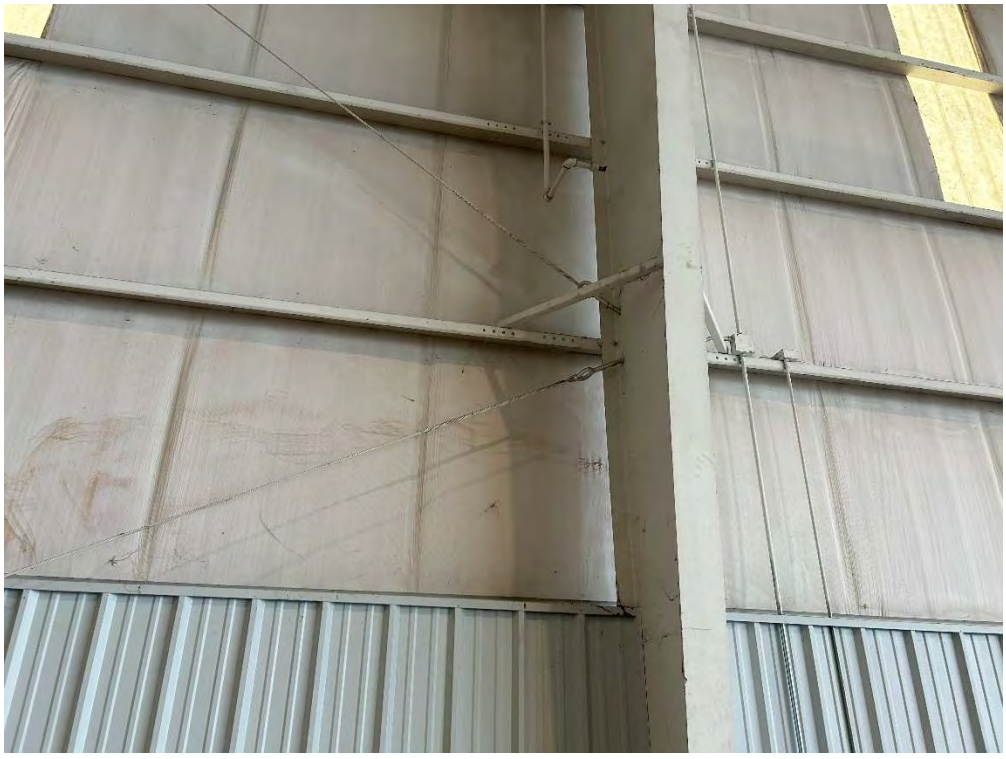
Pavement near drainage components at ramp apron

Photograph 8.

Example of typical downspout at eastern and southern elevations

Photograph 9.

Building and hangar door framing



Photograph 10.

Framing at column

Photograph 11.

Mezzanine construction materials similar to its framing

Photograph 12.

Detail of metal roof

Photograph 13.

Detail of metal roof

Photograph 14.

View of staining at ceiling insulation in open hangar area

Photograph 15.

Typical exterior finishes

Photograph 16.

Detail of damaged metal exterior

Photograph 17.

Open penetration at metal exterior

Photograph 18.

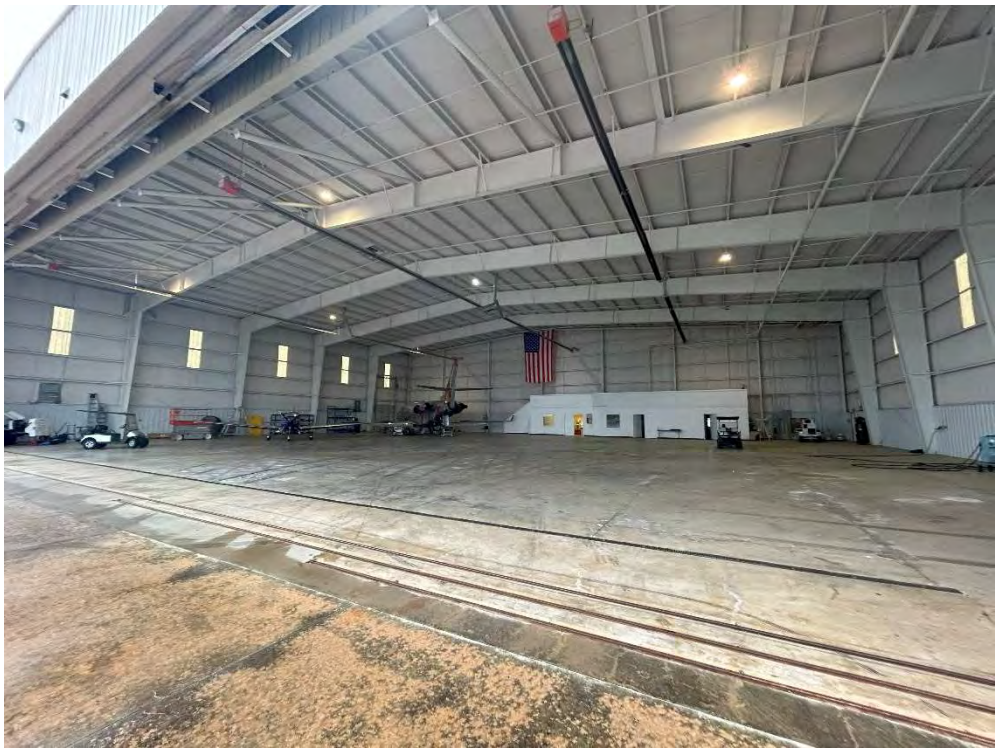
View of aircraft door

Photograph 19.

One of two aircraft door operators

Photograph 20.

Typical personnel and overhead rollup doors



Photograph 21.

Overview of hangar area

Photograph 22.

Typical office area finishes

Photograph 23.

Bathroom finishes

Photograph 24.

View of damaged ceiling insulation

Photograph 25.

Main electrical panel and subsequent panel board, disconnects, and transformer

Photograph 26.

Electric storage tank domestic water heater

Photograph 27.

PIV, FDC, and incoming fire suppression service

Photograph 28.

Dry-pipe sprinkler riser

Photograph 29.

Wall-mounted sprinkler alarm bell

Photograph 30.

Spare sprinkler heads

Photograph 31.

Egress door with egress lighting and fire extinguisher

EXHIBIT F

NVC

National Valuation Consultants, Inc.

An Appraisal Report of Certain Hangars and Offices at Briscoe Field Airport:

450 Briscoe Hangar - 450 Briscoe Boulevard
510 (Land Only) - 510 Briscoe Boulevard
510 Hangar - 510 Briscoe Boulevard
520 Hangar - 520 Briscoe Boulevard

Latitude/Longitude:
33.974094, -83.965954

NVC File Number:
ATL25030233

Effective Date(s) of Value:
"As Is" Market Rental Value - April 17, 2025

Prepared For:
Mr. Matthew Smith
Gwinnett County Airport/Gwinnett County Government
600 Briscoe Boulevard
Lawrenceville, Georgia 30046
matthew.smith@gwinnettcounty.com

Prepared By:
National Valuation Consultants, Inc.

WEST
Seattle
San Francisco
Los Angeles
SOUTHWEST
Denver
Dallas
Houston
San Antonio
MIDWEST
Chicago
Cincinnati
Columbus
NORTHEAST
Boston
NY/NJ Metro
SOUTHEAST
Atlanta
Nashville
Savannah
South Florida

NVC

National Valuation Consultants, Inc.

April 22, 2025

Mr. Matthew Smith
Gwinnett County Airport/Gwinnett County Government
Terminal Building 3rd Floor
600 Briscoe Boulevard
Lawrenceville, Georgia 30046
matthew.smith@gwinnettcounty.com

Re: Three Hangars and One Parcel at Briscoe Field at Louis Armstrong Airport
Latitude: 33.974094 & Longitude: -83.965954
NVC File No.: ATL25030233

Dear Mr. Smith:

In compliance with your request, enclosed is an appraisal report of the above-referenced properties. The purpose of the appraisal is to provide our opinion of "As Is" market rent of the applicable leasehold interest of each property.

Valuation Scenarios

Property ID	Value Premise	Interest Appraised	Effective Date of Appraisal
450 Briscoe Hangar	"As Is" Market Rent	Leasehold	April 17, 2025
510 Briscoe (Land Only)	"As Is" Market Rent	Leasehold	April 17, 2025
510 Briscoe Hangar	"As Is" Market Rent	Leasehold	April 17, 2025
520 Briscoe Hangar	"As Is" Market Rent	Leasehold	April 17, 2025

Briefly described, the subject properties consist of three separate hangars with office, space in two of the hangars (450 and 510), and ramp area. There is also an auto parking lot and plane parking and ramp area known as 510 Briscoe (Land Only). The properties are part of a leasehold entity owned by Gwinnett county and located on the south side of the Briscoe Field (LZU). Briscoe Field, also known as Gwinnett County Airport, is a municipal airport located approximately 30 miles northeast of the Atlanta CBD. It has a 6,000' runway and two FBOs. The 520 building has a small area that could be used for office or small maintenance, but is not comparable to other offices at hangars in the area.

Briscoe Field is located in the city of Lawrenceville, just south of GA Highway 316 and just east of I-85. The area surrounding the airport is primarily industrial in nature with a mix of retail and residential uses as one proceeds further from the airport property.

The hangars and office space are all in generally average condition. The office space appears to be generally 20+ years of age or older with minimal recent renovations. A restaurant with outdoor seating overlooking the runway is located in the 510 Briscoe building. Each of the hangars and the land parcel have access to the ramp area to a grassed area south of the runway. Parking is generally provided to the south of the buildings.

Property Overview

Property Summary							
Property ID	Type	Year Built	Total Size (SF)	Office Finish	Clear Height	Acres	FAR
450 Briscoe Hangar	Hangar/Office	1991	18,800	29.8%	24'	1.82	0.24
510 (Land Only)	Land	-	-	-	-	2.11	-
510 Hangar	Hangar/Office	1995	23,075	48.0%	28'	2.39	0.22
520 Hangar	Hangar/Office	2004	18,500	0.0%	28'	2.05	0.21

It is our opinion that this report complies fully with (a) the Uniform Standards of Professional Appraisal Practice (USPAP) adopted by the Appraisal Standards Board of the Appraisal Foundation, (b) the Uniform Appraisal Instructions to Appraisers set forth by FIRREA, (c) and the client's appraisal reporting guidelines.

The market value opinions are subject to certain standard assumptions and limiting conditions which are referenced in the accompanying appraisal report. In addition, there are certain Extraordinary Assumptions and Hypothetical Conditions that may have affected the assignment results.

Extraordinary Assumptions

- ***None.***

Hypothetical Conditions

- ***None.***

Based upon the data, analyses and reasoning contained in the attached report, and subject to the assumptions and limiting conditions set forth in this analysis. Our market rent for the: 1) as is physical condition 2) a use consistent with existing zoning 3) annual rent on a NNN basis with tenant responsible for all operational expenses and 4) similar lease terms to the current lease in place is as follows.

Market Rent Conclusion								
Property ID	Year Built	Office Finish	Clear Height	Building Area	Land Area	FAR	NVC Market Rent $/BSF	NVC Annual Market Rent
450 Briscoe Hangar	1991	29.8%	24'	18,800	79,098	0.24	$15.00	$282,000
510 (Land Only)	-	-	-	-	91,712	-	$0.75	$68,784
510 Hangar	1995	48.0%	28'	23,075	103,920	0.22	$15.00	$346,125
520 Briscoe	2004	0.0%	28'	18,500	89,116	6	$13.00	$240,500

Additionally we have considered the allocation of the rental rates as follows.

Allocation of Rent							
Property	Other Improved Land Size Size (SF)	Building Size (SF)	NVC Market Other Improved Land Rent/SF	Imputed Building Rent/SF	Total Land Rent	Total Building Rent	NVC Annual Market Rent
450 Briscoe Hangar	79,098	18,800	$0.75	$11.84	$59,324	$222,677	$282,000
510 (Land Only)	91,712	-	$0.75	$0.00	$68,784	$0	$68,784
510 Hangar	103,920	23,075	$0.75	$11.62	$77,940	$268,185	$346,125
520 Briscoe	89,116	18,500	$0.75	$9.39	$66,837	$173,663	$240,500

We appreciate the opportunity to provide appraisal services and trust you will advise us if we can be of further assistance.

Respectfully submitted,

NATIONAL VALUATION CONSULTANTS, INC.

Peter A. Lamas, MAI
Senior Managing Director
Georgia Certified General Appraiser
License No.: 5739
Phone: 404-920-8429
Email: plamas@nvcinc.com

TABLE OF CONTENTS

Subject Aerial 6
Tax Parcel Map 11
Executive Summary 12
PREMISES OF THE APPRAISAL 14
Scope of Work 15
Definitions of Terminology 18
Identification and History of the Property 21
Standard Assumptions and Limiting Conditions 22
Extraordinary Assumptions and Hypothetical Conditions 24
PRESENTATION OF DATA 25
U.S. Economic Indicators 26
Area / Subject Map 30
Atlanta-Sandy Springs-Alpharetta, GA MSA Economic and Demographic Profile 31
Market Area Map 42
Market Area Analysis 43
State of Georgia Tax and Assessment Analysis 49
Site Analysis 52
Description of the Improvements 53
Subject Photos 55
ANALYSIS OF DATA AND CONCLUSIONS 62
Airport Operations Industry Overview 63
Highest and Best Use Analysis 85
The Valuation Process 87
Sales Comparison Approach 88
Market Data Approach 93
Conclusion of Market Rent 96
Certification 97

ADDENDA
Appraiser Qualifications
Land Sale Abstracts
Surveys
Engagement Letter

Subject Aerial

450 Briscoe

Note that property lines are approximate.

510 Briscoe (Land Only)

510 Briscoe

520 Briscoe

Tax Parcel Map

It is noted that the improvements only are shown in the tax map above, but the ground lease area actually extends into the ramp area. The 510 parking parcel is part of the larger overall airport site and is not a separate tax parcel.

Executive Summary

CLIENT: Mr. Matthew Smith
Gwinnett County Airport/Gwinnett County Government
600 Briscoe Boulevard
Lawrenceville, Georgia 30046
matthew.smith@gwinnettcounty.com

PROPERTY IDENTIFICATION: Three Hangars and One Parcel at Briscoe Field

PURPOSE OF APPRAISAL: The purpose of this assignment is to provide the following opinions.

Valuation Scenarios

Property ID	Value Premise	Interest Appraised	Effective Date of Appraisal
450 Briscoe Hangar	"As Is" Market Rent	Leasehold	April 17, 2025
510 Briscoe (Land Only)	"As Is" Market Rent	Leasehold	April 17, 2025
510 Briscoe Hangar	"As Is" Market Rent	Leasehold	April 17, 2025
520 Briscoe Hangar	"As Is" Market Rent	Leasehold	April 17, 2025

DATE OF INSPECTION: April 17, 2025

DATE OF REPORT PREPARATION: April 22, 2025

EXTRAORDINARY ASSUMPTIONS: This report is subject to the extraordinary assumptions mentioned in the letter of transmittal and in the attached report.

PHYSICAL ADDRESS: 450 Briscoe Hangar - 450 Briscoe Boulevard
510 (Land Only) - 510 Briscoe Boulevard
510 Hangar - 510 Briscoe Boulevard
520 Hangar - 520 Briscoe Boulevard

ZONING: LM (Light Manufacturing) by City of Lawrenceville. Aircraft Hangar and Maintenance buildings are a permitted use under this zoning.

TRANSFERS IN THE LAST THREE YEARS: There are no known sales of the appraised property in the previous three-year period. Please refer to the Identification and History of the Property Section for more information.

HIGHEST AND BEST USE:

As Vacant: Aviation development

PROPERTY STRENGTHS AND WEAKNESSES

Strengths And Weaknesses
Strengths
• Located at a seconary airport in a major metropolitan area.
• Good historical operations.
• Buildings are in average condition.
• Ownership operates a good portion of leaseable space at the airport.
Weaknesses
• Office area in the subject buildings and at the airport in general have vacant space and have not been renovated.
• Most hangars at the airport are over 25 years of age and have not been renovated.
• Suburban location limits corporate users to some degree who may prefer more intown airports.
• Land is ground leased.
• This is a limited market asset with a very small pool of buyers and sellers.

IMPROVEMENT SUMMARY:

Property Summary

Property ID	Type	Year Built	Total Size (SF)	Office Finish	Clear Height	Acres	FAR
450 Briscoe Hangar	Hangar/Office	1991	18,800	29.8%	24'	1.82	0.24
510 (Land Only)	Land	-	-	-	-	2.11	-
510 Hangar	Hangar/Office	1995	23,075	48.0%	28'	2.39	0.22
520 Hangar	Hangar/Office	2004	18,500	0.0%	28'	2.05	0.21

MARKET RENT CONCLUSION:

The cost and market data approaches were developed. Value indications are summarized as follows.

Market Rent Conclusion

Property ID	Year Built	Office Finish	Clear Height	Building Area	Land Area	FAR	NVC Market Rent $/BSF	NVC Annual Market Rent
450 Briscoe Hangar	1991	29.8%	24'	18,800	79,098	0.24	$15.00	$282,000
510 (Land Only)	-	-	-	-	91,712	-	$0.75	$68,784
510 Hangar	1995	48.0%	28'	23,075	103,920	0.22	$15.00	$346,125
520 Briscoe	2004	0.0%	28'	18,500	89,116	6	$13.00	$240,500

PREMISES OF THE APPRAISAL

Scope of Work

PURPOSE OF APPRAISAL

The purpose of the appraisal is to provide our "As Is" market rent opinion.

SCOPE OF WORK DEFINED

The Scope of Work requirement within the Uniform Standards of Professional Appraisal Practice (USPAP) of the Appraisal Standards Board states that the appraiser must provide the following information within each appraisal, appraisal review, or appraisal consulting assignment:

1. Identify the problem to be solved;

2. Determine and perform the scope of work necessary to develop credible assignment results; and

3. Disclose the scope of work in the report.

While the scope of work is addressed within many sections of this report, the following is a summary of the Scope of Work for this assignment.

APPRAISAL ELEMENTS

There are six key assignment elements that need to be addressed when identifying the appraisal problem. These include:

1. Client and any other intended users;

2. Intended use of the appraiser's opinions and conclusions;

3. Type and definition of value;

4. Effective date of the appraiser's opinions and conclusions;

5. Subject of the assignment and its relevant characteristics (e.g. interest valued, physical and legal characteristics); and

6. Assignment conditions (e.g. hypothetical conditions, extraordinary assumptions, supplemental standards, and jurisdictional exceptions).

CLIENT, INTENDED USERS, AND INTENDED USE

- Client: Gwinnett County Airport/Gwinnett County Government
- Intended Users: Gwinnett County Airport/Gwinnett County Government
- Intended Use: The intended use of the report is for internal lease decisions.

This report has no other intended use, and National Valuation Consultants, Inc. is not responsible for the use of this report by any third parties.

VALUATION SCENARIO AND EFFECTIVE DATES

After consideration of these assignment elements, the following market rent scenario and effective date are used to solve the appraisal problem, as defined by the client.

Valuation Scenarios			
Property ID	Value Premise	Interest Appraised	Effective Date of Appraisal
450 Briscoe Hangar	"As Is" Market Rent	Leasehold	April 17, 2025
510 Briscoe (Land Only)	"As Is" Market Rent	Leasehold	April 17, 2025
510 Briscoe Hangar	"As Is" Market Rent	Leasehold	April 17, 2025
520 Briscoe Hangar	"As Is" Market Rent	Leasehold	April 17, 2025

Please note that no opinion of value is provided for mineral rights, water rights or other non-realty items which may or may not be associated with the property.

ANALYSIS PERFORMED IN THE ASSIGNMENT

The work performed within this appraisal assignment include a number of independent investigations and analyses. The methods and sources utilized are listed as follows.

- **Approaches to Value**: The three traditional valuation approaches – cost, income, and sales comparison – were considered in the appraisal. Value indications were derived from those considered applicable, which is discussed later in this report.
- **Market Area Analysis:** The appraisers inspected the subject's market area, evaluated demographic and economic statistics, reviewed city zoning maps, aerial photographs and other market data in analyzing the characteristics of the subject area.
- **Site Description and Analysis:** This description is based on an on-site inspection and review of documents provided by the property contacts. Specific documents used in the description are cited in the Site Analysis section of this report.
- **Improvement Description and Analysis**: This description is also based on an on-site inspection and review of building information provided by the property contacts. Specific documents used in the description are cited in the Description of the Improvements section of this report.
- **Market Analysis**: Macro and micro market analysis sections and industry overview sections were prepared by many individuals through a cooperative effort between the appraisers and professional research staff of National Valuation Consultants, Inc. (NVC). We have cited our sources within these sections which typically include related trade industry associations, state and local government sources, and interviews with market participants.
- **Market Data**: All market data were derived from multiple conversations with many individuals through a cooperative effort between the appraisers and professional research staff of National Valuation Consultants, Inc. (NVC).
- **Comparable Leases:** The appraisers assembled data on comparable improved property sales and land sales from abstracts provided by APN.aero, CoStar COMPS; Real Capital Analytics; public deed records; multiple listing service data; newspaper articles and news releases; file sources; and conversations

with numerous real estate brokers, tenants, buyers, sellers, and agents active in the marketplace.

- **Property Inspection:** The subject property was personally inspected by Mr. Peter Lamas, MAI as part of the scope of work for this assignment. Please refer to the *Description of the Improvements* section of this report for more information regarding property condition and subject photographs.

ASSIGNMENT CONDITIONS

In two separate sections of this appraisal report, we have included the Standard Assumptions and Limiting Conditions as well as the Extraordinary Assumptions and Hypothetical Conditions used in the preparation of the appraisal assignment.

PROPERTY CONTACTS

In addition to public records and other sources cited in this appraisal, we have relied on the following parties for information pertaining to the property.

Property Contacts				
Contact Name	Title	Company	Email	Phone Number
Jonathan Zorger	CFO	Aircraft Specialists, Inc.	jonathan@aircraftspecialistsinc.com	770-513-3161
Rachael Weatherby	Client Services Director	Aircraft Specialists, Inc.	rachael@asjet.com	770-277-9000

Definitions of Terminology

APPRAISAL — (noun) the act or process of developing an opinion of value. (adjective) of or pertaining to appraising and related functions such as appraisal practice or appraisal services. Comment: An appraisal must be numerically expressed as a specific amount, as a range of numbers, or as a relationship to a previous value opinion or numerical benchmark.[1]

ASSIGNMENT — a valuation service that is provided by an appraiser as a consequence of an agreement with a client.[2]

MARKET VALUE — The most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus. Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

1. Buyer and seller are typically motivated.
2. Both parties are well informed or well advised, and acting in what they consider their own best interests.
3. A reasonable time is allowed for exposure in the open market.
4. Payment is made in terms of cash in U.S. dollars or in terms of financial arrangements comparable thereto.
5. The price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale.[3]

AS IS MARKET VALUE — The estimate of the market value of real property in its current physical condition, use, and zoning as of the appraisal date. (Interagency Appraisal and Evaluation Guidelines, OCC) [4]

FEE SIMPLE ESTATE — Absolute ownership unencumbered by any other interest or estate, subject only to the limitations imposed by the governmental powers of taxation, eminent domain, police power, and escheat.[5]

LEASED FEE INTEREST — The ownership interest held by the lessor, which includes the right to receive the contract rent specified in the lease plus the reversionary right when the lease expires. .[6]

PROJECTION — In market analysis, a prediction of the future that is an extension of current and historical trends.[7]

PROSPECTIVE OPINION OF VALUE — A value opinion effective as of a specified future date. The term does not define a type of value. Instead, it identifies a value opinion as being effective at some specific future date. An opinion of value as of a prospective date is frequently sought in connection with projects that

[1] USPAP 2024 Edition, Page 3.
[2] USPAP 2024 Edition, Page 4.
[3] Source: Code of Federal Regulations; Title 12--Banks And Banking; Chapter I--Comptroller Of The Currency, Department Of The Treasury; Part 34--Real Estate Lending And Appraisals--Subpart C—Appraisals Sec. 34.42 Definitions; Revised January 1, 2000.
[4] Appraisal Institute, *The Dictionary of Real Estate Appraisal*, 7th edition.
[5] Appraisal Institute, *The Dictionary of Real Estate Appraisal*, 7th edition.
[6] Appraisal Institute, *The Dictionary of Real Estate Appraisal*, 7th edition.
[7] Appraisal Institute, *The Dictionary of Real Estate Appraisal*, 7th edition.

are proposed, under construction, or under conversion to a new use, or those that have not yet achieved sellout or a stabilized level of long-term occupancy.[8]

EXTRAORDINARY ASSUMPTION — An assignment-specific assumption as of the effective date regarding uncertain information used in an analysis which, if found to be false, could alter the appraiser's opinions or conclusions. Uncertain information might include physical, legal, or economic characteristics of the subject property, or conditions external to the property, such as market conditions or trends, or about the integrity of data used in an analysis. [9]

HYPOTHETICAL CONDITION —A condition, directly related to a specific assignment, which is contrary to what is known by the appraiser to exist on the effective date of the assignment results but is used for the purpose of analysis. Comment: Hypothetical conditions are contrary to known facts about physical, legal, or economic characteristics of the subject property; or about conditions external to the property, such as market conditions or trends; or about the integrity of data used in an analysis[10]

EXPOSURE TIME — Estimated length of time that the property interest being appraised would have been offered on the market prior to the hypothetical consummation of a sale at market value on the effective date of the appraisal.[11]

MARKETING TIME — Opinion of the amount of time it might take to sell a real or personal property interest at the concluded market value level during the period immediately after the effective date of an appraisal. [12]

INTENDED USE - the use(s) of an appraiser's reported appraisal or appraisal review assignment results, as identified by the appraiser based on communication with the client at the time of the assignment. [13]

INTENDED USER - the client and any other party as identified, by name or type, as users of the appraisal or appraisal review report by the appraiser, based on communication with the client at the time of the assignment. [14]

PERSONAL PROPERTY — any tangible or intangible article that is subject to ownership and not classified as real property, including identifiable tangible objects that are considered by the general public as being "personal," such as furnishings, artwork, antiques, gems and jewelry, collectibles, machinery and equipment; and intangible property that is created and stored electronically such as plans for installation art, choreography, emails, or designs for digital tokens.[15]

TANGIBLE PROPERTY - Property that can be perceived with the senses; includes land, fixed improvements, furnishings, equipment and physical supplies, inventory, and merchandise. Some accounting sources indicate that tangible property includes all property not properly classified as identifiable intangible assets or goodwill. On that basis, tangible property includes real estate, personal property, and working capital

[8] Appraisal Institute, *The Dictionary of Real Estate Appraisal*, 7th edition.
[9] Appraisal Institute, *The Dictionary of Real Estate Appraisal*, 7th edition.
[10] USPAP 2024 Edition, Page 4.
[11] USPAP 2024 Edition, Page 4.
[12] USPAP 2024 Edition, Advisory Opinion 7, Page 74.
[13] USPAP 2024 Edition, Page 4.
[14] USPAP 2024 Edition, Page 4.
[15] USPAP 2024 Edition, Page 5.

assets such as cash, cash equivalents, accounts receivable, supplies, and inventory, although cash and accounts receivable are not themselves tangible per se. [16]

INTANGIBLE PROPERTY - Nonphysical assets, including but not limited to franchises, trademarks, patents, copyrights, goodwill, equities, securities, and contracts as distinguished from physical assets such as facilities and equipment. [17]

LEASEHOLD INTEREST - The tenant's possessory interest created by a lease. [18]

1. negative leasehold - A lease situation in which the market rent is less than the contract rent.
2. positive leasehold - A lease situation in which the market rent is greater than the contract rent.

EFFECTIVE DATE — 1. The date on which the appraisal opinion applies. (SVP) 2. The date to which an appraiser's analyses, opinions, and conclusions apply; also referred to as date of value. (USPAP) 3. The date that a lease goes into effect.[19]

REAL PROPERTY – The interests, benefits, and rights inherent in the ownership of real estate.[20]

FURNITURE, FIXTURES AND EQUIPMENT (FF&E) - Business trade fixtures and personal property, exclusive of inventory.[21]

[16] Appraisal Institute, *The Dictionary of Real Estate Appraisal*, 7th edition.
[17] USPAP 2024 Edition, Page 4.
[18] Appraisal Institute, *The Dictionary of Real Estate Appraisal*, 7th edition.
[19] Appraisal Institute, *The Dictionary of Real Estate Appraisal*, 7th edition.
[20.] USPAP 2024 Edition, Page 5.
[21.] Appraisal Institute, *The Dictionary of Real Estate Appraisal*, 7th edition.

Identification and History of the Property

Property Identication				
Property ID	450 Briscoe Hangar	510 (Land Only)	510 Hangar	520 Hangar
Address	450 Briscoe Boulevard	510 Briscoe Boulevard	510 Briscoe Boulevard	520 Briscoe Boulevard
City	Lawrenceville	Lawrenceville	Lawrenceville	Lawrenceville
County	Gwinnett	Gwinnett	Gwinnett	Gwinnett

OWNER OF RECORD

For the leasehold properties, the subject sites are owned by Gwinnett County. The improvements are owned as follows:

- 450 Briscoe: Atlanta Jet Properties, LLC
- 510 Briscoe (Land only): Gwinnett County Georgia
- 510 Briscoe: Progressive Aviation
- 520 Briscoe: GMD Properties, LLC

LEGAL DESCRIPTION LEASEHOLD: See later in this report for copies of survey/site plans.

HISTORY OF THE PROPERTY:

According to Gwinnett County Tax Assessor records, there have been no transactions involving the subject properties in the past three years. To the best of our knowledge, there have been no other sales or transfers involving the subject within the past three years.

Standard Assumptions and Limiting Conditions

1. Disclosure of the contents of the appraisal report is governed by the bylaws and regulations of the professional appraisal organizations with which the appraiser is affiliated: specifically, the Appraisal Institute.

2. This Report should be relied upon only by the Intended User(s) and only for the Intended Use(s) identified at the time of the assignment. Furthermore, the Report is to be used in whole and not in part. The Report shall not be duplicated or provided to any third party in whole or in part without the written consent of NVC. Exempt from this restriction is duplication for the internal use of the Intended User and its attorneys, accountants, or advisors for the sole benefit of the Intended User. Also exempt from this restriction is transmission of the Report pursuant to any requirement of any court, governmental authority, or regulatory agency having jurisdiction over the intended user, provided that the Report and its contents shall not be published, in whole or in part, in any public document without the written consent of NVC. Written consent and approval from NVC must be obtained before this appraisal report can be conveyed by anyone to the public through advertising, public relations, news, sales, or other media. Any third party, not covered by the exemptions herein, who may possess this report, is advised that they should rely on their own independently secured advice for any decision in connection with this property. NVC shall have no accountability or responsibility to any such third party.

3. The appraiser will not be required to give testimony or appear in court because of having made this appraisal, with reference to the property in question, unless previous arrangements have been made.

4. The distribution of the total valuation in this report between land and improvements applies only under the stated highest and best use of the property. The separate allocation of value for land and improvements must not be used in conjunction with any other appraisal and is invalid if so used.

5. The legal description used in this report is assumed to be correct.

6. No survey of the property has been made by the appraiser and no responsibility is assumed in connection with such matters. Maps and sketches are included only to assist the reader in visualizing the property.

7. No responsibility is assumed for matters of a legal nature affecting title to the property, nor is an opinion of title rendered. The title is assumed to be good and merchantable unless otherwise stated.

8. It is assumed that there are no hidden or unapparent conditions of the property, subsoil, (including termite infestations) or structures which would render it more or less valuable. No responsibility is assumed for such conditions or for engineering which may be required to discover such.

9. All mechanical components are assumed to be in operable condition as would be considered standard for properties similar to the subject in type and age. The heating, cooling, ventilation, plumbing and electrical equipment are considered to be in similar condition to the observable elements of the improvements unless otherwise stated. The insulation and energy efficiency of the improvements are assumed to be adequate and standard for the subject type and age unless otherwise noted.

10. Information furnished by others is assumed to be true, correct and reliable. A reasonable effort has been made to verify such information; however, no responsibility for its accuracy is assumed by the appraiser.

11. The opinion of value assumes responsible ownership and competent management.

12. Unless otherwise stated in this report, the existence of hazardous substances, including without limitation asbestos, polychlorinated biphenyls, petroleum leakage, or agricultural chemicals, which may or may not be present on the property, or other environmental conditions, were not called to the attention of nor did the appraiser become aware of such during the appraiser's inspection. The appraiser has no knowledge of the existence of such materials on or in the property unless otherwise stated. The appraiser, however, is not qualified to test such substances or conditions. If the presence of such substances, such as asbestos, urea formaldehyde foam insulation, or other hazardous substances or environmental conditions, may affect the value of the property, the opinion of value is predicated on the assumption that there is no such condition on or in the property or in such proximity thereto that it would cause a loss in value. No responsibility is assumed for any such conditions, nor for any expertise or engineering knowledge required to discover them.

13. The values contained in this report are opinions. There is no guarantee, written or implied, that the subject property will sell or lease for the indicated amounts.

14. The appraisers of National Valuation Consultants, Inc. reserve the right to amend and/or alter statements, analyses, conclusions and opinions of value if information pertinent to this assignment is made known to us after the completion of the report.

15. The Americans with Disabilities Act ("ADA") became effective January 26, 1992. We have not made a specific compliance survey and analysis of this property to determine whether or not it is in conformity with the various detailed requirements of the ADA. It is possible that a compliance survey of the property, together with a detailed analysis of the requirements of the ADA, could reveal that the property is not in compliance with one or more of the requirements of the Act. If so, this fact could have a negative effect upon the value of the property. Since we have no direct evidence relating to this issue, we did not consider possible noncompliance with the requirements of ADA in estimating the value of the property.

16. Unless otherwise noted, all prospective values, if any, in this appraisal, are based on the market conditions which exist at the date of inspection combined with an informed forecast, based on current trends in supply and demand for the property type under appraisal, as to what such conditions will be at the future date of property completion and or stabilization. The appraiser cannot be held responsible for unforeseeable events, such as unexpected new construction, unanticipated changes in economic conditions, or any other such events which might occur and which would alter market conditions prior to the effective date of the appraisal.

Extraordinary Assumptions and Hypothetical Conditions

Our market value opinion is subject to certain standard assumptions and limiting conditions which are referenced in the accompanying appraisal report. In addition, there are certain Extraordinary Assumptions and Hypothetical Conditions that may have affected the assignment results.

Extraordinary Assumptions

- ***None.***

Hypothetical Conditions

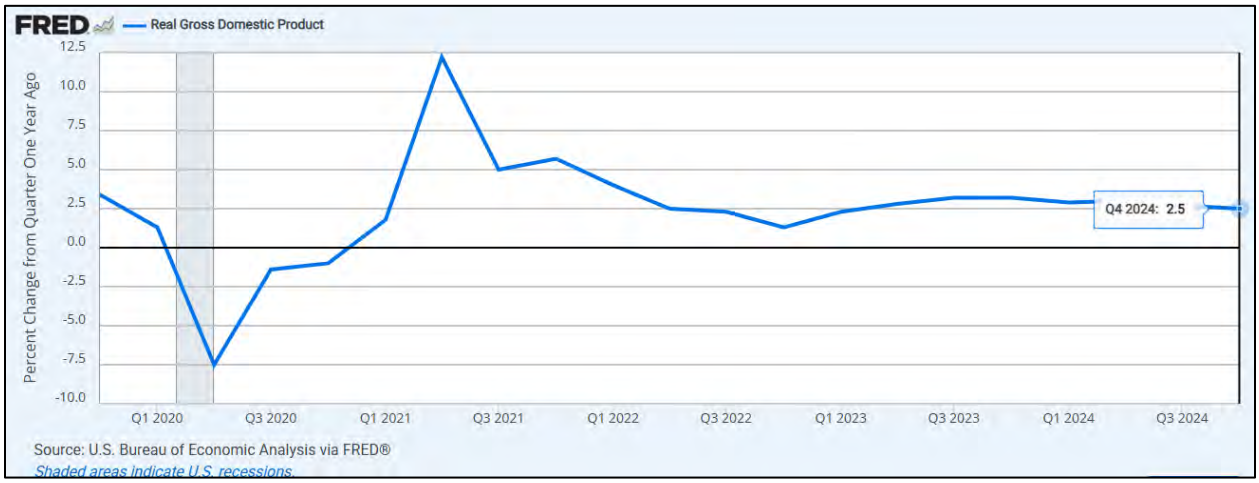
- ***None.***

PRESENTATION OF DATA

U.S. Economic Indicators

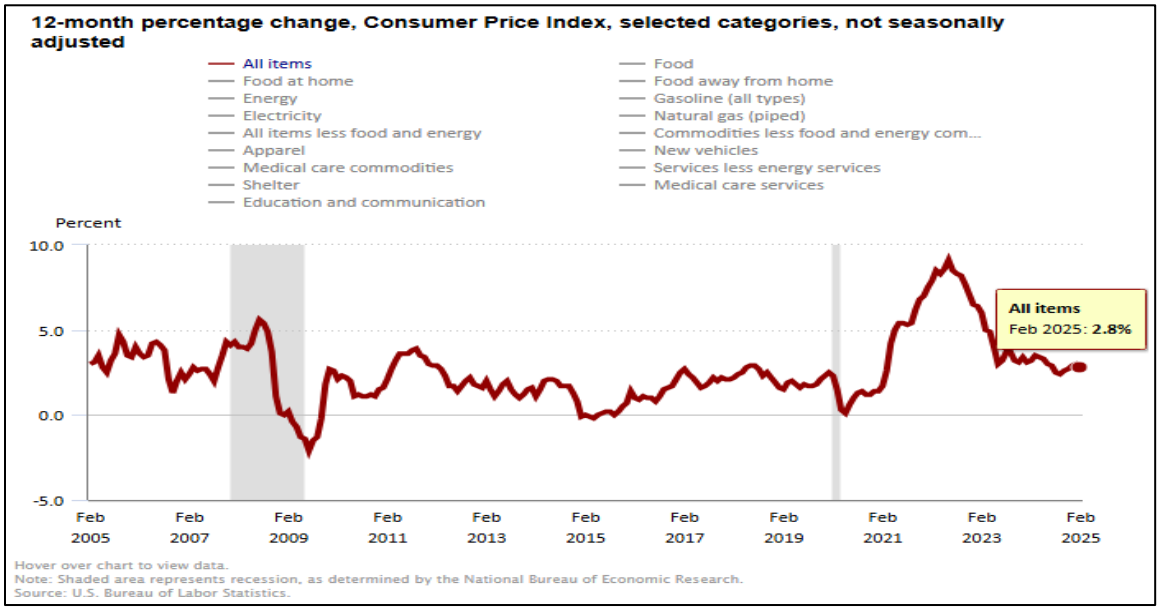
Real Gross Domestic Product

Real gross domestic product (GDP) increased at an annual rate of 2.5% over the four quarters of 2024. Personal consumption expenditures (PCE) made the largest contribution to real GDP growth, rising 4.2% at an annual rate and adding 2.8 percentage points to headline growth. The acceleration was driven by a large increase in durable goods spending, which alone contributed 0.9 percentage points to GDP growth. The contribution from nondurable goods purchases was also solid.



Inflation

The all items index rose 2.8% for the 12 months ending February, after rising 3.0% over the 12 months ending January. The all items less food and energy index rose 3.1% over the last 12 months. The energy index decreased 0.2% for the 12 months ending February. The food index increased 2.6% over the last year.



Market Indicators

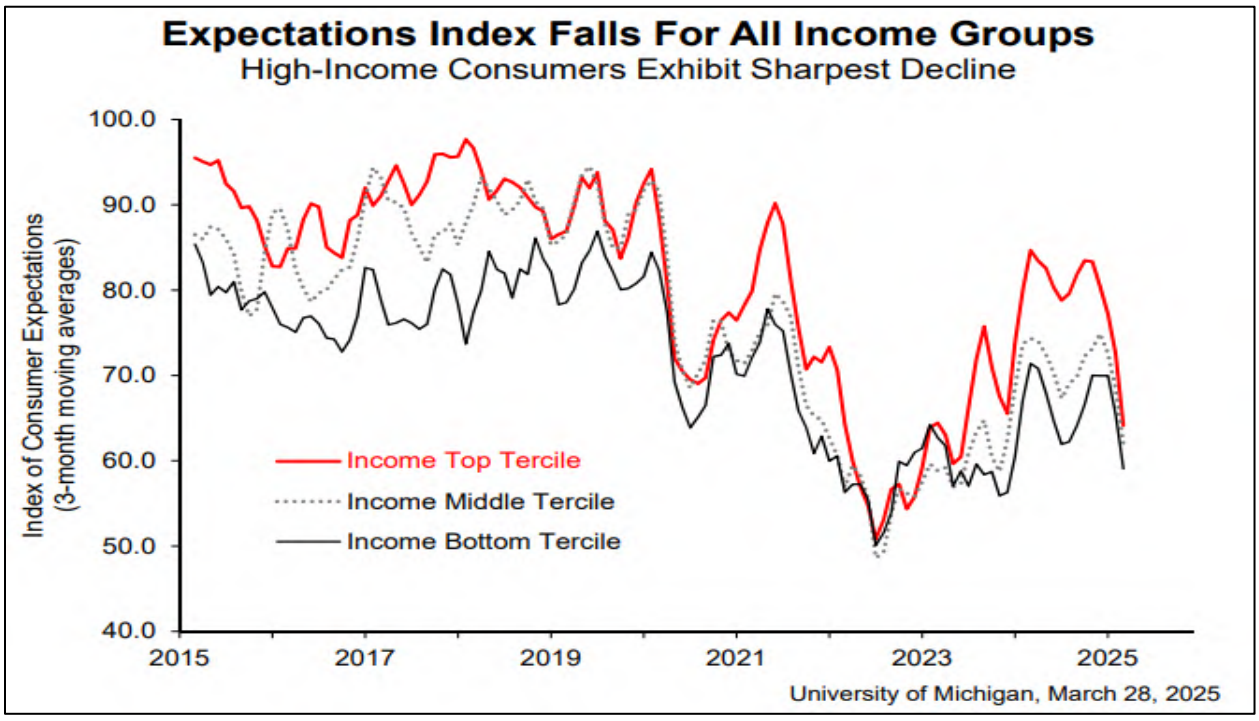
Key interest rates by sector are detailed below.

Market Indicators								
Category	As of	Latest	1 Month Ago	1 Month % Chg.		1 Year Ago	1 Year % Chg.	Freq.
Key Interest Rates								
1 Month Treasury	4/3/2025	4.38%	4.39%	▼	(0.2%)	5.49%	▼ (20.2%)	Daily
2 Year Treasury	4/3/2025	3.91%	3.96%	▼	(1.3%)	4.70%	▼ (16.8%)	Daily
10 Year Treasury	4/3/2025	4.20%	4.16%	▲	1.0%	4.36%	▼ (3.7%)	Daily
30 Year Treasury	4/3/2025	4.54%	4.45%	▼	2.0%	4.51%	▲ 0.7%	Daily
30 Year Mortgage	4/3/2025	6.64%	6.63%	▲	0.2%	6.82%	▼ (2.6%)	Weekly
US Corporate AAA	4/4/2025	4.63%	4.67%	▼	(0.9%)	4.86%	▼ (4.7%)	Daily
US Corporate BBB	4/4/2025	5.32%	5.30%	▲	0.4%	5.61%	▼ (5.2%)	Daily
US High Yield Index	4/4/2025	4.01%	2.99%	▲	34.1%	3.24%	▲ 23.8%	Daily
Effective Federal Funds	4/4/2025	4.33%	4.33%	=	0.0%	5.33%	▼ (18.8%)	Daily
SOFR	4/4/2025	4.39%	4.33%	▼	1.4%	5.32%	▼ (17.5%)	Daily

Source: FRED - St. Louis FED. 2025.

Consumer Sentiment Index

Consumer sentiment confirmed its early month reading and fell for the third straight month, plummeting 12% from February. The expectations index plunged a precipitous 18% and has now lost more than 30% since November 2024. This month's decline reflects a clear consensus across all demographic and political affiliations in expressing worsening expectations since February for their personal finances, business conditions, unemployment, and inflation. Consumers continue to worry about the potential for pain amid ongoing economic policy developments. Notably, two-thirds of consumers expect unemployment to rise in the year ahead, the highest reading since 2009. This trend reveals a key vulnerability for consumers, given that strong labor markets and incomes have been the primary source of strength supporting consumer spending in recent years.

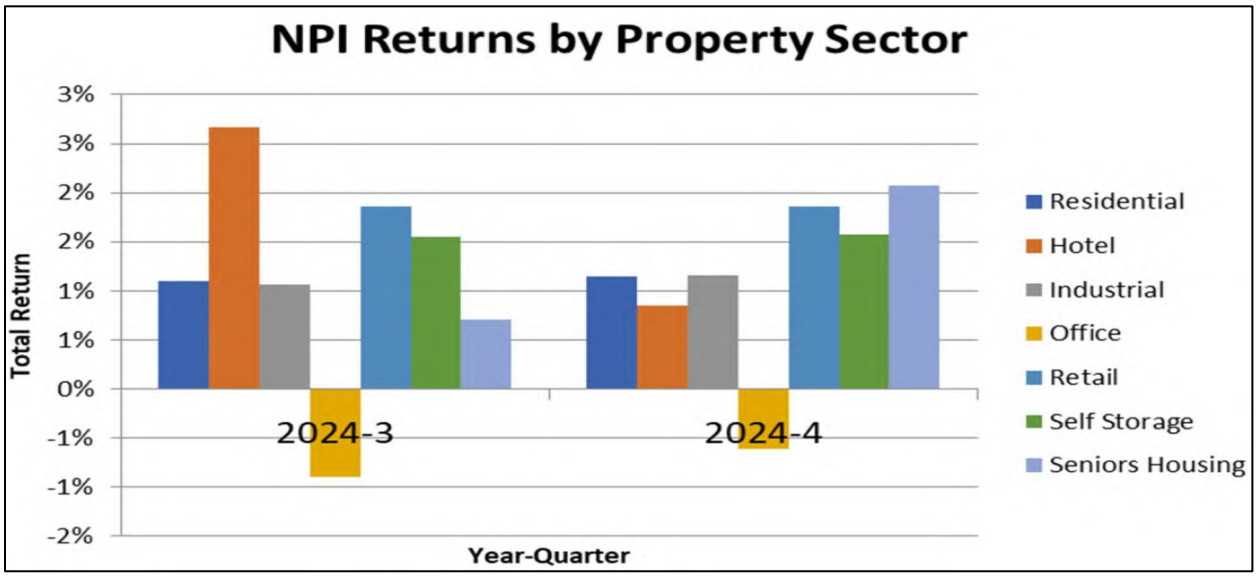


Investment

Early 2Q 2025, the S&P 500 stock benchmark has plunged into the red amid economic slowdown fears and a global trade war.

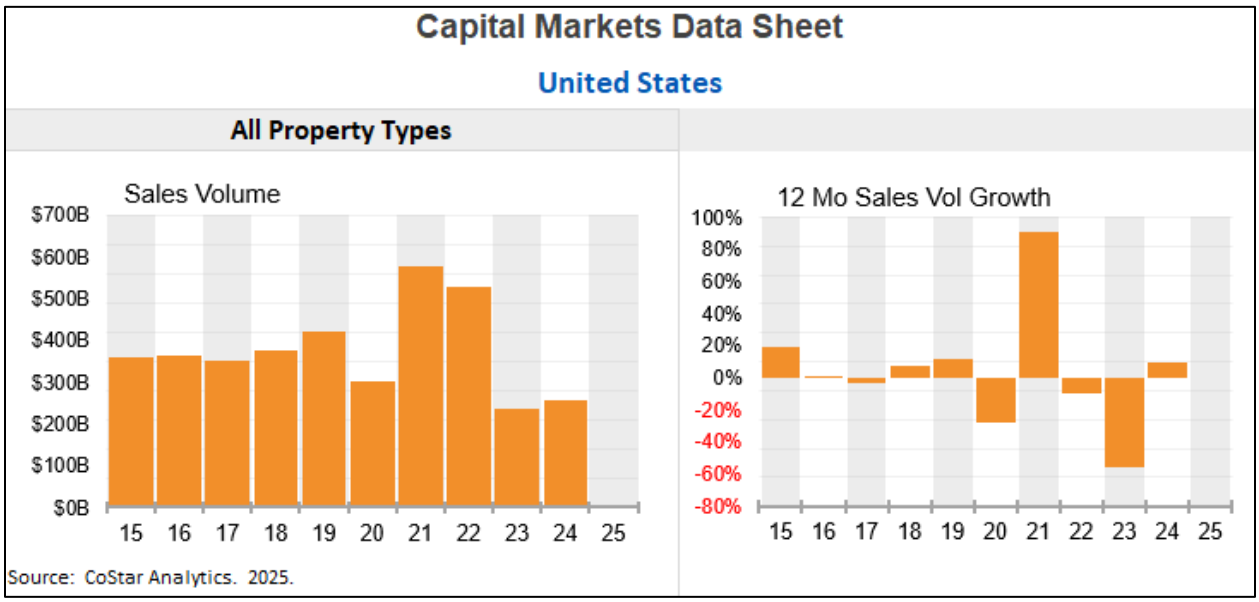
NCREIF Property Index

All property sectors were able to produce positive returns this quarter with the exception of office properties that dragged down the returns. Seniors housing took the lead with a quarterly return of 2.07% followed by retail at 1.86%, which has recovered significantly since COVID. Self-storage was in third place with a return of 1.57%. Residential properties which consist of apartments, student housing, manufactured housing and single-family rental properties had a return of 1.17%. The industrial sector, which consists mainly of warehouse properties, had the next highest return at 1.15%. Hotels fell from having the highest return of any sector in the 3rd quarter of 2024 (2.67%) to have a return of 0.85% during the 4th quarter. Finally, the office sector which has suffered from work-from-home trends that started with COVID had a negative 0.62% return which was a slight improvement over the negative 0.89% return in the 3rd quarter of 2024.



Capital Markets

According to CoStar Analytics, having decreased in 2020 by 27.8%, total commercial real estate sales volume reached a new record high of $580B in 2021. However, sales volume fell -9.2% in 2022 and closed 2023 down -55.4%, with $235B. In 2024, total commercial real estate sales volume sat at $270B.

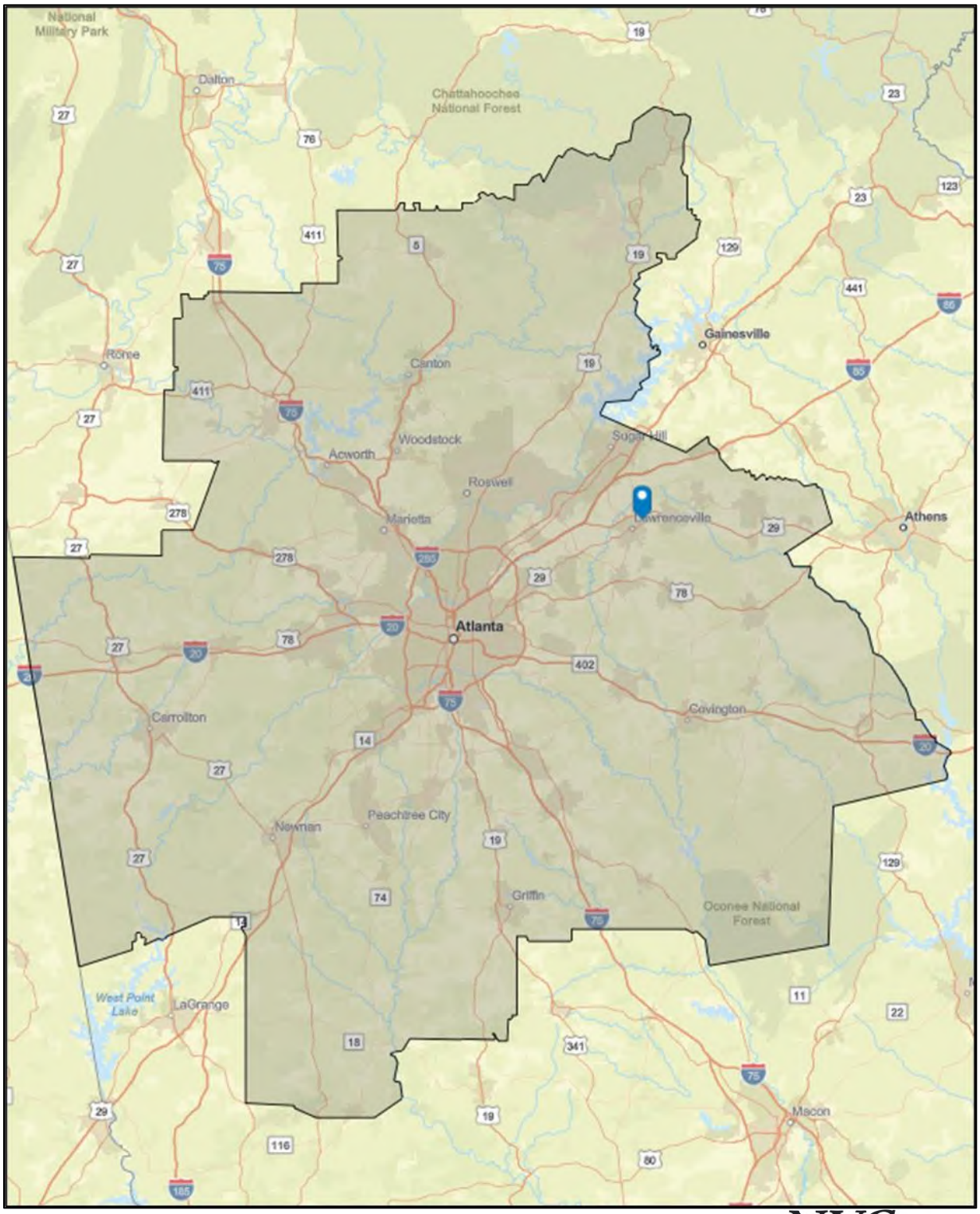


CONCLUSION

The Federal Reserve has kept interest rates at its target range of 4.25% to 4.5%, where it has sat since December 2024, but policymakers said they still see two rate cuts coming in 2025. Their economic outlook also called for higher inflation and lower economic growth. The Trump Administration's tariffs of up to 50% on imports to the US has already wiped trillions of dollars off the value of the world's biggest companies amid heightened fears of a US recession. Trump has imposed a 34% levy on goods from China on top of an earlier 20% tariff, as well as a 20% tariff on the EU, 24% on Japan, and 25% on South Korea, along with placing elevated tariff rates on dozens of nations that run trade surpluses with the US, while imposing a 10% baseline tax on imports. The effectiveness of the new tariffs in significantly reducing the US deficit and improving economic conditions remains uncertain.

Within the commercial real estate sector, industrial and apartment remain the most desirable categories and are considered the safest product types in today's shifting economy. At the same time, the fundamentals of retail have improved, though suburban locations continue to outperform central cities. The office market is the weakest sector as it will require some time for supply and demand to adjust to the new structural market realities from the pandemic; however, return-to-work mandates could possibly affect the sector positively. The hospitality industry is seeing the return of business and large conference travel, but the biggest issue the sector is suffering from currently is a talent shortage and the need to pay higher wages. Finally, the residential markets are generally healthy and could perform well throughout 2025 if interest rates continue to trend downward, though affordability remains the top concern in most markets.

Area / Subject Map



NVC
National Valuation Consultants, Inc.

Atlanta-Sandy Springs-Alpharetta, GA MSA Economic and Demographic Profile

MSA Defined: According to the U.S. Office of Management and Budget, the Atlanta-Sandy Springs-Alpharetta, GA Metropolitan Statistical Area is defined as follows.

Principal Cities: Atlanta, Marietta, Sandy Springs, Alpharetta.

Constituent Counties: Barrow County, Bartow County, Butts County, Carroll County, Cherokee County, Clayton County, Cobb County, Coweta County, Dawson County, DeKalb County, Douglas County, Fayette County, Forsyth County, Fulton County, Gwinnett County, Haralson County, Heard County, Henry County, Jasper County, Meriwether County, Morgan County, Newton County, Paulding County, Pickens County, Pike County, Rockdale County, Spalding County, Walton County.

Locational and Linkages Attributes

The Atlanta MSA is located in northwest Georgia, south of the Appalachian Mountains. Atlanta is 105 miles southeast of Chattanooga, Tennessee; 140 miles east of Birmingham, Alabama; 280 miles northwest of Jacksonville, Florida; and 200 miles east of Columbus, South Carolina.

Atlanta is the heart of the southeastern U.S. economy, and the metro area has the third highest concentration of Fortune 500 headquarters in the country, along with the world's busiest airport. The metro is home to 16 Fortune 500 Company headquarters, including Home Depot, United Parcel Service, The Coca-Cola Company, Delta Airlines, The Southern Company, WestRock, Genuine Parts, PulteGroup, Newell Brands, Veritiv, AGCO, and the NCR Corporation.

The area's strengths include its diverse economy, population growth, and transportation and distribution network. Atlanta is also the region's center for culture, healthcare, and higher education. Metro Atlanta is consistently ranked at the top of major U.S. metropolitan areas for working and living, due to its pro-business environment and various quality of life indicators.

Transportation

Four highways in the Atlanta metro area are part of the interstate highway system. North-south transportation uses I-75, while east-west travel is primarily accommodated via I-20. A southwest-northeast route is I-85, which merges with I-75 to form the Downtown Connector from the Brookwood Interchange, just north of Midtown Atlanta, to just south of the Lakewood Freeway in south Atlanta. I-285 is the beltway which encircles the city and its immediate eastern suburbs. It is commonly known as the Perimeter. I-285 passes through Clayton, Cobb, Fulton, and DeKalb counties.

The I-285 Beltway is one of the metro areas greatest economic drivers as it connects the three major interstate highways to Atlanta: I-20, I-75, and I-85. Because of suburban sprawl, it is estimated that more than two million people use the beltway each day, making it the busiest interstate in the Atlanta metropolitan area, and one of the most heavily traveled roadways in the United States.

Air Transportation

Hartsfield-Jackson Atlanta International Airport (ATL) is consistently ranked as the busiest airport in the world. In 2024, ATL served 108.0 million passengers. The airport is also the largest employer in the State of Georgia employing roughly 63,000 people. ATL has a direct economic impact of $34.8 billion for the metro Atlanta area economy.

Transit

The Metropolitan Atlanta Rapid Transit Authority (MARTA) is the principal rapid-transit system in the Atlanta metropolitan area. It is the eighth-largest rapid transit system in the United States by ridership. Formed in 1971 as strictly a bus system, MARTA's rail system consists of 47.6 miles of operational double track and 38 fully functioning stations.

MARTA operates almost exclusively in Fulton, Clayton, and DeKalb counties, with bus service to two destinations in Cobb County (Six Flags Over Georgia and the Cumberland Transfer Center) and a single rail station in Clayton County at Hartsfield-Jackson Atlanta International Airport. MARTA also operates a separate paratransit service for disabled customers. MARTA serves millions of riders each month.

The More MARTA transit improvement plan is a partnership between MARTA and the City of Atlanta that is designing and building transit projects to address the current and future transportation needs of Atlantans by increasing accessibility, mobility, and connectivity. Since 2020, MARTA has been advancing the projects in accordance with the prioritization in the sequencing plan. In the fall of 2022 at the request of the Atlanta City Council, MARTA and City leadership began discussing a possible reorganization of the program based on available funding. The City of Atlanta and MARTA propose separating the projects into two tiers. Tier I are projects that will be delivered in a first phase. Tier II projects will be initiated at a later date as additional funding from the tax is available.

In 2020 MARTA submitted their MARTA 2040 proposal. This proposal presents the kind of critical, equitable and transformative transit investments that MARTA should make to continue thriving over the next 20 years. Some are long-proposed expansions, both to the heavy rail network and new light rail lines. Others are significant new routes that will provide crucial connections to major growth areas, many long underserved, and will be necessary to accommodate the anticipated doubling of the city's population over the next 25 years, with significant growth throughout the surrounding suburbs as well.

BeltLine

The BeltLine is a former railway corridor around the core of Atlanta under development in stages as a multi-use trail. The BeltLine will feature a continuous path encircling the central part of the city, generally following the old railroad right of way, but departing from it in several areas along the northwest portion of the route. In total, 33 miles of multi-use paths are to be built, including spur trails connecting to neighborhoods. The BeltLine is one of the primary economic drivers for investment and development currently within the metro.

Port of Savannah Statistics

Even though the Port of Savannah is located outside of the Atlanta Metro, it is a major factor in helping drive the metro. Many companies, such as Mercedes Benz, have relocated to the Atlanta metro, due to the proximity to the port.

The port offers immediate access to two major interstates (Interstates 16 and 95), 9,700 feet of contiguous berth space, and over 3.0 million SF of warehouse space is available within 30 miles of the Port. The Port is currently expanding; and the Savannah Harbor Expansion Project (SHEP) will deepen the Savannah Harbor federal shipping channel from a depth of -42 feet to -47 feet. Studies demonstrate the deepening will produce substantial economic benefits for the nation by enabling larger and more heavily loaded vessels to call on the harbor with fewer tidal delays. The construction phase of the project was completed in 2022.

Port of Savannah Statistics

The Georgia Ports Authority handled a record 775,564 units of autos and machinery in Calendar Year 2023 (CY23), an increase of 15.6% over the previous year. Total tonnage receded 0.7% from 38.5 million short tons in CY19 to 38.3 million short tons in CY23. Container tonnage comprised 88% of total tonnage during CY23.

Total Annual Tonnage for Calendar Years 2019 through 2023 (in Short Tons)

Type	2019	2020	2021	2022	2023	% Growth (5 Years)
Container	33,939,453	34,096,168	37,131,419	37,435,473	33,880,336	(0.2%)
Non-Container	4,608,360	4,338,049	4,484,172	4,959,314	4,413,739	(4.2%)
Total	38,547,813	38,434,217	41,615,591	42,394,787	38,294,075	(0.7%)

Source: GPA Marketing, 2025.

Port of Savannah Expansion

In 2023, the Port of Savannah announced plans for a new 395-acre cargo container terminal planned for an island in the middle of the Savannah River. The facility is to be built on land the port authority owns in the shadow of Savannah's Terminal Bridge on Hutchinson Island. The ports authority plans to build three berths for freighters to dock on a swath of land upriver from the already built Savannah Convention Center.

Global trade is a growing part of the Georgia economy, effecting all major markets within the state. A 2022 report by the University of Georgia concluded that the state's deep-water ports in Savannah and Brunswick support 561,000 jobs across the state, and this expansion could continue to grow that number.

According to the permit, the GPA intends to begin construction on the cargo facility in the spring of 2025 in anticipation of a 2030 opening. The new terminal, the third in a complex that has grown into the nation's third busiest port, will increase the Port of Savannah's capacity by 3.0 million containers annually.

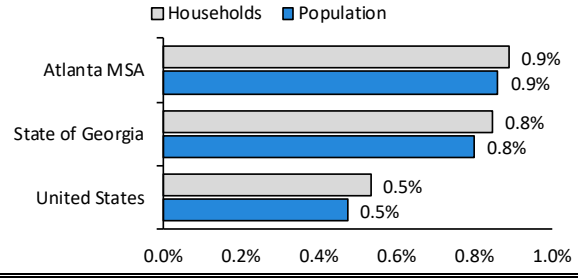
Demographic Overview

The following table provides a summary of key demographic characteristics within the Atlanta MSA, the State of Georgia, and the nation.

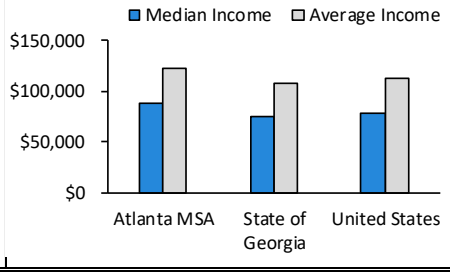
Regional Demographic Summary

	Atlanta MSA	State of Georgia	United States
Population			
2020 Census	6,104,803	10,711,908	331,449,281
2025 Estimate	6,421,346	11,217,400	337,643,652
2030 Projection	6,703,084	11,673,844	345,735,705
2020 - 2025 % Annual Change	1.0%	0.9%	0.4%
2025 - 2030 % Annual Change	0.9%	0.8%	0.5%
Average Age	38.9	39.4	40.6
Median Age	38.2	38.3	39.6
Households			
2020 Census	2,263,043	4,020,808	126,817,580
2025 Estimate	2,382,238	4,225,055	129,687,464
2030 Projection	2,490,075	4,407,217	133,186,678
2020 - 2025 % Annual Change	1.0%	1.0%	0.4%
2025 - 2030 % Annual Change	0.9%	0.8%	0.5%
2025 Average Household Size	2.7	2.6	2.5
Income			
2025 Estimated Median Household	$87,947	$75,118	$78,426
2025 Estimated Avg. Household	$122,876	$106,817	$113,181
% Under $50,000	27.5%	33.7%	32.5%
% $50,000 - $100,000	28.8%	29.2%	28.2%
% Over $100,000	43.6%	37.1%	39.3%

Annual Growth Projections (2025 - 2030)



Household Income Comparison



Environics Analytics, 2025

Population Trends

The Atlanta MSA has recorded annual population growth of 1.0% since 2020, which has surpassed population growth in the State of Georgia as a whole. Over the next five years, the Atlanta MSA is expected to see annual growth slow to 0.9%, which is above the projected rate of the State of Georgia.

Income Demographics

When compared to the State of Georgia overall, a relatively large portion of households in the Atlanta MSA earn more than $100,000 annually (43.6%). Within the State of Georgia, only 37.1% fall within this income bracket.

Area Housing Stock

The majority of housing in the Atlanta MSA is concentrated in single-family homes which constitute 72.2% of inventory. Overall, a similar proportion of households in the Atlanta MSA rent housing compared to the State of Georgia; home-ownership levels are estimated at 63.0% and 63.2% in the Atlanta MSA and State of Georgia, respectively. At $424,950, the estimated value of owner-occupied homes in the Atlanta MSA is higher than the State of Georgia median of $350,628.

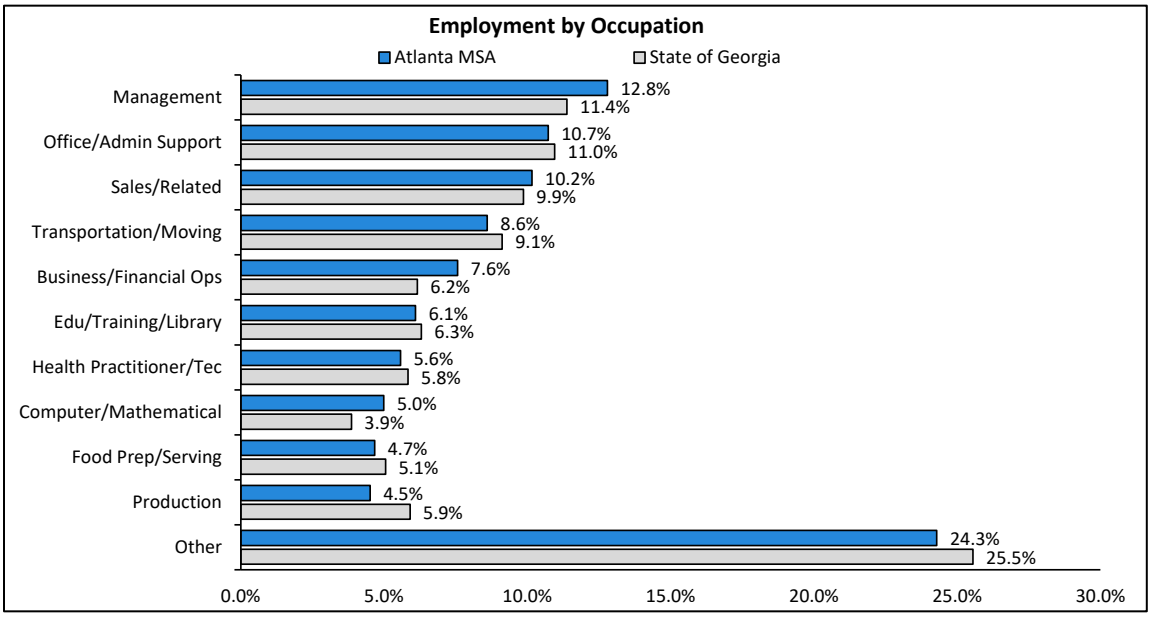
2025 Housing Stock, Home Ownership, & Values

	Atlanta MSA		State of Georgia	
Housing Structure	Totals	% of Total	Totals	% of Total
1 Unit Detached/Attached	1,841,711	72.2%	3,276,359	70.7%
2-3-4 Units	92,899	3.6%	227,600	4.9%
5-19 Units	270,156	10.6%	407,877	8.8%
20 or more Units	273,661	10.7%	338,190	7.3%
Mobile Home, Trailer, Other	70,912	2.8%	381,649	8.2%
TOTAL	2,549,339	100.0%	4,631,675	100.0%
Home Ownership Levels	% Owner	63.0%	% Owner	63.2%
	% Renter	37.0%	% Renter	36.8%
Median Year Structure Built		1994		1992
Median Value of Owner-Occupied Homes		$424,950		$350,628

Environics Analytics, 2025

Employment by Industry Sector

Top employment sectors in the Atlanta MSA include Management (12.8%), Office/Admin Support (10.7%), and Sales/Related (10.2%). Together, these three sectors constitute 33.7% of total employment. When compared with the State of Georgia, the Atlanta MSA has a higher proportion of residents in the Management occupation (12.8%).



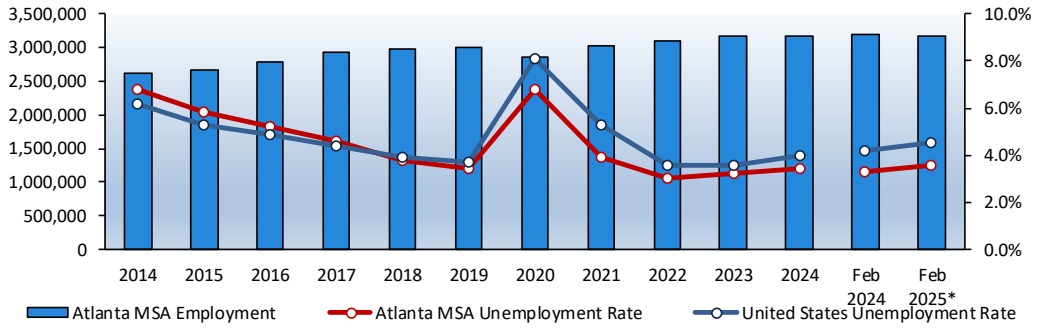
Resident Employment Trends

The Atlanta MSA is currently exhibiting an unemployment rate of 3.6% as of February 2025. In 2024, the total number of employed residents in the Atlanta MSA grew by 17,406. Over the 12-month trailing period through February 2025, resident employment growth slowed as the number of employed residents declined by 18,216.

The total number of employed residents in the Atlanta MSA is now 0.4% lower than the recent peak reached in 2024. When compared to the State of Georgia, the Atlanta MSA's unemployment rate is lower, and unemployment in the Atlanta MSA is 0.9 percentage points below the nation.

Resident Employment Trends

Year	Atlanta MSA		State of Georgia	United States
	Employment	Unemployment Rate	Unemployment Rate	Unemployment Rate
2014	2,622,193	6.8%	7.1%	6.2%
2015	2,660,068	5.8%	6.1%	5.3%
2016	2,792,589	5.2%	5.4%	4.9%
2017	2,924,477	4.6%	4.8%	4.4%
2018	2,965,543	3.8%	4.0%	3.9%
2019	3,004,405	3.4%	3.6%	3.7%
2020	2,861,186	6.8%	6.5%	8.1%
2021	3,016,423	3.9%	3.9%	5.3%
2022	3,103,654	3.0%	3.2%	3.6%
2023	3,160,175	3.2%	3.3%	3.6%
2024	3,177,581	3.5%	3.5%	4.0%
Most Current Data				
Feb 2024	3,183,187	3.3%	3.4%	4.2%
Feb 2025*	3,164,971	3.6%	3.7%	4.5%



Source: U.S. Bureau of Labor Statistics, 04/2025. The preceding data reflects all BLS revisions to date.
* - Preliminary data

Consumer Price Index (CPI) Trends

The Consumer Price Index (CPI) is a measure of the average change over time in the prices paid by urban consumers for consumer goods and services and serves as an economic indicator. The CPI is the most widely used measure of inflation and provides information about price changes in the Nation's economy to government, business, and private citizens.

Price indexes are available for the U.S., the four Census regions, size of city, cross-classifications of regions and size-classes, and for 26 local areas. Indexes are available for major groups of consumer expenditures (food and beverages, housing, apparel, transportation, medical care, recreation, education and communications, and other goods and services), for items within each group, and for special categories, such as energy.

The CPI for the Atlanta CSA recorded an increase of 3.5% annually for "All Items" during the period 2015-2024, which was above the U.S. (Class A) CPI growth rate for "All Items" during the same period. From February 2024 to February 2025, the Atlanta CSA CPI increased by 2.1%, which was below the U.S. (Class A) CPI of 3.0% over the same time period.

Comparative CPI Trends
Atlanta CSA and U.S. (Class A)

	All Items	
Year	Atlanta CSA	U.S. (Class A)
2015	221.6	217.1
2016	225.5	220.3
2017	232.9	225.4
2018	238.6	231.3
2019	243.7	235.9
2020	246.7	239.0
2021	261.6	249.1
2022	289.7	268.6
2023	303.9	280.0
2024	311.9	289.0
Annual Change	3.5%	2.9%
2023-2024	2.6%	3.2%
Partial Year Comparison		
Feb-24	309.9	285.6
Feb-25	316.4	294.1
Annual Change	2.1%	3.0%

Source: U.S. Bureau of Labor Statistics, 2Q 2025.
Atlanta CSA Base Period: 1982-1984 = 100
U.S. (Class A) Base Period: December 1986 = 100

The BLS divides the nation into several Combined Statistical Areas (CSAs). CSAs are larger than Metropolitan Statistical areas (MSAs) because they are intended to give a regional picture. For markets that do not fall within these CSAs, the BLS has defined these as being Class A, Class B/C, or Class D, depending on population. Size Class A is defined as having a population of more than 1.5 million. Size Class B/C is defined has having a population between 50,000 and 1.5 million. Size Class D is defined as having a population of less than 50,000.

Microsoft East Coast Hub

Microsoft announced it will develop a major East Coast hub in Atlanta that will feature high-paying jobs, affordable housing, and a plan for broad, long-term community revitalization in Grove Park, one of the city's poorest neighborhoods. Microsoft also announced it is establishing metro Atlanta as its next U.S. data center region, with new projects in Fulton and Douglas counties. Fulton County began working last year on property tax incentives to support construction of the two $420 million data centers.

Microsoft purchased another 17 acres in south Fulton County in 2022, as the tech giant builds out its Atlanta data center region. Microsoft bought about 7.0 acres from for $1.1 million and another 10 acres from for $1.0 million, according to Fulton County property deeds. Confirmation of Microsoft's expansion comes about a month after it purchased additional land for its 90-acre Grove Park campus by Bellwood Quarry and the Bankhead MARTA station. It gives Microsoft an opportunity to expand significantly beyond the 2,500 jobs it recently added in Atlanta by bolstering the cloud computing division in Midtown's Atlantic Station.

It should be noted that in February 2023, Microsoft paused the planning process on what was expected to be a 90-acre campus in Grove Park. The current pause was attributed to the recent layoff of some 10,000 employees within the United States, in hopes of cutting costs. In the statement released by Microsoft the company stated that the Grove Park acreage is not for sale, that planning efforts are expected to resume "when expansion is warranted," and that a quarter of the 90 acres is still intended to be set aside for "community needs," with a goal of creating "a positive impact in the region."

Facebook Data Center

Facebook is behind the massive data center campus proposed along Interstate 20 east of Atlanta. The project would cover almost 630-acres at a development about an hour east of Hartsfield-Jackson International Airport that already includes two Facebook data centers. Facebook's expansion is valued at $42 billion by the Joint Development Authority of Jasper, Morgan, Newton, and Walton counties, which owns Stanton Springs, the development where the new data centers will be built.

Demand for data centers continues to soar throughout the Atlanta metro area. Last month, Microsoft announced that they were establishing metro Atlanta as its next U.S. data center region and has projects planned for Fulton and Douglas counties. Facebook recently completed construction that expanded its Stanton Springs data center campus in 2023. This project was a $1 billion investment.

For this proposed data center campus, Facebook will receive 20 years of tax abatements worth a minimum of $71 million. In exchange, the company will make annual rent payments on the project, according to the bond agreement. That 20-year period abatement period starts by April 2027, or when the first phase of the project, a 900,000-square-foot building worth an estimated of $750 million, is finished, according to the bond agreement.

Each subsequent phase, estimated at $550 million, will include 400,000 square feet of additional data center space. Over that same 20-year period, Facebook must make $88 million of annual rent payments, whether all the buildings are constructed or not, according to the bond agreement.

Google Expansion

Tech giant Google will occupy 19 stories, or 500,000 square feet, of 1105 West Peachtree. The company moved into the first five floors, or 150,000 square feet, of 1105 West Peachtree in 2021 and will continue expanding the office into the future. Google released details of its Atlanta expansion after announcing a nationwide plan to invest more than $7.0 billion in its offices and data centers and create at least 10,000 new full-time roles in New York, Chicago, Washington D.C., and Atlanta over the next several years. According to current data, Google employs over 1,000 full-time employees in the Atlanta area, but its new West Peachtree office has the potential to hold up to 2,500 workers moving forward.

Google's decision cements the Atlanta metro as an East Coast tech hub. Fellow tech giants Microsoft and Airbnb are also planning hubs, and the area's technology industry may be on the cusp of exponential growth. Tech companies can also feed off the energy of Midtown's Tech Square, where Georgia Tech, startups and corporations combine their strengths to create one of the region's top innovation districts.

Hyundai Motors Manufacturing Facility

In 2022 Hyundai Motors announced plans to build a $5.5 billion manufacturing facility near Savannah. The site will employ 8,100 workers between an electric vehicle assembly plant and an adjacent EV battery factory, making it the largest single economic development project in Georgia history. The facility will be located off Interstate 16 near Ellabell, an unincorporated community in northern Bryan County.

A ground breaking ceremony was held in October 2022. The factory, where electric Hyundai, Kia and Genesis models will roll off the assembly line, is expected to open in the first quarter of 2025, produce 300,000 battery-powered vehicles a year in its first phase. State and local leaders have touted Hyundai's on-site jobs and investment as well as commitments to bring thousands more jobs at suppliers around Georgia as justification for a record-breaking $1.8 billion incentive package. Parts supplier Hyundai Mobis is said to be scouting sites near the future Hyundai factory.

In August 2023 it was announced that Hyundai Motor Group and LG Energy Solution plan to invest another $2 billion and create 400 more jobs at their joint battery manufacturing plant in Savannah. That adds to the $5.5 billion and 8,100 jobs Hyundai is already planning at its Savannah "Metaplant," where the automaker plans to manufacture 300,000 electric vehicles per year by the end of first quarter in 2025. The Savannah plant now represents a $7.59 billion investment that is set to create 8,500 jobs in the next eight years.

CONCLUSION

The Atlanta Metro boasts lower living and business costs than large East and West Coast metros, and this competitive advantage continues to boost population and job growth. The Atlanta region has drawn some of the strongest in-migration in the country over the past few decades, and many employers have openly stated that moving all or a portion of their operations to the Atlanta Metro saved them millions without sacrificing access to high-quality labor.

Corporate migration to the Atlanta Metro's suburbs has been relatively slower following State Farm's major expansion in Perimeter Center in the late 2010s, but the region's northern suburbs have still landed a handful of name brand firms in recent years. Newell Rubbermaid chose to expand and consolidate its offices into the iconic Queen building and AIG is creating 600 jobs at their innovation hub at Perimeter Summit. The Battery in Cumberland/Galleria landed TK Elevator, Truist Securities and Papa Johns, while FinTech firm Deluxe Corporation opened a large office in Central Perimeter. Further north in Alpharetta, Morgan Stanley originally signed for 100,000 SF at The Edison before deciding to double its footprint at that development in mid-2023.

On the industrial side, the Atlanta Metro is a major regional and national distribution hub that benefits from its robust road and rail infrastructure and proximity to the fast-growing Port of Savannah. Industrial sector growth has slowed compared to the frenzied pace recorded during the pandemic, but the region continues to score large manufacturing and distribution facilities from multinational firms. Hiring by companies like Amazon, Home Depot, HelloFresh, Freshly, Purple Mattress, and Goodyear, among others, has helped boost blue-collar job growth in recent years. While Rivian's much-anticipated auto plant is on hold for now, the greater Atlanta region has landed several large manufacturing projects in recent years, highlighted by SK Battery's $1.7 billion plant in Commerce.

The Atlanta Metro has a lower concentration of education and health services employment than the national average, but that sector has seen substantial job growth over the past few years. Multiple healthcare systems are constructing new facilities, and the sector is poised to grow to serve the metro's growing population adequately. Emory University Hospital Midtown completed its $500 million Winship Cancer Institute tower in 2023, and Children's Healthcare of Atlanta has recently opened its new $1.5 billion Arthur M. Blank Hospital in Brookhaven.

The busiest airport in the world, Hartsfield-Jackson Atlanta International Airport, is a significant factor in helping Atlanta attract residents and corporations. The airport and generous tax incentives have also helped the region's growing film and entertainment industry, which is responsible for $3 billion in annual direct spending in the state. However, the local film industry has recently struggled to land major productions due to a slower than-anticipated rebound from the 2023 writers and actors' strike. Despite this the overall positive trends shown throughout this analysis give the Atlanta Metro a favorable outlook going forward.

Market Area Map

NVC
National Valuation Consultants, Inc.

Market Area Analysis

Description of Market Area

The subject properties are located at 450, 510, and 520 Briscoe Boulevard, in the City of Lawrenceville, Gwinnet County, Georgia. The market area has been defined as the five-mile radial area surrounding the subject properties. A map of the market area is provided on the preceding page.

The City of Lawrenceville is the county seat of Gwinnett County. Nearby cities include Dacula to the east, Buford to the north, Suwanee to the north-northwest, Duluth to the northwest, Norcross to the west, Lilburn to the southwest, Snellville to the south, and Grayson to the southeast. The city is home to the Georgia Gwinnett College, and many students, educators, and other professionals have been drawn to the area because of this. The city's downtown remains centered around the original town square and offers many attractions that draw visitors to the area.

The area immediately surrounding the subject properties mainly consists of numerous industrial properties and the Gwinnett County Airport. Extending outwards from the subjects is primarily retail and single-family master-planned residential neighborhoods. The subject properties are not located within an Opportunity Zone.

Linkages and Locational Attributes

The main transportation arterials within the market area include U.S. Route 29, and State Route 124. U.S. Route 29 (US 29) in the state of Georgia, is a north–south United States Numbered Highway that runs southwest to northeast from West Point at the Alabama state line to the South Carolina state line, near Lake Hartwell. SR 124 is a 51.1-mile-long state highway that runs southwest-to-northeast through portions of Gwinnett County connecting to other areas of the Atlanta metro.

Public Transportation

Xpress GA/RTA commuter buses and Ride Gwinnett serve the market area. Ride Gwinnett has five local bus routes and five express bus routes. As part of the approved 2023 budget, Ride Gwinnett plans to add service to new areas of Gwinnett County. Transit will expand in Snellville, Stone Mountain, Buford, and Suwanee with extended service in Lawrenceville, Lilburn, and Duluth.

Air Transportation

Hartsfield-Jackson Atlanta International Airport (ATL) is located approximately 46.0 miles southwest of the subject properties. It is consistently ranked as the world's busiest airport, accommodating approximately 108.1 million passengers in 2024. The airport is also one of the largest employers in the State of Georgia employing over 60,000 people. ATL has a direct economic impact of more than $32.5 billion for the metro Atlanta area economy.

Gwinnett County's only public Airport, *Gwinnett County Airport-Briscoe Field*, is located in Lawrenceville (adjacent to the subjects). The airport primarily serves general aviation aircraft, and also has flight-training. This airport has a 6,000-foot runway and offers commercial flights for the area.

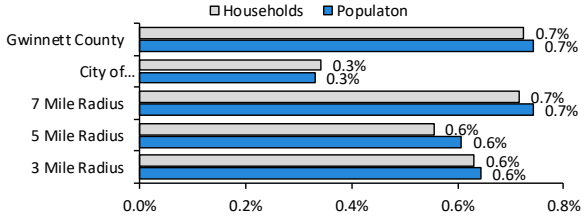
Demographic Overview

The following table provides a summary of key demographic statistics for the subjects' three-, five-, and seven-mile radial areas, along with comparable data for the City of Lawrenceville, and Gwinnett County.

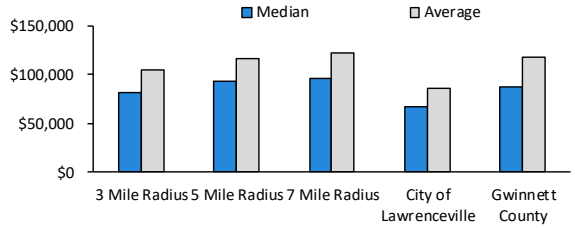
Market Area Demographic Summary

	3 Mile Radius	5 Mile Radius	7 Mile Radius	City of Lawrenceville	Gwinnett County
Population					
2020 Census	59,859	175,444	323,247	30,629	957,062
2025 Estimate	61,564	180,908	338,496	30,949	997,660
2030 Projection	63,570	186,470	351,246	31,463	1,035,210
2020 - 2025 % Annual Change	0.6%	0.6%	0.9%	0.2%	0.8%
2025 - 2030 % Annual Change	0.6%	0.6%	0.7%	0.3%	0.7%
Households					
2020 Census	18,614	55,461	103,446	10,248	316,708
2025 Estimate	19,082	56,846	108,030	10,331	329,412
2030 Projection	19,692	58,439	111,951	10,509	341,526
2020 - 2025 % Annual Change	0.5%	0.5%	0.9%	0.2%	0.8%
2025 - 2030 % Annual Change	0.6%	0.6%	0.7%	0.3%	0.7%
2025 Average Household Size	3.1	3.1	3.1	2.9	3.0
Income					
2025 Estimated Median Household	$80,672	$92,589	$95,712	$67,462	$87,840
2025 Estimated Avg. Household	$104,417	$115,598	$122,277	$85,972	$117,461
% Under $50,000	29.1%	24.6%	22.9%	37.9%	26.8%
% $50,000 - $100,000	31.2%	29.5%	29.5%	30.5%	30.0%
% Over $100,000	39.8%	45.9%	47.6%	31.6%	43.2%

Annual Growth Projections (2025 - 2030)



Household Income Comparison



Environics Analytics, 2025

Population Trends

The market area has experienced annual population growth of 0.6% since 2020, which has remained below population growth in Gwinnett County as a whole. Over the next five years, the market area is expected to see annual growth remain at 0.6%, which is lower than the projected rate of Gwinnett County.

Income Demographics

When compared to Gwinnett County overall, a relatively large portion of households in the market area earn more than $100,000 annually (45.9%). Within Gwinnett County, only 43.2% fall within this income bracket.

Area Housing Stock

The majority of housing in the market area is concentrated in single-family homes which make up 85.4% of inventory. Overall, a lower share of households in the market area rent housing compared to Gwinnett County; home-ownership levels are estimated at 71.3% and 65.3% in the market area and Gwinnett County, respectively. At $426,550, the estimated value of owner-occupied homes in the market area is below the Gwinnett County median of $441,747.

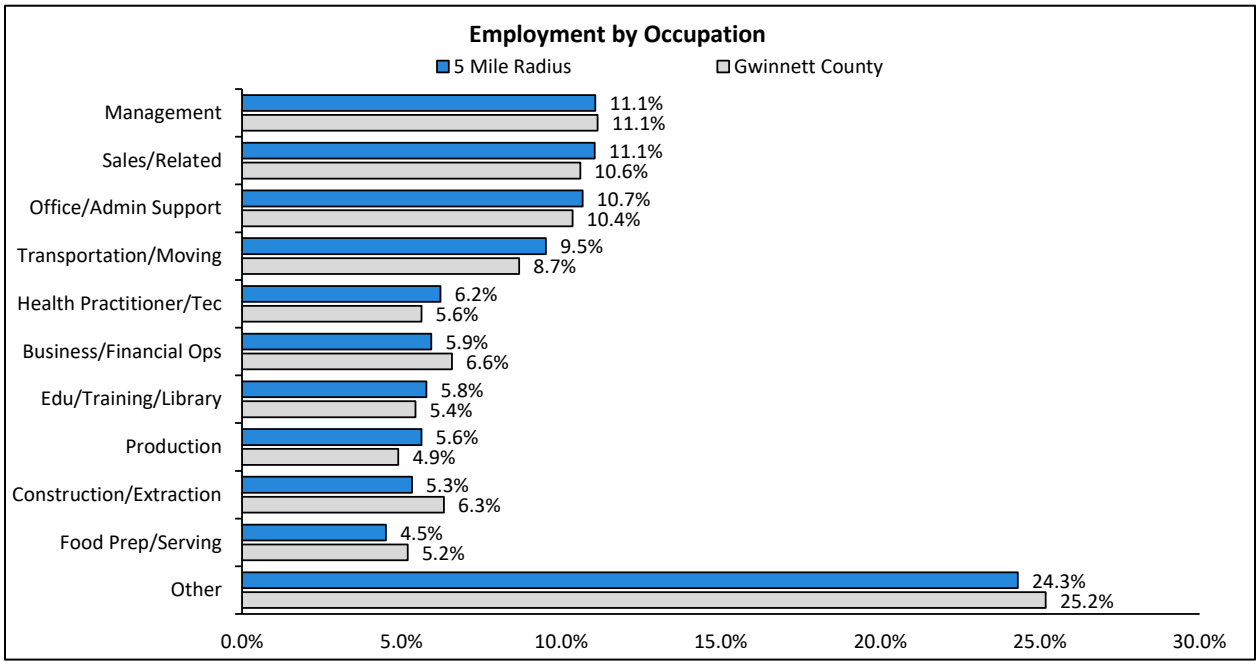
2025 Housing Stock, Home Ownership, & Values

	5 Mile Radius		Gwinnett County	
Housing Structure	Totals	% of Total	Totals	% of Total
1 Unit Detached/Attached	50,611	85.4%	268,419	77.9%
2-3-4 Units	1,600	2.7%	11,008	3.2%
5-19 Units	3,417	5.8%	34,230	9.9%
20 or more Units	2,990	5.0%	25,308	7.3%
Mobile Home, Trailer, Other	638	1.1%	5,648	1.6%
TOTAL	59,256	100.0%	344,613	100.0%
Home Ownership Levels	% Owner	71.3%	% Owner	65.3%
	% Renter	28.7%	% Renter	34.7%
Median Year Structure Built		1998		1996
Median Value of Owner-Occupied Homes		$426,550		$441,747

Environics Analytics, 2025

Resident Employment by Occupation

Top employment sectors in the market area include Management (11.1%), Sales/Related (11.1%), and Office/Admin Support (10.7%). Together, these three sectors comprise 32.8% of total employment. When compared with Gwinnett County, the market area has a higher percentage of residents in the Transportation/Moving occupation (9.5%).



Principal Employers

The principal employers for the City of Lawrenceville, according to the city's most recent *Comprehensive Annual Financial Report,* is presented in the table below.

City of Lawrenceville - Principal Employers

Employers	# of Employees
Walmart Stores East, LP	688
Lundt International (Auto Ventshade)	408
Nartional Vision	274
Averitt Express	244
Coca Cola Bottling Company United East LLC.	176
Hayes Chrysler Dodge Jeep Inc.	175
Gunter Construction Company Inc.	167
Aramark-Educational Services LLC	160
Life Care Center of Lawrenceville	142
Encompass Supply Chain Solutions	141

Source: City of Lawrenceville CAFR, 2025.

Market Drivers

Northside Hospital Gwinnett: Located in central Gwinnett County, Northside Hospital Gwinnett is a Level II Trauma Center that offers nationally recognized and renowned health care services. The 388-bed hospital includes the Strickland Heart Center's cardiovascular specialties, the Gwinnett Women's Pavilion, cancer genetic testing, and has 1,200 physicians and more than 5,200 employees. In late 2022, the hospital received permission to add 17 stories to its campus, adding almost 700 beds in the process. Upon expected completion by the end of 2025, the Gwinnett Campus will be the largest facility in the Northside Hospital System.

Downtown Lawrenceville & Gwinnett County Airport: The Downtown Lawrenceville area offers a variety of restaurants, retailers, and entertainment options. Attractions include the Aurora Theatre and the Lawrenceville City Lake. A short drive away from the downtown area is the *Gwinnett County Airport,* also known as Briscoe Field, serves as a key general aviation facility for Gwinnett County and the surrounding Atlanta metropolitan area. With its close proximity to major highways, Briscoe Field supports local economic activity by providing critical aviation services for businesses, flight schools, and recreational pilots.

Retail: Lawrenceville is home to a number of shopping centers. These include Sugarloaf Crossing, the Lawrenceville Market Shopping Center, and Sugarloaf Mills. The Lawrenceville Market Shopping Center is anchored by Target, Hobby Lobby, Marshals, Ross, Home Depot, and Petsmart. The shopping center also features an 18-screen movie theater. Inside the market area in neighboring Buford is the Mall of Georgia, the largest indoor mall in the state that features a village section with a 500-seat amphitheater.

Higher Education: Lawrenceville is home to several higher education opportunities, including Georgia Gwinnett College, which is the first four-year public college created in the 21st Century and Georgia's first four-year public college to be established in over 100 years. The college opened in 2006 and is a four-year public college and a member of the University System of Georgia. There are now more than 12,000 students enrolled at the college. The university recently completed a new multipurpose convocation center that is expected to play host to future orientations, commencement ceremonies, and concerts.

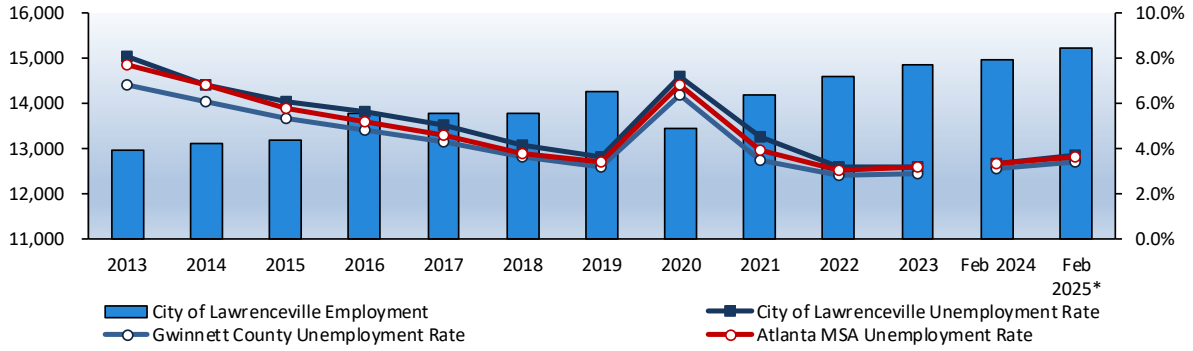
Resident Employment Trends

The City of Lawrenceville is currently exhibiting an unemployment rate of 3.7% as of February 2025. In 2023, the total number of employed residents in the City of Lawrenceville grew by 269. Over the 12-month trailing period through February 2025, resident employment growth accelerated as the number of employed residents grew by 286.

The total number of employed residents in the City of Lawrenceville is now 2.6% above the recent peak reached in 2023. When compared to Gwinnett County, the City of Lawrenceville's unemployment rate is higher, but unemployment in the City of Lawrenceville is 0.8 percentage points lower than the nation.

Resident Employment Trends

Year	City of Lawrenceville		Gwinnett County		Atlanta MSA
	Employment	Unemployment Rate	Employment	Unemployment Rate	Unemployment Rate
2013	12,940	8.1%	407,996	6.8%	7.7%
2014	13,088	6.8%	416,818	6.1%	6.8%
2015	13,167	6.1%	423,916	5.3%	5.8%
2016	13,762	5.6%	444,486	4.8%	5.2%
2017	13,762	5.0%	464,622	4.3%	4.6%
2018	13,769	4.1%	469,890	3.6%	3.8%
2019	14,264	3.6%	474,656	3.2%	3.4%
2020	13,434	7.2%	449,990	6.4%	6.8%
2021	14,171	4.5%	474,658	3.5%	3.9%
2022	14,577	3.2%	488,271	2.8%	3.0%
2023	14,846	3.2%	497,273	2.9%	3.2%
Most Current Data					
Feb 2024	14,949	3.3%	500,734	3.1%	3.3%
Feb 2025*	15,235	3.7%	495,683	3.4%	3.6%



Source: U.S. Bureau of Labor Statistics, 04/2025. The preceding data reflects all BLS revisions to date.

* - Preliminary data

CONCLUSION

Lawrenceville, located in Gwinnett County, is a suburban city northeast of Atlanta. The city's economy is varied, with a mix of industries including healthcare, education, manufacturing, and retail. Over the years, Lawrenceville has experienced steady population growth. This growth, in turn, has led to increased development and infrastructure improvements in the area. Lawrenceville has an abundance of retail and entertainment options that continue to draw visitors to the region. The city is also home to Georgia Gwinnett College.

The market area offers an extensive transportation infrastructure including several public transportation options, interstates, and suburban location in the Greater Atlanta area. The market area has experienced a modest annual population growth of 0.6% since 2020. Over the next five years, this rate is expected to continue at the same rate of 0.6%, which is above the City of Lawrenceville but slightly below Gwinnett County projected growth.

Unemployment within the region has shrunk significantly since year-end 2020. The total number of employed residents is also at an all-time high as of preliminary February 2025 data. Overall, the market area serves a large population base, current and projected population growth, prospects for continued commercial development within the area, and suburban location. As a result, the overall outlook for the market area remains favorable.

State of Georgia Tax and Assessment Analysis

OVERVIEW OF TAX SYSTEM

According to the State of Georgia's Property Tax Valuation, the state has provided for a unified system of taxation for the assessment of real estate property taxes. An appraisal district is established on a county basis for assessing real estate within the county. The individual taxing authorities within the county set their own mill rates. Because county appraised value is typically the result of a mass appraisal process based more on statistical probability rather than individual property characteristics, it should be noted that there is frequently a difference between county appraised value and market value for an individual property.

Overview of Valuation, Assessments and Taxes

In Georgia, the appraiser establishes a full market value for each parcel, and an assessed value is determined by multiplying this by an assessment ratio. Commercial property is assessed at 40% of actual market value. This assessed value is then divided by 1,000 and multiplied by the mill levy to determine taxes due.

Assessed values are established at the beginning of each calendar year based on the status of the property as of January 1.

In the following section we present additional details pertaining to property taxes in Georgia followed by details of the subject's actual valuation and resulting taxes.

GEORGIA DEPARTMENT OF REVENUE - PROPERTY TAX DIVISION

All real property and all personal property are taxable unless the property has been exempted by law. In general, real property is defined as land and anything that is erected, growing or affixed to the land. Personal property is everything that can be owned that is not real estate.

Property taxes are charged against the owner of the property on January 1, and against the property itself if the owner is not known. Unless otherwise specified, property tax returns are to be filed between January 1 and April 1 with the county tax commissioner's office. In some counties, the county tax assessor's office has been designated to receive returns. Real property is taxable in the county where the land is located, and personal property is taxable in the county where the owner maintains a permanent legal residence unless otherwise provided by law.

For most counties, taxes are due by December 20, but this may vary from county to county. If taxes are not collected on the property, it may be levied upon and ultimately sold even though the property may have changed hands during the year. The property tax money collected by the local government is used to pay for the support of services provided by the local and state government.

The intent and purpose of the laws of Georgia are to have all property and subjects of taxation returned at the value which would be realized from the cash sale, but not the forced sale, of the property.

Assessed Values

In Georgia property is required to be assessed at 40% of the fair market value unless otherwise specified by law. Property is assessed at the county level by the Board of Tax Assessors. The State Revenue Commissioner is responsible for examining the digests of counties in Georgia in order to determine that property is assessed uniformly and equally between and within the counties.

The tax bills received by property owners from the counties will include both the fair market value and the assessed value of the property. Fair market value means "the amount a knowledgeable buyer would pay for the property and a willing seller would accept for the property at an arm's length, bona fide sale."

Property owners who do not agree with the assessed value on their tax bill can file an appeal with the county board of equalization.

Special Assessment Programs

There are other special assessment programs available to property owners. These special programs include:

> ***Preferential Agricultural Property:*** Bona fide agricultural property can be assessed at 75% of the assessment of other property. This means that this type of property is assessed at 30% of fair market value rather than 40%. Property that qualifies for this special assessment must be maintained in its current use for a period of ten years.
>
> ***Conservation Use Property:*** Bona fide agricultural property can be assessed at its current use value rather than the fair market value. Property that qualifies for this special assessment must be maintained in a current use for a period of ten years.
>
> ***Environmentally Sensitive Property:*** Property can be assessed at its current use value rather than the fair market value when the property is maintained in its natural condition and meets the requirements set by the Department of Natural Resources. Property that qualifies for this special assessment must be maintained in a current use for a period of ten years.
>
> ***Residential Transitional Property:*** Property can be assessed at its current use value, rather than fair market value, when it is used for residential purposes but located in an area that is changing to, or being developed for, a use other than residential.
>
> ***Timber:*** Standing timber is not taxed until sold or harvested, at which time it is taxed based upon 100% of its fair market value.
>
> ***Equipment, Machinery, and Fixtures:*** Equipment, machinery, and fixtures are assessed at 40% of fair market value. The tax assessor may value the equipment, machinery, and fixtures of a going business to reflect the fair market value of the business as a whole. When no ready market exists for the sale of equipment, machinery, and fixtures, a fair market value may be determined by resorting to any reasonable, relevant, and useful information available.

Assessment and Real Estate Taxes

The subject property is located within Gwinnett County. Current year assessments and real estate taxes for the subject are summarized as follows.

2024 Assessment and Taxes								
450 Briscoe Tax ID	Land Value	Improvements Value	Total Value	Assessment Ratio	Assessed Value	Mill Levy Per $1,000	Subtotal	Taxes
R5178 066	$0	$393,800	$393,800	40%	$157,520	35.2600	$5,554	$5,554
$/SF - (41,575 SF)	$0.00	$9.47			$3.79			$0.13
510 Briscoe (Land only) Tax ID	Land Value	Improvements Value	Total Value	Assessment Ratio	Assessed Value	Mill Levy Per $1,000	Subtotal	Taxes
R5208 030 (Portion)	$6,204,300	$0	$6,204,300	40%	$2,481,720	35.2600	$87,505	$87,505
$/LSF - (1,275,241 SF)	$4.87				$1.95			$0.07
510 Briscoe Tax ID	Land Value	Improvements Value	Total Value	Assessment Ratio	Assessed Value	Mill Levy Per $1,000	Subtotal	Taxes
R5207 022	$0	$1,386,400	$1,386,400	40%	$554,560	35.2600	$19,554	$19,554
$/LSF - (124,122 SF)	$0.00				$4.47			$0.16
520 Briscoe Tax ID	Land Value	Improvements Value	Total Value	Assessment Ratio	Assessed Value	Mill Levy Per $1,000	Subtotal	Taxes
R5207 025	$0	$658,500	$658,500	40%	$263,400	35.2600	$9,287	$9,287
$/LSF - (1,472,271 SF)					$0.18			$0.01

We note that the values shown include only the improvements for the hangar parcels and that the parking parcel is a portion of the larger airport site.

Stabilized Real Estate Tax Projection

The purpose of this appraisal is not to value the subject sites on a fee simple basis or to provide a value of the improvements. As such, we have relied on the current tax assessments and have not forecasted the future taxable value of the various sites, as this is beyond the scope of this appraisal.

Site Analysis

In analyzing and describing the subject site, we have relied on our personal inspection of the property and surrounding area on April 17, 2025; information provided by ownership; and records on file with the county.

Site Analysis				
Property ID	450 Briscoe Hangar	510 (Land Only)	510 Hangar	520 Hangar
Address	450 Briscoe Boulevard	510 Briscoe Boulevard	510 Briscoe Boulevard	520 Briscoe Boulevard
Location	North side of Briscoe Boulevard, south of runways	North side of Briscoe Boulevard, south of runways	North side of Briscoe Boulevard, south of runways	North side of Briscoe Boulevard, south of runways
Access/ Visibility	Access via north side of Briscoe Boulevard with good visibility	Access via north side of Briscoe Boulevard with good visibility	Access via north side of Briscoe Boulevard with good visibility	Access via north side of Briscoe Boulevard with good visibility
Size	79,098	91,712	103,920	89,116
Surrounding Land Uses	N - Runway E - Aviation S - Industrial W - Aviation	N - Runway E - Aviation S - Industrial W - Aviation	N - Runway E - Aviation S - Industrial W - Aviation	N - Runway E - Aviation S - Industrial W - Aviation
Topography	Generally Level			
Shape/Utility	Generally rectangular shape with no unusual features that limit utility			
Utilities	All public utilities are available and in adequate supply.			
Soil	The Appraisers were not provided a soils report. This appraisal specifically assumes that there are no adverse soil conditions that would prevent development on this site. If more information is required, the client is advised to seek the counsel of a qualified professional.			
Easement	As is the case with most major commercial sites, easements and encumbrances are common place and predominately utility-related. This appraisal is based on the standard assumption that no title exceptions, recorded or unrecorded, are present that would have a negative impact on the subject site.			
Hazardous	The appraisers were not provided with a Phase I Environmental Site Assessment. This appraisal specifically assumes that the property is not affected by environmental conditions that would significantly impact the usability, or marketability of the site.			
Zoning	LM (Light Manufacturing) by the City of Lawrenceville. Aircraft Hangar and Maintenance buildings are a permitted use under this zoning.			
Flood Plane	According to CoreLogic, the subject property is located within FEMA Flood Insurance Rate Map Community Panel Number 13135C0074F, dated, September 29, 2006. The subject is situated in Zone A. First American Flood Data Services defines Zone A as an area inundated by 100 year flooding, for which no Base Flood Elevations (BFEs) have been established.			
Drainage	Based on our inspection of the site, drainage appears to be adequate.			
Conclusion	The sites are well located at LZU. All public utilities are available and the physical character of the site is similar to other aviation parcels. We are unaware of any unusual or detrimental site characteristics that adversely affect site utility or potential development.			

Description of the Improvements

In describing and analyzing the improvements, we have relied on the following sources of information:

1. Personal inspection on April 17, 2025, and
2. Various exhibits and written information provided by the property owner or representative.

Property Summary

Property ID	Type	Year Built	Total Size (SF)	Office Finish	Clear Height	Acres	FAR
450 Briscoe Hangar	Hangar/Office	1991	18,800	29.8%	24'	1.82	0.24
510 (Land Only)	Land	-	-	-	-	2.11	-
510 Hangar	Hangar/Office	1995	23,075	48.0%	28'	2.39	0.22
520 Hangar	Hangar/Office	2004	18,500	0.0%	28'	2.05	0.21

TENANCY: Single- and multi-tenant buildings

NUMBER OF STORIES: One-story for hangar and one to two stories for office. Total height is 30' to +40' for the hangars.

FOUNDATION: Reinforced concrete slab on grade with a perimeter foundation walls and footings.

STRUCTURAL SYSTEM: Steel columns supporting steel joists.

EXTERIOR WALLS: Galvanized metal panel for hangar and stucco/masonry for office.

ROOF SYSTEM: Galvanized metal decking.

PLUMBING: For the bathroom, PVC or steel vent pipes, drains and sewer. Plumbing systems is assumed to be in compliance with all applicable local codes and requirements.

ELECTRICAL SYSTEM: Specifics of the electric service are unknown, but assumed to be adequate for hangar use.

HVAC: HVAC system in office and NA in the hangar

FIRE PROTECTION: Office and hangar are sprinklered and assumed to comply with current life safety codes.

FLOORS: Concrete or epoxy sealed floors in hangar spaces. Carpet, tile or vinyl in the office spaces.

INTERIOR FINISH: Hangar ceilings are exposed metal decking with steel trusses and insulation. Lighting is provided by metal LED fixtures suspended from ceiling. Office have drop acoustic tile or drywall.

ADA COMPLIANCE: We were not provided with an ADA compliance report for the subject improvements. It is assumed that the interior construction is ADA compliant. We recommend that interested parties seek professional assistance to determine ADA compliance.

SITE IMPROVEMENTS: Typical concrete surface parking with walks, curbs, gutters, and landscaping on a sprinkler system.

OFF-STREET PARKING: Sufficient

FURNITURE, FIXTURES, AND EQUIPMENT: Our value opinions are exclusive of any contributory value of FF&E.

RAMP/APRON: Concrete aircraft ramp accessible to runways. The hangars have areas available for tie downs, although there are limited to no tie-downs at the airport.

FUEL FARM: None

DEFERRED MAINTENANCE: None observed that are not typical and being handled in capital improvement maintenance and repairs reserves. The properties do not appear to have had significant renovations in the past 10+ years.

CAPITAL IMPROVEMENTS: Buildings are in average to good condition. All future capital items are anticipated to be covered through a normal replacement or reserves allowance.

FUNCTIONALITY: Functional and adequate for the subject's market.

COMMENTS: Improvement are in average to good condition or under current capital improvements that are typical for the age and accounted for in our reserves estimate. The improvements are a well designed storage hangar and office and considered functional in the marketplace.

EFFECTIVE AGE: Effective age 15 to 25 years (actual age 21 to 34 years)

ECONOMIC LIFE: 40 Years (MVS)

Subject Photos

450 Briscoe

Typical View of the Subject

Typical View of the Subject

Typical View of the Subject

Typical View of the Subject

Typical View of the Subject

Typical View of the Subject

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510 Briscoe – Land Only

Typical View of the Subject

Typical View of the Subject

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Typical View of the Subject

510 Briscoe

Typical View of the Subject

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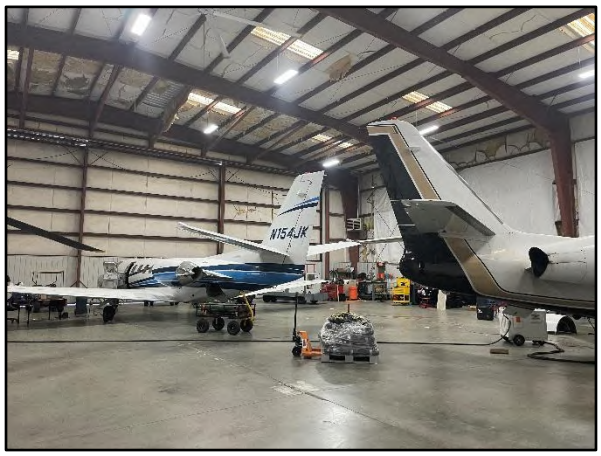
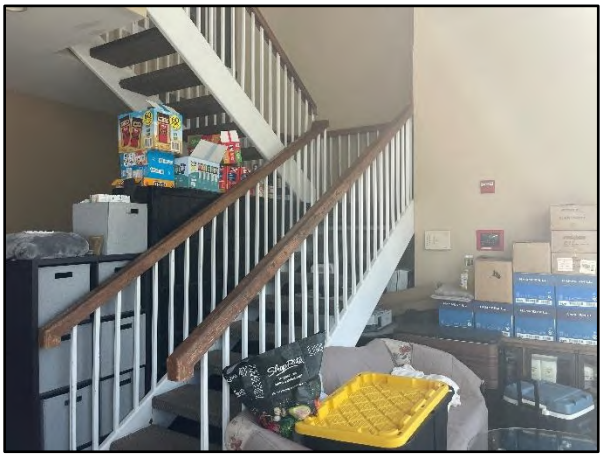
Typical View of the Subject



Typical View of the Subject



Typical View of the Subject

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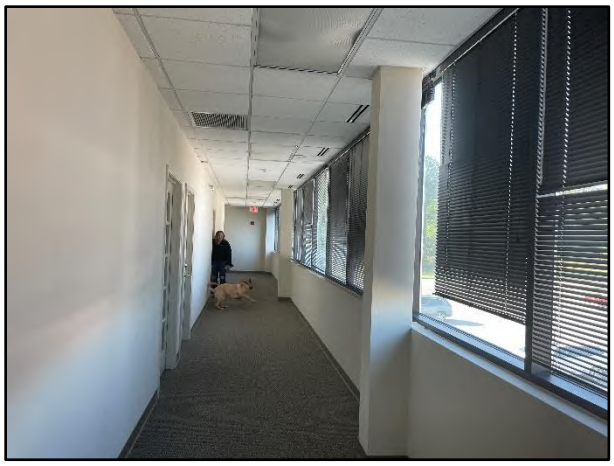

Typical View of the Subject

Typical View of the Subject

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420 Briscoe

Typical View of the Subject

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ANALYSIS OF DATA AND CONCLUSIONS

Airport Operations Industry Overview

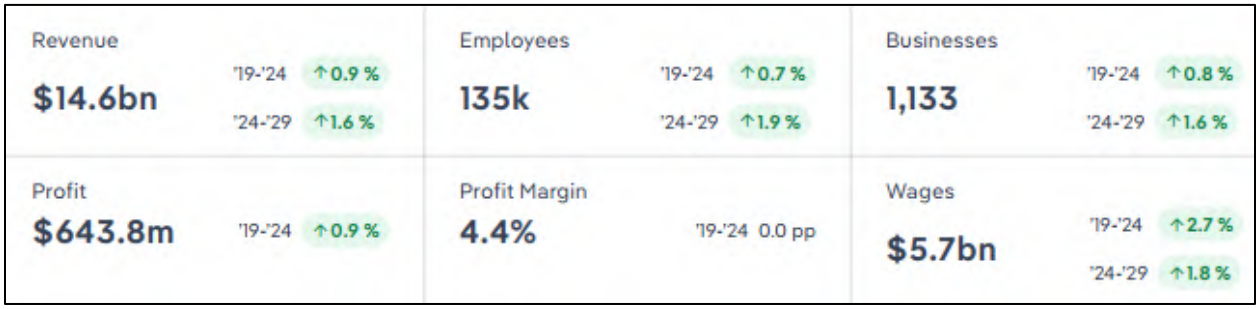
The purpose of this overview is to present and discuss trends and research related to Airport Operations in the U.S. in order to show where the industry is currently and its projected direction going forward. Information from the IBISWorld November 2024 report (most recent available), GAMA, and other sources involved in the aviation industry were used for the following overview.

Airport Operations Industry Definition

This industry includes businesses that operate international, national, or civil airports or flying fields. The industry also includes operators that provide aircraft parking, air traffic control services, cargo handling services and other relevant products. Fuel wholesaling and airport janitorial services are excluded from this industry, while most aircraft repair and maintenance services are included in the Aircraft Maintenance, Repair and Overhaul industry.

Industry Snapshot

The following airport operations statistics are provided by IBISWorld [Excerpts].

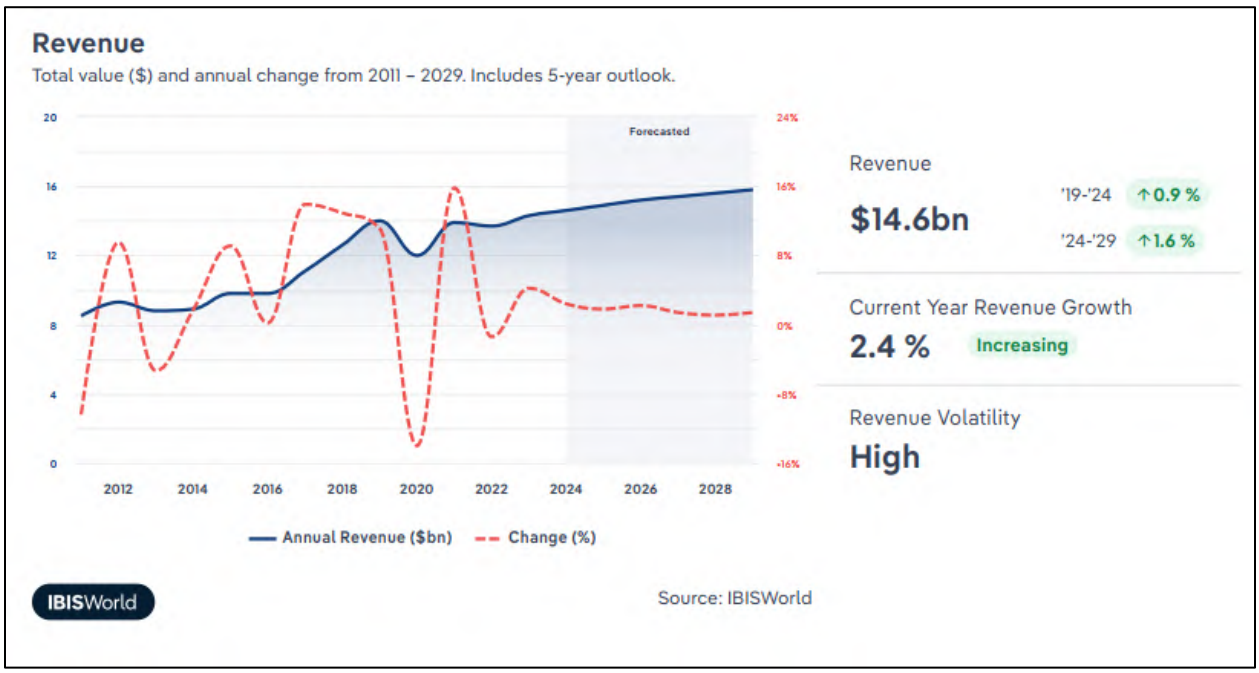


Industry Summary

Demand for the Airport Operations industry is influenced by trends in domestic and international air travel. Overall, lightly competing enterprises benefited from economic growth, leading to increased air travel spending among businesses and consumers. Similarly, an increase in high-income households spiked demand for private air travel services. While these dynamics precipitated revenue growth, the industry has suffered from a significant amount of volatility as a result of the unprecedented COVID-19 disruption in 2020. Government investment in response to this disruption allowed airport operators to withstand the low period until demand for travel returned. Therefore, revenue increased at a CAGR of just 0.9% to $14.6 billion through the end of 2024, including an inch forward of 2.4% in 2024 alone.

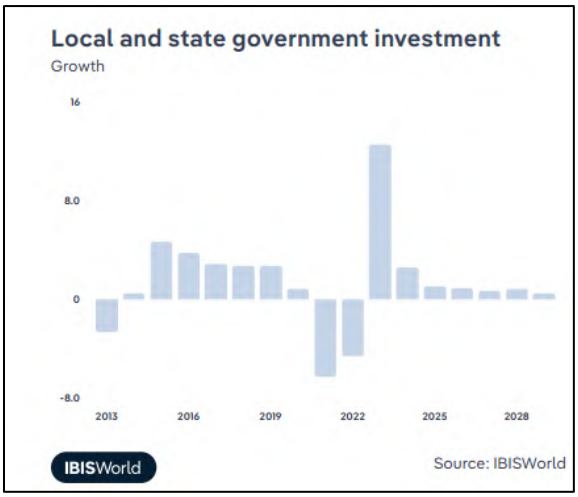
The industry is characterized by a disparity between operator sizes and government involvement. Large hubs, airports that handle more than 1.0% of the country's annual passenger boarding, comprise the lion's share of the industry's revenue and operating income. These major airports, such as Hartsfield-Jackson Atlanta International Airport, are able to command higher landing fees and rental rates for their buildings, causing these operators to bank huge profit. Despite this disparity, more minor public operators experience unusually stable revenue streams from government sources. Public funding allowed operators to retain a 4.4% profit margin in 2024 despite colossal pandemic cost increases. Recently, heightened interest rates had both depressed consumer demand as well as airports' ability to expand operations since borrowing it much more costly in 2024.

A recovering global economy will characterize airport demand in the years ahead. Higher traffic volumes will cause significant airlines to operate more flights for passengers and e-commerce goods. At the same time, rising levels of disposable income will generate revenue for the industry's retail and hospitality services. Airports are also expected to undertake construction and system update projects, such as implementing NextGen air traffic control technology, which is expected to reduce flight times and improve public perception of the industry. The increased interest rates from the previous period could stagnate the expansion of airport operations. Through the end of 2029, revenue is forecast to hike at an annualized rate of 1.6% to $15.8 billion.

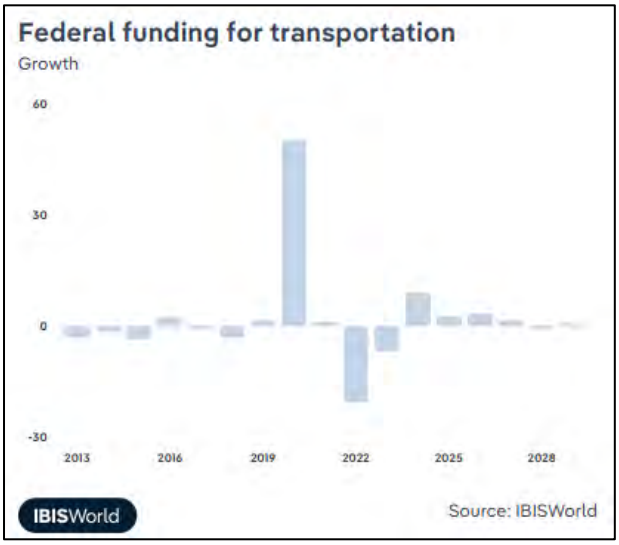


Key External Drivers

Local and State Government Investment - Local and state government investments significantly enhance airport operations by funding infrastructure upgrades, implementing advanced technologies and improving security measures. These lower tiers of government are more invested in the finances of local airports than the federal government, which is more focused on regulating the industry. When these governments have surplus cash and wish to invest in tourism for their region, airports often receive a large portion of these funds. These funds directly influence airport operational performance, leading to higher traffic volumes and economic benefits.

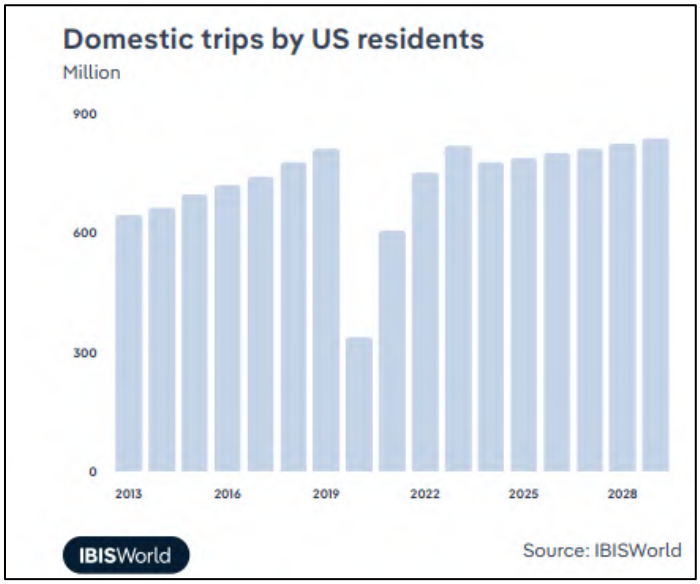


Federal Funding for Transportation - Federal funding for transportation directly enhances airport operations by improving infrastructure, safety and efficiency. This financial support upgrades runways, terminals and technology, leading to smoother, more reliable travel experiences. These changes expand an airport's passenger and cargo capacity, generating greater revenue. When federal budgets tighten, airports are left to fend for themselves, a testament to the role that federal funding has in catalyzing advancements and maintaining competitive standards in an ever-evolving global transportation network.

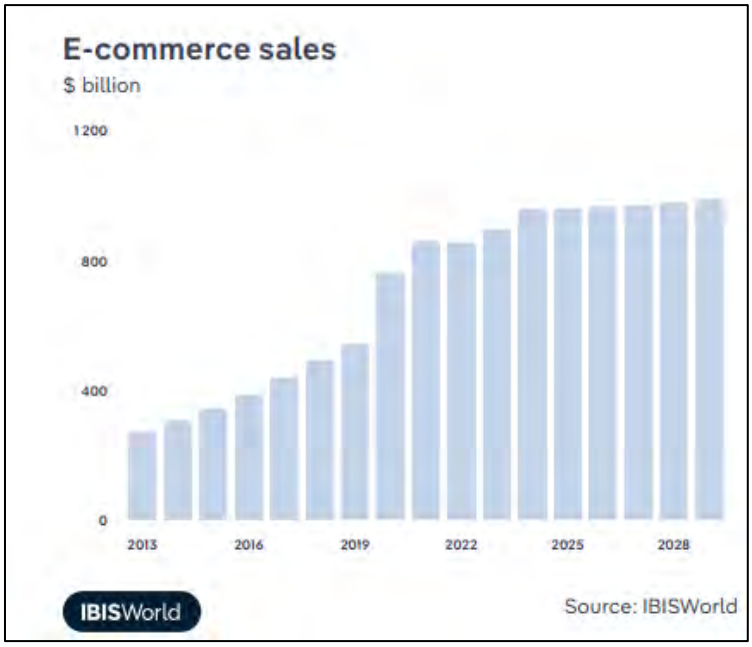


Key External Drivers - continued

Domestic Trips by U.S. Residents - Domestic trips by US residents significantly boost airport operations, driving higher passenger volumes, increased flight frequencies and greater demand for services. This upswing enriches revenue streams from parking, concessions and duty-free shops. As travel surges, airports invest in infrastructure and staffing, enhancing overall efficiency. The symbiotic relationship means more domestic travel directly translates to robust airport operational performance.

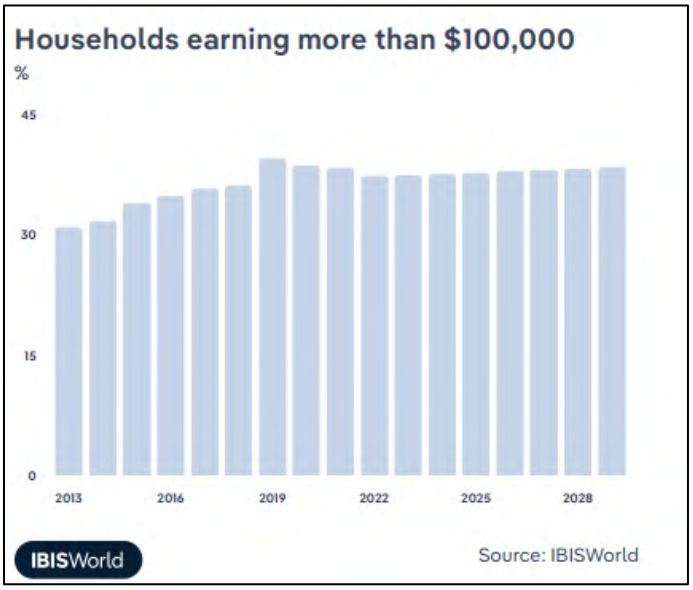


E-Commerce Sales - The rise in one and two-day delivery options from e-commerce sites and couriers has shifted many goods from truck to airline transportation. Airports profit from these shipments by offering on-site storage service, airline package loading and ATC services for more cargo flights. Growth in e-commerce sales presents a potential opportunity for the industry.

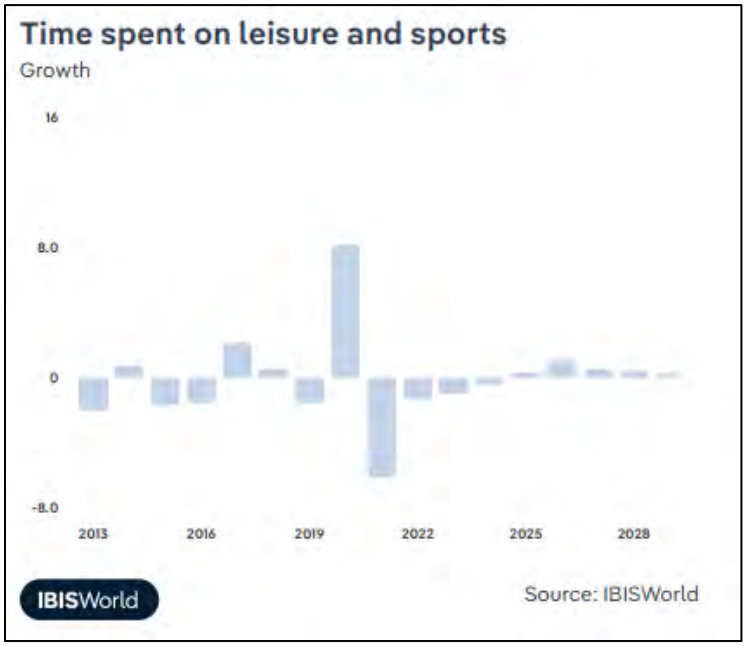


Key External Drivers - continued

Households Earning More than $100,000 - Individuals in the nation's highest income bracket are far more likely to take personal flights and work for companies that spend frequently on business trips. High-income travelers spend more on tickets and amenities, driving airport revenue growth. As the percentage of these households in the US economy increases, demand for air travel rises accordingly.



Time Spent on Leisure and Sports - Despite air travel's time advantage over all other forms of mass transportation, a plane flight still takes several hours at minimum. Increased leisure time stimulates travel demand, directly boosting airport operations. When there are constraints on leisure time, consumers are far less likely to travel. Reductions in time spent on leisure pose a potential threat to the industry.



Industry Performance

Current Performance

The travel industry's bouncing back post-COVID. Corporations brought in record profit in 2022 and with a rise in per capita income, people will have more money in their pockets and travel spending will grow. Airports are facing significant labor shortages, which are leading to longer wait times and lower service quality. To counter this, they're offering higher wages and better benefits to attract and retain staff. Technological advancements like biometric screening are meant to streamline airport operations. These innovations hope to reduce wait times and improve security, making the travel experience smoother and more efficient. However, travelers are considerably opposed to many TSA security measures.

The general health of the economy influences spending on industry services

The airport operations industry has shown significant resilience during the current economic environment marked by inflation, fluctuating fuel prices and supply chain disruptions. While passenger traffic saw a sharp decline initially, a strong recovery trend is evident, spurred by easing travel restrictions and pent-up demand. Thanks to growing disposable income, many domestic households can allocate funds toward discretionary spending, such as air travel and online shopping, which stimulates the industry. Increased corporate profit levels carry the same effect for domestic businesses, which can expense business-related airfare more easily. To counteract volatility in aeronautical revenues, airports increasingly focus on non-aeronautical sources. This includes expanding retail and dining options, offering premium services like lounges and parking and developing real estate within airport precincts. Airports are forming public-private partnerships to secure funding for infrastructure projects and operational improvements. Such collaborations help share financial risks and leverage private sector expertise to enhance service quality and efficiency.

Rising interest rates take a toll on downstream activity

Consumers are, by far, the largest downstream segment. Due to this, airport operators experience a significant amount of volatility. In the latter half of the period the Federal Reserve began to increase interest rates, achieved through intense macroeconomic policy. Dwindling demand pulled down revenue in 2022 and further dampened growth through the end of the period as the average consumer restricted their discretionary spending. Interest rate trends have also influenced investor behavior. During periods of lower rates, more investors have shown interest in airport bonds, providing airports with the necessary capital to fund improvements and technological upgrades. High borrowing costs during periods of rising interest rates have slowed down or postponed planned infrastructure projects across several US airports. Conversely, periods of lower interest rates have enabled airports to take on new capital projects more affordably. For instance, Chicago O'Hare International Airport (ORD) leveraged lower rates to finance a major terminal expansion, ensuring future capacity growth without excessive financial burden. Airports with existing debt have experienced variations in debt servicing costs. Higher interest rates have increased financial strain on airports already burdened by substantial loans, particularly impacting smaller regional airports with less diversified revenue streams.

Industry Performance Continued…

Labor shortages challenge US airport operations efficiency

US airports have seen a marked strain on their existing workforce due to labor shortages. Employees are often required to handle increased workloads and longer shifts, leading to burnout and a higher turnover rate. This situation has contributed to operational inefficiencies and a drop in service quality. Examples include longer security lines at airports such as Los Angeles International (LAX) and Miami International, where passengers have experienced extended wait times and service delays. Airports have launched extensive recruitment and retention campaigns to address labor shortages. To attract and retain staff, airports like Atlanta's Hartsfield-Jackson and Denver International have introduced initiatives such as higher wages, signing bonuses and enhanced benefits packages. They've also focused on offering career development programs that provide training and advancement opportunities to employees. According to the FAA, US Department of Transportation and US Department of Labor, the aviation industry is grappling with a shortage of approximately 32,000 commercial pilots. This deficit has hit regional airlines the hardest, affecting services to smaller communities. Staff shortages can result in persistent flight delays and cancellations and this workforce gap is poised to expand in the years ahead.

The role of fixed-base operators (FBO) in the industry

Municipalities or other public entities own nearly all commercial airports in the United States. Initially, US federal law required that all airports providing passenger service be publicly owned. Still, the Airport Privatization Pilot Program enabled private companies, known as fixed-base operators, to manage a limited number of airports. FBOs primarily provide fueling, hangaring, aircraft maintenance and flight instruction when major airports can't meet passenger or cargo traffic demands. They've been a critical driver of the industry's growth by enabling airports to respond to sudden changes in airline and passenger activity, which is particularly important during busier seasons such as holidays or school breaks. The competitive landscape among FBOs is driving them to adopt advanced technologies and sustainable practices. Many are implementing electric ground service equipment and eco-friendly facilities to meet the growing demand for green aviation services, aligning with broader industry sustainability goals. Airport operator diversification through the acquisition of FBOs has been a notable trend. Municipal airports and private operators have invested in or partnered with FBOs to secure stable revenue streams. This strategy has diversified airport revenue beyond traditional landing fees and passenger services.

Airport operations level up their services and offerings

Introducing biometric screening and artificial intelligence has streamlined various aspects of airport operations. Technologies like facial recognition reduce wait times and enhance security, making processes like boarding quicker and more efficient. Biometric identification systems are becoming more prevalent. John F. Kennedy International Airport (JFK) has incorporated facial recognition technology for international travelers, streamlining security checks and boarding processes. US airports have faced significant labor shortages, compelling them to invest heavily in automation and self-service technologies. For instance, major hubs have installed more self-service kiosks, automated bag drop systems and advanced biometric screening processes. This technological pivot helps maintain operational efficiency by reducing the need for a large labor force. Airports are leveraging multiple channels to provide real-time information, seamless navigation and personalized services to enhance the passenger experience.

Industry Performance Continued…

Airport operations level up their services and offerings - continued

Big data analytics enables airports to predict passenger flows and manage congestion effectively. By analyzing historical data, airports can optimize staffing levels, reduce bottlenecks and enhance the travel experience. Airports now serve as crucial hubs for multiple transportation modes, integrating rail, bus and other services to ensure seamless connectivity for passengers. Adopting Internet of Things (IoT) devices and real-time data analytics enhances operational efficiency across major US airports. For example, Hartsfield-Jackson Atlanta International Airport (ATL) uses smart sensors to monitor passenger flow, enabling real-time adjustments to improve traffic management and reduce bottlenecks.

Volatility

The overall health of the economy influences industry demand

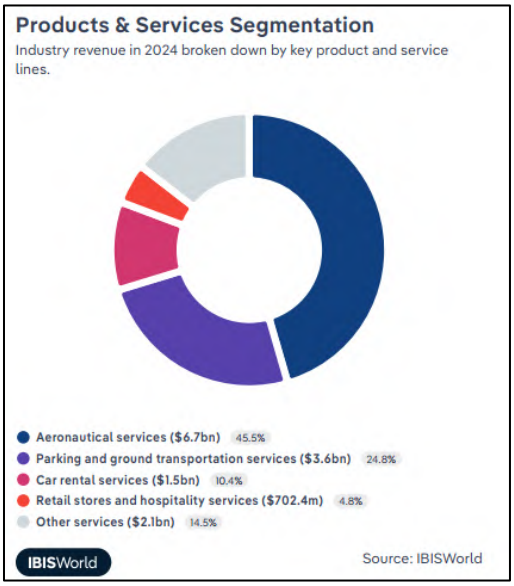
The overall health of the economy significantly impacts industry demand. In periods of economic growth, air travel usually rises due to increased disposable income and corporate profits, boosting industry performance. Increased unemployment and stagnant business activity result in lower discretionary spending on travel. This economic scenario reduces demand for air travel services, causing significant volatility in the airport operations industry. Industry revenue is heavily dependent on servicing passengers and airlines. This revenue is directly tied to the number of domestic and international flights, reflecting broader travel trends. In 2020, COVID-19 measures severely restricted travel. Consumers prioritized their savings, meeting debt obligations and maintaining payrolls over discretionary spending like travel, which affects industry revenue. Events like the COVID-19 pandemic led to severe travel restrictions and quarantines. Airports see passenger numbers plummet as people avoid travel for fear of illness or mandated lockdowns. Fluctuations in currency exchange rates can either make a country more attractive or less affordable for international travelers. This directly impacts the number of incoming tourists, affecting airport revenue from retail, parking, and other services.

To offset volatility, airports rely on government help and long-standing contracts

Revenue volatility was offset by large government subsidies for both airports and the airline industry as a whole; in 2020 alone, the federal government dumped more than $25.0 billion into these two industries. Outside of fuel, airlines pay the largest percentage of costs to airports for services including gate space, air traffic control and landing fees. Even as restaurants and retail establishments inside airports were struggling with a decline in customers, they still paid rent and other fees to airport operators. These two factors limited revenue volatility significantly during the period.

Products & Services

The Airport Operations industry generates revenue through a variety of services. These include aeronautical services that provide assistance to aircraft and airlines, as well as hospitality and transportation services provided to passengers and other consumers. While most airports provide maintenance and repair services to commercial airlines, these operations are primarily accounted for by the Aircraft Maintenance, Repair and Overhaul industry.



Demand for aeronautical services is growing now that travel restrictions subsided

Aeronautical services include maintenance and assistance for aircraft and airline operations as well as hospitality and transportation services for passengers and other consumers. Airline partnerships and landing fees form a substantial part of revenue driven by airport traffic. Higher passenger volumes directly lead to increased income from terminal services and utilities. Airport operators are responsible for screening passengers, maintaining security and organizing the schedules of incoming and departing flights. They also refuel and repair aircraft and ferry luggage. Airport operators charge commercial airlines for using airport facilities and aeronautical services. More examples of aeronautical services provided for airlines include aircraft parking, boarding bridge operating, navigation and other support activities. Aeronautical services represent the largest source of revenue for airport operators. Aeronautical services have fluctuated over the past five years, with a decline during the COVID-19 pandemic followed by a strong recovery as travel restrictions eased.

As fewer people travel, the need for parking and ground transportation services weakens

Passengers can leave or store vehicles while traveling, generating income from long- and short-term parking options. Other transportation services, such as shuttles and air trains between terminals are also a strong source of income. In addition to reduced passenger volumes during the pandemic, the rise of affordable ride-sharing options provided by companies such as Uber Technologies Inc. and Lyft Inc. has led to a decline in the use of parking and transportation services. The usage of shuttles and air trains between terminals has grown, rising in line with the number of domestic and international trips.

Products & Services Continued…

Revenue from retail stores and hospitality services stayed level despite disruptions

Nonaeronautical sources of revenue allow airport operators to diversify revenue streams and help cushion revenue when there is a decrease in passenger volumes. Most significant airports lease spaces to external companies to operate duty-free retail outlets, bars, restaurants, hotels and other amenities. Private companies lease space and pay other fees in order to operate in an airport. Duty-free shopping and luxury brand outlets appeal to international travelers, generating significant sales revenue. On-site hotels and premium dining options offer added value to travelers, leading to extended stays and spending.

Car rental services provide stable revenue streams for operators

Private companies operate car rentals in airports for people traveling on vacation or business. In addition to leasing space, airports charge rental companies fees to operate on their site and take a cut of their revenue. Car rental services faced a downturn during the early pandemic but have since recovered strongly as travel demand rose. Collaboration with new mobility solutions has also positively impacted growth.

Airport operations use other services to differentiate themselves

Other industry services include selling advertising space, both inside and outside terminals and leasing airport property for commercial development projects, such as industrial parks and office buildings. Premium services such as passenger lounges and expedited security checks provide high-margin revenue. Ancillary services improve overall passenger satisfaction, indirectly boosting airport traffic and profitability. According to FAA reports, these industry services have grown their revenue share in the last few years due to limited travel and decreasing demand for typical airport operations. Increasing demand for premium and personalized services has boosted this segment.

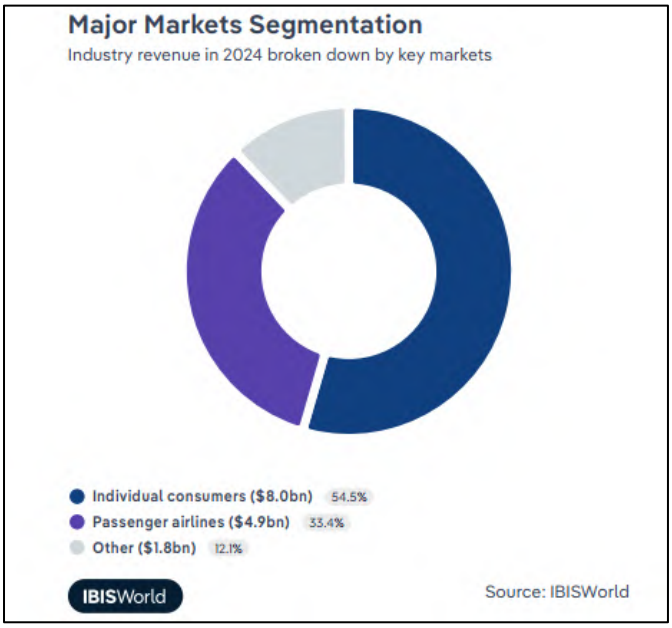
A rise in digital parking reservations

Travelers can plan and make their parking arrangements remotely via the internet or an app to save time. If drivers reserve stops through an app, it can help fill difficult-to-find parking spots efficiently, maximizing lots. Operators can charge a premium to reserve more desirable spots, bringing in more significant revenue from this service. By automating these services, airport operators will see improved efficiency; when drivers can quickly find their parking spots, traffic, wait times and customer dissatisfaction will decrease.

Introduction of biometric software for security

New biometric and facial recognition technology can improve the travel experience by making checking in at the airport more accessible and reducing wait times at security, customs and boarding. Facial recognition eliminates the need for travelers to show their physical travel documents, such as IDs and boarding passes. Biometric identification integrates seamlessly with boarding passes and passports, improving security while enhancing the passenger experience. After successfully implementing biometric scans into the check-in process, some airport operations are beginning to experiment with using biometrics for baggage claims.

Major Markets



Individual consumer trends drive industry growth

Households, businesses and other individual consumers make up the most significant downstream market for industry services. When traveling, individual consumers can spend a ton at retail outlets, restaurants, parking garages, ground transportation services, hotels and other amenities. Airports also generate a significant portion of revenue by leasing space to these operators, in addition to directly selling goods and services. This market segment saw a temporary slight decline as many consumer amenities were forced to shut down in adherence to social distancing guidelines amid the COVID-19 pandemic. Heightened levels of consumer spending and per capita disposable income have recently benefited from growth in demand from the consumer market.

Passenger airlines cannot manage their operations without services from this industry

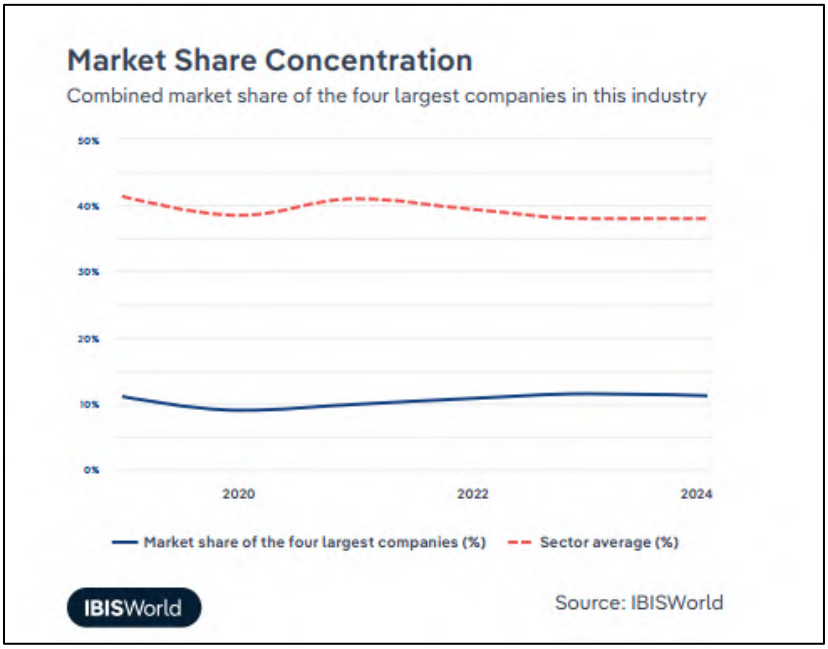
Passenger airlines rely on airport operators to provide pilot facilities, navigation and flight planning services, bridge operation, aircraft maintenance and various other essential services to passenger airlines. Most major airports have the space and infrastructure needed to accommodate large commercial airlines; however, if one cannot handle high volumes of passengers, independent fixed-base operators (FBO) can help. Independent FBOs, such as BBA Aviation plc and Atlantic Aviation, typically provide services for smaller aircraft used by charter and private airlines.

Cargo and freight transportation make up a small but significant market

Other markets that require industry services include cargo and freight transportation companies, in addition to government entities and marketing agencies that pay for the right to advertise in industry airports. These market segments bring in a marginal share of industry revenue, as the most significant shares come from airline fees and consumer accommodations.

Concentration

A large piece of land is required to build an airport, which is in limited supply in the US, and often under some kind of environmental protection. Competition is localized, meaning that most operators' biggest competitors are geographically close and serving similar consumers.



The level of demand determines if an airport operator can handle traffic

Demand for air travel rarely changes, and is mostly influenced by broader economic activity, such as the current level of disposable income. In many urbanized areas with a large population and substantial economic activity, there is more than one large-scale airport that competes to meet the personal and professional needs of consumers. Private, small-scale airports also generate a significant portion of revenue and profit; however, they're not competing over the same consumers as bigger operators. Private airports are able to dominate a specific market by offering high-income consumers with private aircrafts.

Consolidation activity in the industry limits the entry of new enterprises

Tourist destinations and urbanized areas often have state-sponsored airports, meaning competition is highly localized and somewhat stagnant. Many government-owned airports have already formed public-private partnership agreements to improve operating efficiency, which makes it difficult for new entrants to make similar partnerships. Airports often work with multiple airlines, each having unique needs and agreements, which prevents monopolies. Unlike industries where a few major players dominate, the variety of airlines fosters a competitive environment. The necessity for airports to serve local populations means that a one-size-fits-all model doesn't thrive, encouraging a range of operators. Smaller regional airports and larger international hubs cater to different market segments, dispersing influence.

Key Statistics

The following table shows trends in industry data, projecting out to 2030.

Key Statistics - Industry Data						
Year	Revenue ($m)	IVA ($m)	Establishments	Enterprises	Employment	Wages ($m)
2016	$9,778	$7,403	2,063	1,047	100,695	$3,832
2017	$11,139	$8,524	2,205	1,110	114,446	$4,450
2018	$12,578	$9,450	2,198	1,105	122,820	$4,750
2019	$13,977	$10,003	2,229	1,087	130,066	$4,989
2020	$12,015	$1,991	2,202	1,071	127,317	$4,053
2021	$13,918	$8,611	2,300	1,083	103,227	$4,438
2022	$13,719	$9,063	2,304	1,084	126,186	$5,323
2023	$14,295	$11,412	2,364	1,110	131,258	$5,538
2024	$14,633	$11,570	2,415	1,133	134,885	$5,687
2025	$14,892	$11,854	2,451	1,148	137,540	$5,797
2026	$15,223	$12,207	2,496	1,168	140,506	$5,923
2027	$15,444	$12,508	2,535	1,186	142,654	$6,012
2028	$15,614	$12,597	2,577	1,205	144,717	$6,095
2029	$15,829	$12,713	2,617	1,224	147,851	$5,520
2030	$16,032	$12,899	2,659	1,243	150,142	$6,310

Source: IBISWORLD 2025.

GAMA Annual Data

GAMA is an international trade association representing more than 90 of the world's leading manufacturers of general aviation airplanes and rotorcraft, engines, avionics, components, and related services. GAMA's members also operate repair stations, fixed-based operations, pilot and maintenance training facilities, and manage fleets of aircraft.

The overall 2023 general aviation shipments and billings, when compared to 2022, saw increases for all aircraft segments in shipments and preliminary aircraft deliveries were valued at $28.3 billion, an increase of 3.3%. Airplane shipments in 2023, when compared to 2022, saw piston airplane deliveries increase 11.8%, with 1,682 units; turboprop airplane deliveries increase 9.6%, with 638 units; and business jet deliveries increase to 730 units from 712. The value of airplane deliveries for 2023 was $23.4 billion, an increase of 2.2%.

Piston helicopter deliveries for 2023, when compared to 2022, saw an increase of 7.7%, with 209 units; and civil-commercial turbine helicopter increase 9.9%, with 811 units. The value of helicopter deliveries for 2023 was $4.9 billion, an increase of approximately 9.0%.

General Aviation Airplane Shipments

GAMA's historical trend data indicates that general aviation airplane shipments worldwide peaked at 4,277 units back in 2007 and after steep declines from 2008 through 2010, fluctuated back up annually through 2014. Since 2014, shipments have fluctuated, and by year-end 2023, 3,050 units were shipped. In 2023, shipments recorded a decade high 3,050 units.

Aircraft shipments through the fourth quarter of 2024, when compared to the same period in 2023, saw piston airplanes increase 4.6% with 1,760 units, turboprops were in line with 626 units, and business jets increase 4.7% with 764 units. The value of airplane deliveries through the fourth quarter of 2024 was $26.9 billion, an increase of 15.1%.

General Aviation Airplane Shipments and Billings (in $ Millions) by Airplane Type Manufactured Worldwide (1994-Q4 2024)

	Piston Airplanes			Turboprop	Business Jet	Total Turbine		
Year	Single-Engine	Multi-Engine	Total Units	Units	Units	Units	Grand Total Units	Grand Total Billings
1994	544	77	**621**	233	278	**511**	**1,132**	**$ 3,749**
1995	605	61	**666**	285	300	**585**	**1,251**	**$ 4,294**
1996	731	70	**801**	320	316	**636**	**1,437**	**$ 4,936**
1997	1,043	80	**1,123**	279	438	**717**	**1,840**	**$ 7,170**
1998	1,508	98	**1,606**	336	515	**851**	**2,457**	**$ 8,604**
1999	1,689	112	**1,801**	340	667	**1,007**	**2,808**	**$ 11,560**
2000	1,877	103	**1,980**	415	752	**1,167**	**3,147**	**$ 13,496**
2001	1,645	147	**1,792**	422	784	**1,206**	**2,998**	**$ 13,868**
2002	1,591	130	**1,721**	280	676	**956**	**2,677**	**$ 11,778**
2003	1,825	71	**1,896**	272	518	**790**	**2,686**	**$ 9,998**
2004	1,999	52	**2,051**	319	592	**911**	**2,962**	**$ 12,093**
2005	2,326	139	**2,465**	375	750	**1,125**	**3,590**	**$ 15,156**
2006	2,513	242	**2,755**	412	887	**1,299**	**4,054**	**$ 18,815**
2007	2,417	258	**2,675**	465	1,137	**1,602**	**4,277**	**$ 21,837**
2008	1,943	176	**2,119**	538	1,317	**1,855**	**3,974**	**$ 24,846**
2009	893	70	**963**	446	874	**1,320**	**2,283**	**$ 19,474**
2010	781	108	**889**	368	767	**1,135**	**2,024**	**$ 19,715**
2011	761	137	**898**	526	696	**1,222**	**2,120**	**$ 19,042**
2012	817	91	**908**	584	672	**1,256**	**2,164**	**$ 18,895**
2013	908	122	**1,030**	645	678	**1,323**	**2,353**	**$ 23,450**
2014	986	143	**1,129**	603	722	**1,325**	**2,454**	**$ 24,499**
2015	946	110	**1,056**	557	718	**1,275**	**2,331**	**$ 24,129**
2016	890	129	**1,019**	582	666	**1,248**	**2,267**	**$ 21,059**
2017	936	149	**1,085**	563	677	**1,240**	**2,325**	**$ 20,201**
2018	952	185	**1,137**	601	703	**1,304**	**2,441**	**$ 20,564**
2019	1,111	213	**1,324**	525	809	**1,334**	**2,658**	**$ 23,515**
2020	1,164	157	**1,321**	443	644	**1,087**	**2,408**	**$ 20,029**
2021	1,261	148	**1,409**	527	710	**1,237**	**2,646**	**$ 21,603**
2022	1,366	158	**1,524**	582	712	**1,294**	**2,818**	**$ 22,900**
2023	1,508	174	**1,682**	638	730	**1,368**	**3,050**	**$ 23,377**
Q1 2024	247	45	**292**	108	127	**235**	**527**	**$ 4,065**
Q2 2024	428	41	**469**	172	195	**367**	**836**	**$ 7,269**
Q3 2024	415	45	**460**	155	179	**334**	**794**	**$ 5,962**
Q4 2024	490	49	**539**	191	263	**454**	**993**	**$ 9,610**
YTD 2024	1,580	180	**1,760**	626	764	**1,390**	**3,150**	**$ 26,906**

Source GAMA. Starting in 2011, the data includes the addition of agricultural airplanes and also new piston airplane manufacturers. The data cannot be directly compared to 2010 and earlier entries. Refer to Table 1.3b and 1.3c for make and model detail.

FBO Classifications

According to JETNET Global's FBO Market Analysis and Trends (most recent data), the worldwide FBO market can be summarized by type, classified by the number of locations. The total population of FBO's worldwide is estimated to be around 6,400. FBOs can also be divided into three tiers, based on total revenue.

The three tiers of FBOs indicates that fewer than 128 (less than 2.0%) of the total number of worldwide FBOs are classified as Tier 1. Meanwhile, 13% (832) are classified as Tier 2, while the vast majority, 85% (5,440), would be classified as Tier 3.

Type of FBO			
Classified by # of Locations		Classified by Total Revenue	
Type	Number	Type	Revenue
Chain	61 or more	Tier 1	More than $25 million
Large Independent	31 - 60	Tier 2	$10 million - $25 million
Medium Independent	30-Nov	Tier 3	Less than $10 million
Small Independent	10 or less		

Source: JETNET Global, 2025.

FBOs categorization can also be based upon the following tiers, listed in the table below:

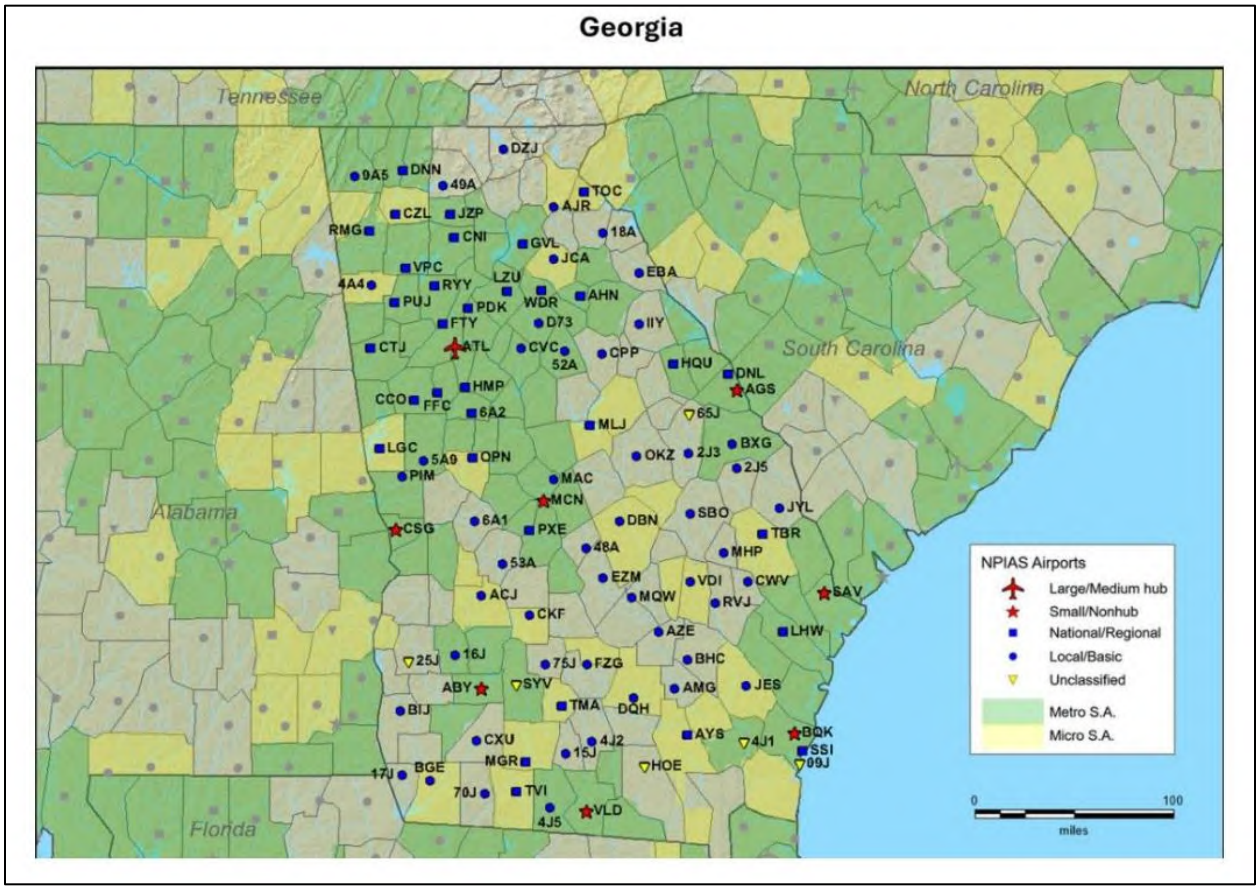
Type of FBO Classified by Services Offered	
Tier 1	Full Line-services (fuel) Facility & Hangar Turbine Aircraft Technical Services/Maintenance & Parts Turbine Aircraft Charter & Management Fully Developed OEM Certified Aircraft Service Centers
Tier 2	Full Line-services (fuel) Facility & Hangar Turbine Aircraft Maintenance & Parts Turbine Aircraft Charter & Management Specialized Missions/Geophysical/Medevac
Tier3	Full Line-services (fuel) Facility & Hangar Piston/Turboprop/Maintenance & Parts Piston/Turboprop/Aircraft Charter Flight School (aircraft rental and flight training)

Source: JETNET Global, 2025.

COMPETITIVE MARKET ANALYSIS

Georgia Aviation Overview

The following map provided by the FAA National Plan of Integrated Airport Systems, 2025-2029 (most recent available) shows all of the airports in Georgia.



All Georgia Airport Operations

The following table summarizes historic operations at all Georgia airports from 2013 through 2023. The FAA also provides forecasted operations for all Georgia airports through 2034, which are presented in the second table. *Please note, only data through 2023 had been published at the time of this report*. As shown, Georgia saw fluctuations in operations from 2014-2023. Going forward, operations are expected to see steady average growth of around 0.9% annually through 2034, and forecasts furnished by the FAA indicate that operations will surpass peak levels over the forecast period. (Source: FAA Airport Traffic Control (ATC) Tower/ APO Terminal Area Forecast Summary (TAF))

Operational Statistics - All Georgia Airports

Year	Total Based Aircraft	Annual Change (%)	Total Operations	Annual Change (%)
2014	4,687	-	2,708,344	-
2015	4,561	(2.7%)	2,729,554	0.8%
2016	4,756	4.3%	2,804,478	2.7%
2017	4,594	(3.4%)	2,838,648	1.2%
2018	4,688	2.0%	2,896,733	2.0%
2019	4,626	(1.3%)	2,979,007	2.8%
2020	4,440	(4.0%)	2,626,030	(11.8%)
2021	4,475	0.8%	2,791,896	6.3%
2022	4,808	7.4%	2,894,780	3.7%
2023	4,836	0.6%	3,005,614	3.8%
Avg Ann. Growth	-	0.3%	-	1.0%

Source: FAA Airport Traffic Control (ATC) Tower/ APO Terminal Area Forecast Summary (TAF), 2025.

Forecasted Operations - All Georgia Airports

Year	Total Based Aircraft	Annual Change (%)	Total Operations	Annual Change (%)
2024	5,226	-	3,132,687	-
2025	5,234	0.2%	3,173,958	1.3%
2026	5,261	0.5%	3,203,618	0.9%
2027	5,288	0.5%	3,234,512	1.0%
2028	5,315	0.5%	3,264,204	0.9%
2029	5,343	0.5%	3,288,640	0.7%
2030	5,371	0.5%	3,312,671	0.7%
2031	5,399	0.5%	3,336,564	0.7%
2032	5,427	0.5%	3,360,739	0.7%
2033	5,455	0.5%	3,385,249	0.7%
2034	5,483	0.5%	3,410,021	0.7%
Avg Ann. Growth	-	0.5%	-	0.9%

Source: FAA Airport Traffic Control (ATC) Tower/ APO Terminal Area Forecast Summary (TAF), 2025.

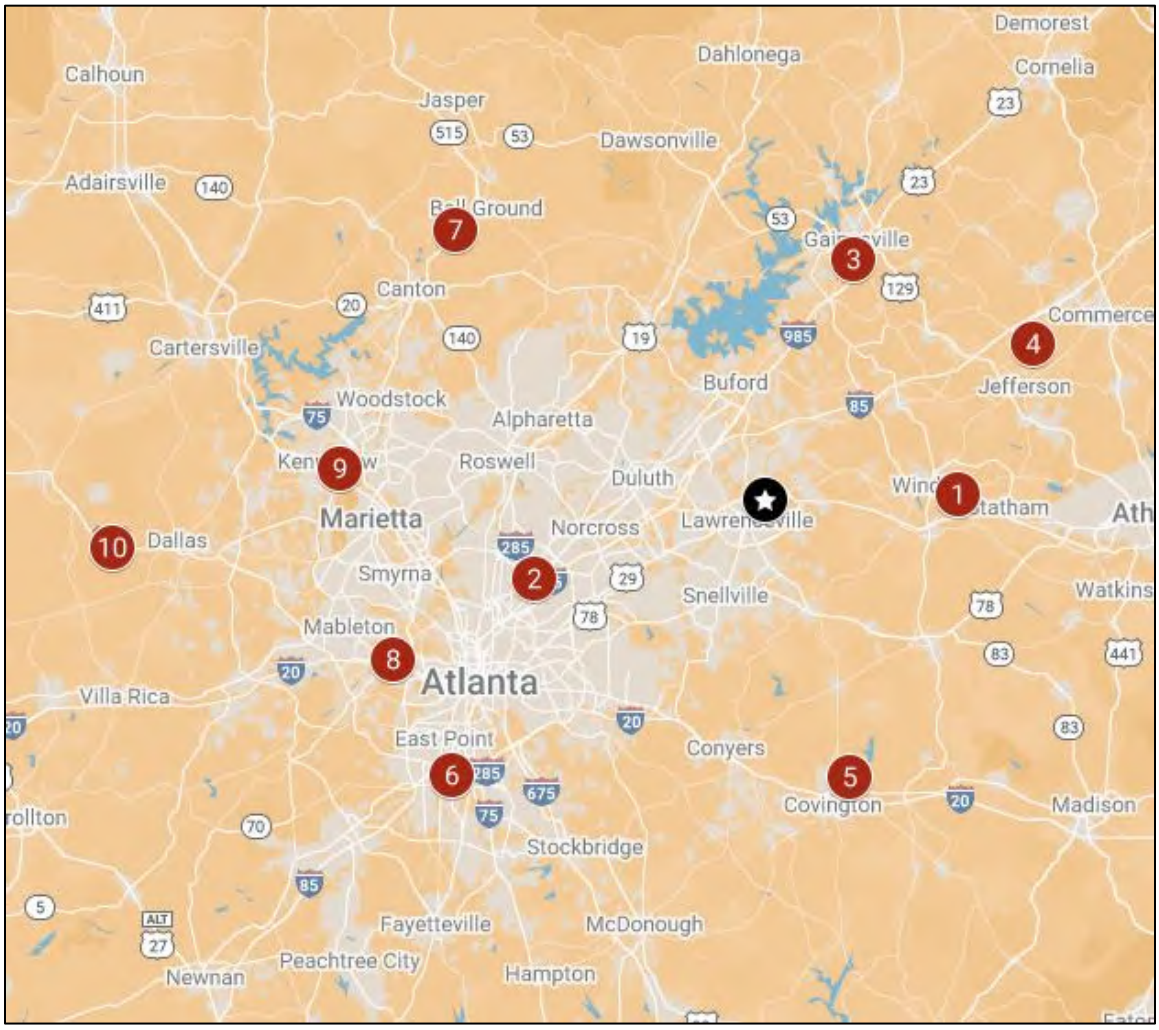
Competitive Public Airports

According to AirNav.com, there are 10 public-access airports found within competitive distance of the subject at *Gwinnett County Airport – Briscoe Field (LZU)*. Competitive airports, including the subject's local airport (represented by the black star marker), are detailed in the following map.

Airports Within Competitive Distance to LZU Airport

	ID	Name	City, State
1	WDR	Barrow County Airport	Winder, GA
2	PDK	DeKalb-Peachtree Airport	Chamblee, GA
3	GVL	Lee Gilmer Memorial Airport	Gainesville, GA
4	JCA	Jackson County Airport	Jefferson, GA
5	CVC	Covington Municipal Airport	Covington, GA
6	ATL	Hartsfield-Jackson Atlanta International Airport	Atlanta, GA
7	CNI	Cherokee County Airport	Canton, GA
8	FTY	Fulton County Executive Airport	Atlanta, GA
9	RYY	Cobb County International Airport	Kennesaw, GA
10	PUJ	Paulding Northwest Atlanta Airport	Dallas, GA
Subject	***LZU***	***Gwinnett County Airport***	***Lawrenceville, GA***

Source: CoStar, NVC, Google Maps - 2025.



Competitive Public Airports

The following table summarizes the demand generators and key characteristics of the subject's most competitive public airports. In determining the demand generators for an airport, the most important site-specific characteristic is instrument-rated landing capacity and a control tower. Generally speaking, this is the feature that most directly separates hobby and pleasure small aircraft users from users who travel for business or some commercial purpose.

Local Public Airports Key Characteristics											
	LZU	WDR	PDK	GVL	JCA	CVC	ATL	CNI	FTY	RYY	PUJ
Instrument Landing (ILS)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control Tower	Yes	No	Yes	No	No	No	Yes	No	Yes	Yes	No
Runway Lengths (FT)	6,001	5,205	6,001	5,496	5,010	6,000	12,390	5,003	5,797	6,295	5,505
	-	3,607	3,968	4,003	-	-	9,999	-	4,158	-	-
	-	-	3,746	-	-	-	9,000	-	-	-	-
	-	-	-	-	-	-	9,000	-	-	-	-
	-	-	-	-	-	-	9,000	-	-	-	-
Aircraft based on field	241	109	309	141	48	28	3	105	91	305	28
Avg. Daily Aircraft Operations	321	110	478	105	96	41	2,089	110	215	289	140
Typical Volume Breakdown											
Local General	52%	50%	31%	52%	29%	53%	0%	58%	47%	47%	49%
Transient General	44%	38%	53%	47%	67%	47%	1%	43%	45%	44%	49%
Air Taxi	3%	0%	15%	0%	0%	0%	2%	0%	7%	8%	0%
Commercial	0%	0%	0%	0%	0%	0%	97%	0%	0%	0%	0%
Military	0%	13%	0%	1%	4%	0%	0%	0%	0%	1%	2%
FBO	Sheltair, Aircraft Specialists JetCenter	Romanair WDR, Inc.	Atlantic, AeroCenter, Signiture Aviation	Pipistrel, Champion Aviation Services	Jackson County	Covington Municipal Airport	Signature Aviation	S&S Aviation Co	Hill Aircraft & Leasing, Air Elite, Signiture Aviation	Hawthorne Global Aviation Services	Paulding Northwest

Source: AirNav.com; FAA, 2025.

Operational Statistics Comparison

The table below compares operational statistics for competitive nearby airports. Typical general aviation clients are extremely selective when choosing their base airport and are usually not price sensitive. They are more concerned with location and level of service, than with finding a slightly better deal elsewhere.

Total Operational Statistics – Competitive Airports											
Year	**LZU**	WDR	PDK	GVL	JCA	CVC	ATL	CNI	FTY	RYY	PUJ
2014	**73,746**	28,400	137,955	38,800	9,550	30,000	876,268	24,000	48,171	67,942	10,000
2015	**72,365**	28,400	140,038	38,800	13,000	15,000	876,785	24,000	49,195	69,291	10,000
2016	**83,528**	28,400	156,071	38,800	13,000	15,000	899,040	24,000	56,871	62,697	10,000
2017	**94,055**	28,400	158,413	38,800	17,000	15,000	884,734	30,000	50,129	62,052	10,000
2018	**95,933**	28,400	160,917	38,800	17,000	15,000	889,724	30,000	54,151	67,275	10,000
2019	**120,724**	28,400	149,104	38,500	30,000	15,000	903,135	40,000	60,156	81,116	10,000
2020	**108,650**	40,000	143,120	38,500	35,000	15,000	621,012	40,000	51,169	86,023	10,000
2021	**110,466**	40,000	152,191	38,500	35,000	15,000	672,509	40,000	70,696	95,265	10,000
2022	**117,880**	40,000	176,577	38,500	35,000	15,000	724,226	40,000	69,832	93,968	10,000
2023	**117,125**	40,000	174,414	38,500	35,000	15,000	762,526	40,000	78,654	105,372	51,000
Avg Ann. Growth	**5.88%**	4.08%	2.64%	(0.08%)	26.65%	(5.00%)	(1.30%)	6.67%	6.33%	5.51%	41.00%

Source: FAA Airport Traffic Control (ATC) Tower/ APO Terminal Area Forecast Summary (TAF), 2025.

Competitive National/International Airports

According to the FAA, there is one primary international airport within a 100-mile radius of the Gwinnett County Airport – Briscoe Field (LZU), (*Hartsfield-Jackson Atlanta International Airport*). There are also multiple smaller private international airports in competitive distance. The following table provides key characteristics of the international airport close to the subject property.

Local International Airports Key	
	ATL
Instrument Landing (ILS)	Yes
Control Tower	Yes
Runway Lengths (FT)	12,390 9,999 9,000 9,000 9,000
Aircraft based on field	3
Avg. Daily Aircraft Operations	2,089
Typical Volume Breakdown	
Local General	0%
Transient General	1%
Air Taxi	2%
Commercial	97%
Military	0%
FBO	Signiture Aviation

Source: AirNav.com; FAA, 2025.

Gwinnett County Airport – Briscoe Field (LZU) Operations

Aircraft operations increased on average at LZU from 2014 through 2023, with 117,125 total operations recorded in 2023. However, operations have fluctuated year to year, with operations peaking in 2022 at 117,880. Total based aircraft at LZU have increased overall since 2014.

Operational Statistics - Gwinnett County Airport - Briscoe Field				
Year	Total Based Aircraft	Annual Change (%)	Total Operations	(%)
2014	243	-	73,746	-
2015	217	(10.7%)	72,365	(1.9%)
2016	213	(1.8%)	83,528	15.4%
2017	197	(7.5%)	94,055	12.6%
2018	197	0.0%	95,933	2.0%
2019	153	(22.3%)	120,724	25.8%
2020	146	(4.6%)	108,650	(10.0%)
2021	147	0.7%	110,466	1.7%
2022	237	61.2%	117,880	6.7%
2023	241	1.7%	117,125	(0.6%)
Avg Ann. Growth	-	(0.1%)	-	4.7%

Source: FAA Airport Traffic Control (ATC) Tower/ APO Terminal Area Forecast Summary (TAF), 2025.

Gwinnett County Airport – Briscoe Field (LZU) Forecast

Through 2034, total operations at LZU are expected to increase by roughly 1.3% annually, and total based aircrafts are expected to see an annual increase of 1.6%.

Operational Statistics - Gwinnett County Airport - Briscoe Field				
Year	Total Based Aircraft	Annual Change (%)	Total Operations	Annual Change
2024	236	-	109,102	-
2025	240	1.7%	114,515	5.0%
2026	244	1.7%	116,899	2.1%
2027	248	1.6%	119,735	2.4%
2028	252	1.6%	120,375	0.5%
2029	256	1.6%	121,020	0.5%
2030	260	1.6%	121,669	0.5%
2031	264	1.5%	122,323	0.5%
2032	268	1.5%	122,983	0.5%
2033	272	1.5%	123,647	0.5%
2034	276	1.5%	124,316	0.5%
Avg Ann. Growth	-	1.6%	-	1.3%

Source: FAA Airport Traffic Control (ATC) Tower/ APO Terminal Area Forecast Summary (TAF), 2025.

CONCLUSION

Looking ahead, recovery in demand for domestic and international travel will drive industry growth as consumers are poised to enjoy the benefits of higher consumer confidence. Many US airports are already planning or undergoing expansions to manage a resurgence in air travelers, such as Los Angeles International's $14 billion modernization project and the massive LaGuardia redevelopment in New York. Favorable economic conditions will create many growth opportunities for the industry in the coming years. As household disposable incomes grow both domestically and internationally, spending on discretionary purchases like air travel will climb in tandem. Still, the industry will have to continuously contend with revenue from some business travel having been lost to remote working capabilities.

Federal and state funding for airport infrastructure via initiatives like the FAA's Airport Improvement Program and the 2023 Airport Improvement Grants will continue to drive enhancements in runway capacity, terminal efficiency and passenger services. The 2021 Bipartisan Infrastructure Law provides substantial federal funding for airport improvements, enabling upgrades to runways, terminals and essential infrastructure. This investment supports modernization, allowing airports to adopt advanced technologies and sustainable practices. The funding strengthens the industry's capacity, enhances safety and efficiency and sets the stage for future growth and resilience in airport operations.

Airports will leverage data and AI to offer highly personalized services. With innovations like tailored retail offers and customized travel itineraries, tech will enhance passenger engagement. Expect more apps and digital platforms designed to anticipate and meet individual needs. Frequent flyers may see their loyalty rewarded with bespoke services and faster, personalized processing. US airports are increasingly prioritizing green technologies. Denver International Airport (DEN) has made substantial investments in solar energy, becoming one of the largest solar-powered airports in the country. Waste reduction and sustainable practices are on the rise. Los Angeles International Airport (LAX) has implemented a comprehensive zerowaste program, focusing on reducing landfill contributions through extensive recycling and composting measures.

Stricter environmental regulations and heightened passenger awareness push US airports to adopt more sustainable practices. SeattleTacoma International Airport (SEA) has committed to becoming carbon-neutral by 2050, implementing electric ground service equipment and providing incentives for eco-friendly transportation options for both passengers and employees. The US Department of Transportation now requires airlines to automatically issue cash refunds for significantly delayed or canceled flights. Refunds must be processed promptly—within seven business days for credit card payments and 20 days for others—and cover the full amount minus used travel portions. Recent changes to refund policies, requiring airlines to offer quicker or automatic reimbursements for cancellations, may decrease customer service disputes at airports. With more consumer-friendly refund policies, passenger confidence could rise, potentially increasing travel demand.

Gwinnett County Airport – Briscoe Field, located northeast of Lawrenceville on approximately 520 acres with a 6,000-foot runway capable of handling light general aviation and most corporate jets, is currently operated by Sheltair, which began in April 2023 with a $17 million redevelopment plan to upgrade facilities and potentially add a new terminal and restaurant. Recent developments include the approval of Lookup Flight Academy, a new Black-owned pilot school, to operate at the airport starting in 2024, and ongoing county-level transit planning that could eventually improve access to the broader Atlanta metro area. While the airport already has an on-site restaurant, The Flying Machine, the anticipated facility upgrades by Sheltair are yet to be fully realized, and the airport continues to serve as a key general aviation hub with two FBOs and ongoing opportunities for aviation-related businesses.

Highest and Best Use Analysis

The fundamental concept of highest and best use may be defined as:

> "The reasonably probable use of property that results in the highest value."[17]

To test for highest and best use, all logical and feasible alternatives must be analyzed. The appraiser should determine whether the proposed usage of the land is:

1. Legally permissible
2. Physically possible
3. Economically feasible
4. Maximally productive

If an affirmative answer may be given to these basic questions, it is determined that the highest and best use test has been satisfied.

The appraiser must recognize that land is generally appraised as if vacant and available for development to its highest and best use and that the appraisal of improvements is based on their actual contribution to the site.

HIGHEST AND BEST USE AS VACANT

- ***Legally Permissible Uses***

The property is zoned LM (Light Manufacturing) under the authority of City of Lawrenceville. Aircraft Hangar and Maintenance buildings are a permitted use under this zoning. The zoning indicates all improvements must go through the standard permitting process and include airport uses, including hangars, FBOs, fuel farms/fueling operations, and supportive services, such as storage or maintenance and repair operations. It is our understanding that the subject is a legal and conforming use. Airport uses surround the site, making airport uses compatible with surrounding land uses.

- ***Physically Possible Uses***

Improvements to the subject site are not prohibited by the physical characteristics of the property. Its average site size of 2.09 acres, availability of public utilities and services, generally level terrain and location are all adequate for most types of development. The sites are located adjacent to taxiway and airport property.

- ***Economically Feasible Uses***

With consideration given to the physically possible and legally permissible uses, it appears that the subject site would be best suited for airport service/hangar usage.

[17] Appraisal Institute, The Appraisal of Real Estate, 15th Edition, (Chicago: Appraisal Institute, 2020), page 305.

- ***Maximally Productive Use***

Given the characteristics of the subject site, legally allowed uses, and the feasibility of development, the maximally productive use of the site would be to develop with Airport Service use. ***Hence, the highest and best use of the site, as if vacant, is for development of airport services including hangars.***

The Valuation Process

The estimation of a real property's market value involves a systematic process in which the problem is defined; the work necessary to solve the problem is planned; and the data required are acquired, classified, analyzed and interpreted as an opinion of value. In this process, three basic approaches, when applicable, are used by the appraiser: the Market Data Approach, the income capitalization approach and the cost approach. When one or more of these approaches is not applicable in the appraisal process, full justification must be presented. An explanation of each approach follows.

COST APPROACH

In the Cost Approach, the appraiser first values of the fee simple interest in the site. The replacement or reproduction cost new of the improvements is then estimated. Next, depreciation from all sources is determined and subtracted from the replacement or reproduction cost new of the improvements to arrive at their present value. The present value of all improvements is added to the market value of the site, resulting in an indicated value by the Cost Approach.

MARKET DATA APPROACH

The Market Data Approach involves the comparison of the subject property to similar properties that have recently sold or that are currently offered for sale. The sales prices of these properties are then adjusted to reflect the respective differences of each from the subject to indicate a value range. This value range, as indicated by the adjusted comparable properties, is then used to establish an indicated value for the subject property.

INCOME CAPITALIZATION APPROACH

The income capitalization approach is a process in which the anticipated future benefits (actual dollar income or amenities) are reduced to a present value figure. The appraiser is primarily concerned with the future benefits resulting from net income and reversionary proceeds. This approach involves estimating potential gross income by comparison with competing properties and estimating expenses (derived from historical and/or market experience) to determine a projected net income stream. The income stream is then capitalized into an indication of value by using capitalization rates extracted from competitive properties in the market or by using other techniques when applicable. Alternatively, the income stream as well as the reversion of the property is converted into value by use of a discounted cash flow (DCF) analysis. If both techniques are used, the resultant value indications must be reconciled.

RECONCILIATION

The final analytical step in the valuation process is reconciliation of the value indications obtained from the different approaches to value. The appraisers must consider the relative dependability and applicability of each approach as dictated by the individual characteristics of the subject. The final opinion of value reflects the results of such deliberation.

Sales Comparison Approach

The sales comparison approach, also termed the market approach, involves the comparison of the subject property to similar properties which have already sold, or which are currently offered for sale, with consideration given to their respective differences from the subject. This process tends to form a pattern of indicators from which the appraiser can estimate the value of the subject property. The principle of substitution is an integral part of this approach since a purchaser will typically not pay more for a property than would be required to purchase an equally desirable substitute property.

The following procedures are used to apply the sales comparison approach.

1. "Research the competitive market for information on properties that are similar to the subject property and that have recently sold, are listed for sale, or are under contract. Information on agreements of sale, options, listings, and bona fide offers may also be collected. The characteristics of the properties such as property type, date of sale, size, physical condition, location, and land use constraints should be considered. The goal is to find a set of comparable sales or other evidence such as property listings or contracts as similar as possible to the subject property to ensure they reflect the actions of similar buyers. Market analysis and highest and best use analysis set the stage for the selection of appropriate comparable sales.

2. Verify the information by confirming that the data obtained is factually accurate and that the transactions reflect arm's-length market considerations. Verification should elicit additional information about the property such as buyer motivation, economic characteristics (if the property is income-producing), value component allocations, and other significant factors as well as information about the market to ensure that comparisons are credible.

3. Select the most relevant units of comparison used by participants in the market (e.g., price per acre, price per square foot, price per front foot, price per dwelling unit) and develop a comparative analysis for each unit. The appraiser's goal is to define and identify a unit of comparison that explains market behavior.

4. Look for differences between the comparable sale properties and the subject property using all appropriate elements of comparison. Then adjust the price of each sale property, reflecting how it differs, to equate it to the subject property or eliminate that property as a comparable. This step typically involves using the most similar sale properties and then adjusting for any remaining differences. If a transaction does not reflect the actions of a buyer who would also be attracted to the subject property, the appraiser should be concerned about comparability and the wisdom of relying on that comparable as a basis for comparison.

5. Reconcile the various value indications produced from the analysis of comparables into a value conclusion. A value opinion can be expressed as a single point estimate, as a range of values, or in terms of a relationship (e.g., more or less than a given amount)."[18]

Each of the preceding steps will be explained as they are utilized. First, we consider the applicability of the sales comparison approach.

[18] Appraisal Institute, The Appraisal of Real Estate, 15th Edition, (Chicago: Appraisal Institute, 2020), page 355.

APPLICABILITY OF SALES COMPARISON APPROACH

The sales comparison approach can be a reliable indicator of value assuming a high degree of comparability between the subject and property sales used in comparative analysis. We researched the market for similar property sales in our comparative analysis. Review of available market data establishes a value range to develop the sales comparison approach.

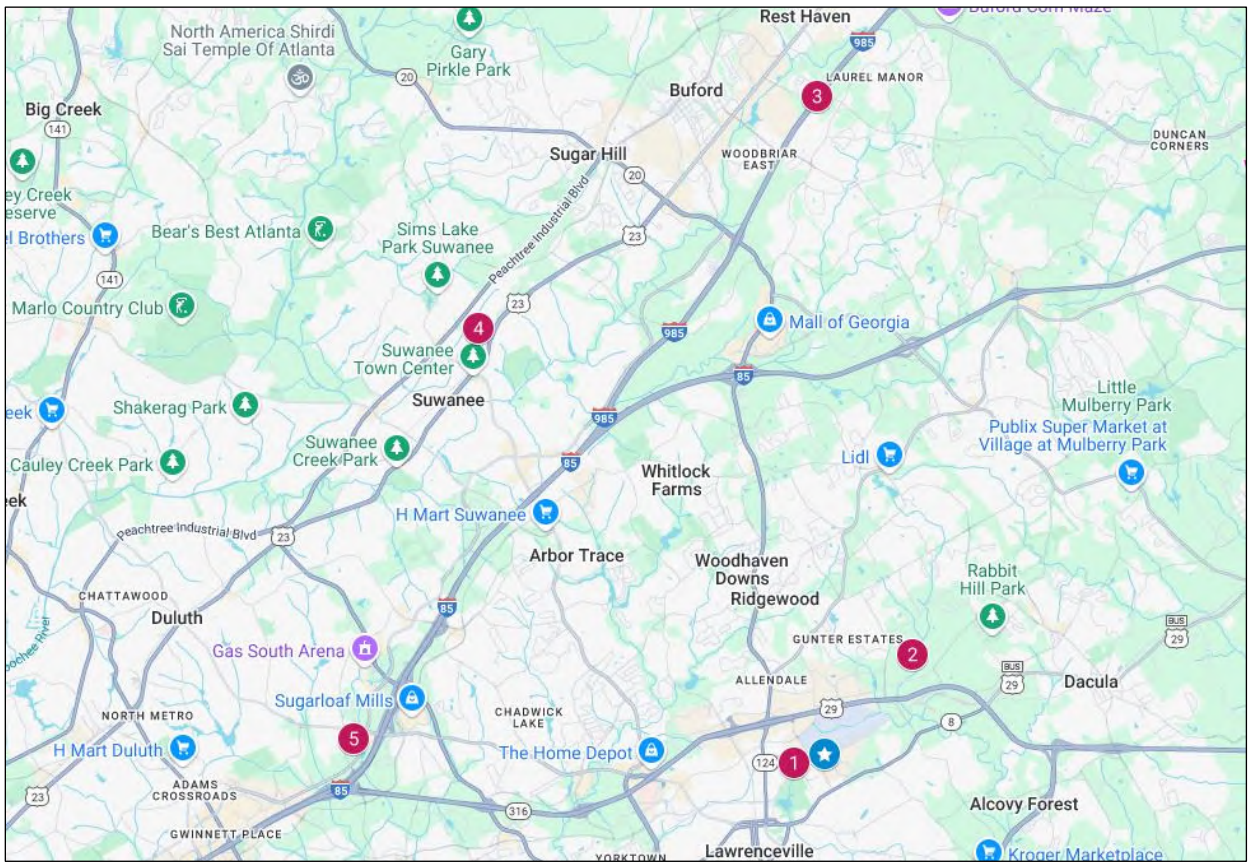
SITE VALUATION BY SALES COMPARISON

There are several different methods of land valuation; however, when sufficient data are available, the sales comparison approach is generally regarded as the best method. This method of estimating market value was previously outlined in the Appraisal Process section of this report. All available data sources were researched to identify sales of sites which are similar to the subject's site. Market participants were also surveyed regarding available offerings and general market activity.

COMPARABLE LAND SALES

The most comparable land sale would be at the subject airport. But almost all airport land is leased, so there are no sales. Land just outside the airport does not have direct runway access so it is much less comparable. We looked for other general industrial sales within the broader area.

Land Sale Location Map



Land Sale Summary							
Comp No.	Name/Location	Date of Sale	Sale Price	Acreage	Site Area SF	Sale Price/Land SF	Zoning Code
1	Hood Street Development Site Lawrenceville, Georgia	Listing	$249,000	0.81	35,284	$7.06	RS150
2	Hurricane Shoals Industrial Site Lawrenceville, Georgia	Listing	$3,000,000	7.19	313,196	$9.58	M-1
3	4530-4538 Thompson Mill Rd Site Buford, Georgia	3/25	$2,300,000	5.51	240,103	$9.58	Industrial
4	Brogdon Road Industrial Site Suwanee, Georgia	12/23	$5,750,000	10.79	470,012	$12.23	M1, County
5	2420 Meadowbrook Pkwy Industrial Site Duluth, Georgia	5/24	$1,050,000	1.84	80,150	$13.10	M-1
	Comparables Avg.		$2,469,800	5.23	227,749	$10.31	
	Subject Average Site Size	-	-	2.09	90,962	-	LM

ANALYSIS OF MARKET DATA

In the tables below, we present a summary of the general adjustments made to the comparables for each land site.

Land Sales Adjustment Grid						
Comp No.	**450 Briscoe Hangar**	**1**	**2**	**3**	**4**	**5**
Sale Price	-	$249,000	$3,000,000	$2,300,000	$5,750,000	$1,050,000
Date of Sale	-	Listing	Listing	3/25	12/23	5/24
Acreage	2.09	0.81	7.19	5.51	10.79	1.84
Site Area (SF)	90,962	35,284	313,196	240,103	470,012	80,150
Zoning Code	LM (Light Manufacturing)	RS150	M-1	Industrial	M1, County	M-1
Sale Price/Land SF	**-**	**$7.06**	**$9.58**	**$9.58**	**$12.23**	**$13.10**
Property Rights		-	-	-	-	-
Financing		-	-	-	-	-
Condition of Sale		-	-	-	-	-
Market Conditions		-3.0%	-3.0%	-	-	-
Subtotal price/unit		*$6.85*	*$9.29*	*$9.58*	*$12.23*	*$13.10*
Location		5.0%	5.0%	10.0%	-5.0%	-10.0%
Development Status		-	-	-	-	-
Site Utility		-	-	-	-	-
Size		-5.0%	20.0%	15.0%	20.0%	-
Zoning		25.0%	-	-	-	-
Subtotal Property Adjust.		*25.0%*	*25.0%*	*25.0%*	*15.0%*	*-10.0%*
Final Adjusted Price/Unit		**$8.56**	**$11.62**	**$11.98**	**$14.06**	**$11.79**

Discussion of adjustments:

- Conversations with local land brokers indicated that land values were generally stable over the past few years with modest growth. Therefore, no significant increases are made, but downward adjustment is applied for the two listings.
- Location adjustments are made for the sales closer to major thoroughfares and established commercial areas. We note that we have attempted to stay away from sales proximate I-85, which is a more heavily and developed corridor. The chosen sales are generally located off of the I-85 corridor, along secondary roadways, and in or near industrial developments.
- Size adjustments are made for differences with the subject. Upward adjustments are made to the larger sales and downward adjustments are made to the smaller sales.
- Upward zoning adjustment are needed for the residential land site that is generally surrounded by industrial uses and with a Highest and Best Use for industrial development.

PwC Real Estate Investor Survey

The PwC survey monitors trends in the institutional real estate market. The quarterly survey focuses on larger, investment-grade properties, and evaluates them on a national basis. The category in PwC most applicable is the national net lease market and capitalization rate trends are reported in the following table.

Overall Capitalization Rate (OAR)
National Net Lease Market

Year (4th Qtr.)	Low	High	Average
2018	5.00%	8.50%	6.71%
2019	4.00%	8.00%	6.19%
2020	4.00%	8.00%	6.22%
2021	5.00%	7.50%	6.22%
2022	5.00%	7.50%	6.23%
2023	6.25%	9.00%	7.38%
1Q 2024	6.00%	11.00%	7.92%
2Q 2024	6.25%	9.00%	7.51%
3Q 2024	6.25%	9.00%	7.51%
4Q 2024	6.25%	9.00%	7.71%
1Q 2025	6.25%	9.00%	7.54%

PwC Real Estate Investor Survey 1Q-2025

Current capitalization rates in the net lease market average 7.54% and assumes a stabilized investment grade asset. Aviation is a unique asset that an investor will want a high return.

Therefore, the selected OAR should be above average of the PwC Real Estate Investor Survey. As such, a capitalization rate of 7.75% is concluded based on the investor survey method.

LAND VALUE CONCLUSION

The land sales establish an adjusted range from $8.56 /SF to $14.06 /SF, with an average of $11.60 /SF. At a 7.75% ground cap rate, this indicates that the implied ground lease rate would fall in the range of $0.66/SF to $1.09/SF. These calculations are shown in the following table.

Ground Lease Rate Conclusions			
	Land Value	OAR	Lease Rate
Low	$8.56	7.75%	$0.66
High	$14.06	7.75%	$1.09
Average	$11.31	7.75%	$0.88

GROUND LEASE COMPARISON

An alternative method of analyzing airport ground lease rates is by using actual data from other airports in the region, as summarized below. All of the following are airports in the metropolitan Atlanta area.

Ground Lease Rates (per Land SF)		
Location		Contract/ Asking
Briscoe Field (LZU)	GA	$0.75
Cobb County (RYY)	GA	$0.60
Falcon Field - Fayetteville (FFC)	GA	$0.75-$1.15
Fulton County (FTY)	GA	$0.50
Newnan-Coweta Co. (CCO)	GA	$0.30
Richard B. Russell - Floyd Co. (RMG)	GA	$0.58

The data reveals that the current Briscoe/LZU ground rent is generally in line with the regional comparables. Newnan and Richard B. Russell are both in inferior locations to the subject. Cobb County and Falcon Field are similar in location to the subject, while Fulton County is superior given its proximity to the Downtown Atlanta market.

Given their similarities, the subject should be closely aligned with Cobb County and Falcon Field and above Newnan County and Richard B. Russell.

Based on the combination of available land sales data, plus our research of ground lease rates at other airports, it is our opinion that a reasonable estimate of market ground rent for the subject parcels may be summarized as follows:

- **$0.75 per land SF for other improved land.**
- **$0.83 per land SF for improved tiedown ramp space (a ten percent premium)**

Market Data Approach

The Market Data Approach, also termed the market approach, involves the comparison of the subject property to similar properties which have already sold, or which are currently offered for sale, with consideration given to their respective differences from the subject. This process tends to form a pattern of indicators from which the appraiser can estimate the value of the subject property. The principle of substitution is an integral part of this approach since a purchaser will typically not pay more for a property than would be required to purchase an equally desirable substitute property.

The following procedures are used to apply the Market Data Approach.

6. "Research the competitive market for information on properties that are similar to the subject property and that have recently transacted, or are under negotiations. Information on agreements of rent, options, or listings may also be collected. The characteristics of the properties such as property type, date of sale, size, physical condition, location, and land use constraints should be considered. The goal is to find a set of comparable rents as similar as possible to the subject property to ensure they reflect the actions of similar renters. Market analysis and highest and best use analysis set the stage for the selection of appropriate comparable rents.

7. Verify the information by confirming that the data obtained is factually accurate and that the contracts reflect arm's-length market considerations. Verification should elicit additional information about the property such as renter motivation, economic characteristics (if the property is income-producing), value component allocations, and other significant factors as well as information about the market to ensure that comparisons are credible.

8. Look for differences between the comparable rental properties and the subject property using all appropriate elements of comparison. Then adjust the price of each sale property, reflecting how it differs, to equate it to the subject property or eliminate that property as a comparable. This step typically involves using the most similar rental properties and then adjusting for any remaining differences. If a transaction does not reflect the actions of a leasee who would also be attracted to the subject property, the appraiser should be concerned about comparability and the wisdom of relying on that comparable as a basis for comparison.

9. Reconcile the various value indications produced from the analysis of comparables into a value conclusion. A value opinion can be expressed as a single point estimate, as a range of values, or in terms of a relationship (e.g., more or less than a given amount)."[19]

Each of the preceding steps will be explained as they are utilized. First, we consider the applicability of the Market Data Approach.

[19] Appraisal Institute, The Appraisal of Real Estate, 15th Edition, (Chicago: Appraisal Institute, 2020), page 355.

APPLICABILITY OF MARKET DATA APPROACH

The Market Data Approach can be a reliable indicator of value assuming a high degree of comparability between the subject and property leases used in comparative analysis. We researched the market for similar property leases in our comparative analysis. Review of available market data establishes a value range to develop the Market Data Approach.

Market Rental Summary

We have researched the surrounding area for recently signed annual lease rates per building SF and offerings within comparable hangar/office buildings. The below leases are first in Georgia and then expanded to areas in the U.S. with comparable market metrics.

Subject Lease Comparable Summary

		Building Data			Representative Lease Data				
No.	Location/Tenant	Office Finish	Building Size	Door Height	Land Lease Size (SF)	Lease Date	Lease Term (Months)	FAR	NNN Rent $/BSF per Year
	Hangars at LZU								
1	Jet Center	-	12,000	26.5'	NA	2022	-	NA	$12.00
2	Sheltair	-	12,000	26.5'	NA	2022	-	NA	$16.00
	Average of LZU Leases								**$14.00**

Lease Comparable Summary

		Building Data			Representative Lease Data				
No.	Location	YOC	Office Finish	Door Height	Lease Size (SF)	Lease Date	Lease Term (Months)	NNN Rent $/SF per	Gross Rent $/SF per Year
	Hangars at Other Georgia Airports								
FTY	Hill Aircraft FBO	-	4,500	20'	NA	2022	-	NA	$15.87
FTY	Asking	-	-	-	NA	Asking	-	NA	$12.00-$16.00
RYY	Private	-	10,000	28'	NA	2024	-	NA	$15.00
RYY	Hawthorne	-	15,625	28'	NA	2022	-	NA	$18.60
RYY	Asking	-	-	-	NA	Asking	-	NA	$15.00-$19.00
LZU	Asking		-	-	NA	Asking	-	NA	$13.00-$16.00
PDK	Signature	-	12,000	26.5'	NA	2022	-	NA	$15.00
CCO	FBO	-	1	28'	NA	2024	-	NA	$20.00
CCO	Aviation Way	-	14,600	25'	NA	2024	-	NA	$14.29
CCO	Asking	-	7,400+	15.5'+	NA	Asking	-	NA	$15.00-$20.00
FFC	Asking	-	-	-	NA	Asking	-	NA	$14.00-$15.00
RMG	Asking	-	-	-	NA	Asking	-	NA	$15.00-$19.00
	Subject								
	Office/Hangar	30%	18,800	24'	79,098	-		0.24	
	Land	-	-	-	91,712	-		0.24	
	Office/Hangar	48%	23,075	28'	103,920	-		-	
	Office/Hangar	0%	18,500	28'	89,116	-		0.22	

MARKET RENT ANALYSIS

There is limited corporate hangar space at the Briscoe Field. We have searched other Georgia airports. These have a range from $14.00 to $20.00/SF. Asking rates at the Georgia airports range from $12.00/SF to $20.00/SF. The lease rates typically include some area of improved ramp area.

All of the subject hangars are generally in average to good condition, with the highest level of finishes in 450 and 510 Briscoe. The comparable are generally in good to very good condition.

Accordingly, we reconcile near the middle to lower end of the comparable range, or about **$15.00/SF, as market rent for 450 and 510 Briscoe.** We adjust downward to **$13.00/SF for 520 Briscoe which has limited to no office space.**

Conclusion of Market Rent

In this valuation, the Cost Approach is utilized to develop insurable value, while the Market Data Approach is used for the rental analysis. The results displayed below.

Market Rent Conclusion

Property ID	Year Built	Office Finish	Clear Height	Building Area	Land Area	FAR	NVC Market Rent $/BSF	NVC Annual Market Rent
450 Briscoe Hangar	1991	29.8%	24'	18,800	79,098	0.24	$15.00	$282,000
510 (Land Only)	-	-	-	-	91,712	-	$0.75	$68,784
510 Hangar	1995	48.0%	28'	23,075	103,920	0.22	$15.00	$346,125
520 Briscoe	2004	0.0%	28'	18,500	89,116	6	$13.00	$240,500

As requested, we have allocated the overall market rent estimate between the building and land. We first calculate an overall total rent for each property and then deduct the total land rent to reach a NVC Annual Building Rent.

Allocation of Rent

Property	Other Improved Land Size Size (SF)	Building Size (SF)	NVC Market Other Improved Land Rent/SF	Imputed Building Rent/SF	Total Land Rent	Total Building Rent	NVC Annual Market Rent
450 Briscoe Hangar	79,098	18,800	$0.75	$11.84	$59,324	$222,677	$282,000
510 (Land Only)	91,712	-	$0.75	$0.00	$68,784	$0	$68,784
510 Hangar	103,920	23,075	$0.75	$11.62	$77,940	$268,185	$346,125
520 Briscoe	89,116	18,500	$0.75	$9.39	$66,837	$173,663	$240,500

Certification

We certify that, to the best of our knowledge and belief:

1. The statements of fact contained in this report are true and correct.

2. The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions and are our personal, impartial, and unbiased professional analyses, opinions, and conclusions.

3. We have no present or prospective interest in the property that is the subject of this report and no personal interest with respect to the parties involved.

4. We have no bias with respect to the property that is the subject of this report or to the parties involved with this assignment.

5. Our engagement in this assignment was not contingent upon developing or reporting predetermined results.

6. Our compensation for completing this assignment is not contingent upon the development or reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this appraisal.

7. Our analyses, opinions and conclusions were developed, and this report has been prepared, in conformity with the Uniform Standards of Professional Appraisal Practice (USPAP), the requirements of the Code of Professional Ethics and the Standards of Professional Appraisal Practice of the Appraisal Institute.

8. Peter A. Lamas, MAI made a personal inspection of the property that is the subject of this report.

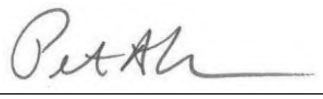
9. Additional employees of National Valuation Consultants, Inc. provided assistance with the preparation of this report. Specifically, Logan Visconti provided assistance with research, data gathering and confirmation of public records. Jessica Ballou, MAI provided internal review assistance. Otherwise, no one provided significant real property appraisal assistance to the persons signing this certification.

10. The use of this report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives.

11. As of the date of this report, Peter A. Lamas, MAI has completed the continuing education program for Designated Members of the Appraisal Institute.

12. We have performed no services, as an appraiser or in any other capacity, regarding the property that is the subject of this report within the three-year period immediately preceding acceptance of this assignment.

13. My analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity with the Georgia Real Estate Appraiser Classification and Regulation Act and the Rules and Regulations of the Georgia Real Estate Appraisers Board



Peter A. Lamas, MAI
Senior Managing Director
Georgia Certified General Appraiser
License No.: 5739
Phone: 404-920-8429
Email: plamas@nvcinc.com

ADDENDA

APPRAISER QUALIFICATIONS

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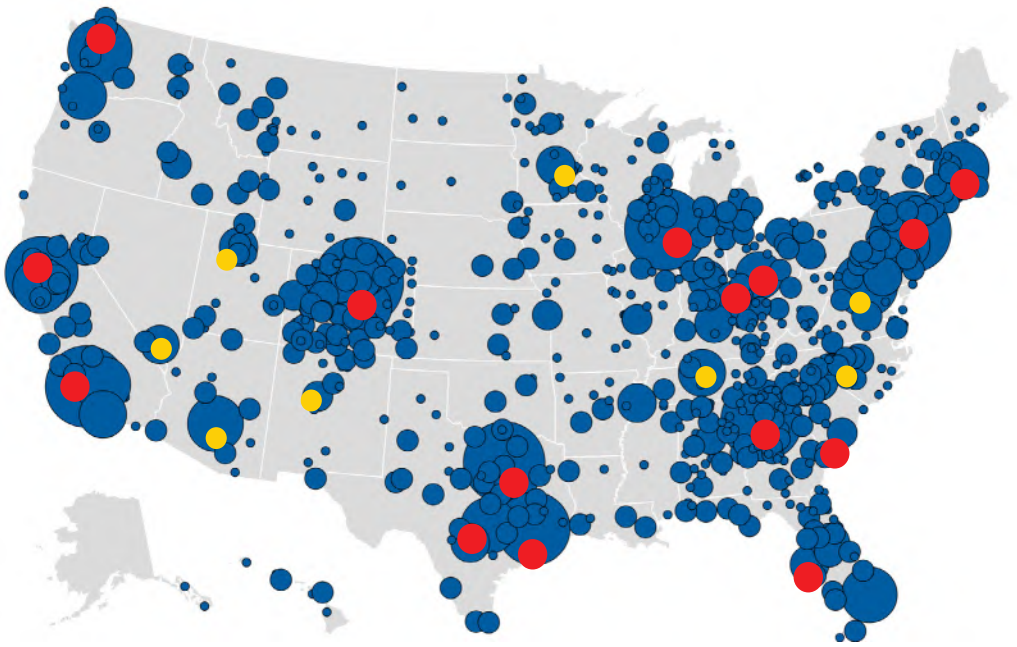

OFFICE LOCATIONS

SPECIALISTS

ASSIGNMENTS

15,500 Valuation & Consulting Assignments In 2022-23

900 Clients Served

500 Markets Covered

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- Pension Funds & Advisors
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- National, Regional & Local Banks
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- Hedge Funds
- Public Sector Agencies
- Opportunity Funds
- Special Servicers
- Law Firms
- Family Offices
- Corporations
- Governments

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- Automobile Sales & Service
- Aviation & Fixed Base Operations
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- Casinos
- Cold Storage
- Conservation Easements
- Data Centers
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- Educational Facilities/Schools
- Eminent Domain & Litigation
- Entertainment Venues
- Gas Stations and C-Stores
- Going Concern Properties
- Golf/Resort Properties
- Government Buildings
- Healthcare Facilities
- Life Science Facilities
- Marinas
- Mixed-Use Developments
- Mobile Home/RV Parks
- NNN Leased Properties
- Parking Facilities
- Preserves & Public Lands
- Production Farms & Ranches
- Religious Facilities
- Self-Storage
- Senior Housing
- Ski Areas
- Student Housing
- Timberlands

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NVC
National Valuation Consultants, Inc.

NVC is the largest privately held commercial real estate valuation and advisory firm in the United States. Our corporate headquarters is located in Denver, with regional offices in Atlanta, Boston, Chicago, Cincinnati, Columbus, Dallas, Houston, Los Angeles, the NY/NJ Metro area, San Antonio, San Francisco, Savannah, Seattle and South Florida.

Since the establishment of our firm in 1991, NVC's focus has been on two guiding principles: client service and quality of product. Our unwavering commitment to these standards has served us well, solidifying our reputation as a leader in the industry.

Our firm's 15 offices and highly experienced professional team of 120 individuals, including a blend of MAIs, Certified General Appraisers, analysts and full-time research staff, ensures the prompt allocation of resources on assignments of any size.

As an SEC registered investment advisor, NVC's Valuation and Real Estate Advisory Services (REAS) groups provide a unique combination of complete independence and transparent accountability to some of the largest companies and real estate funds in North America.

Our firm provides a wide range of valuation and consulting services, including:

- Commercial Real Estate Appraisal
- Portfolio Valuations
- Litigation Support & Expert Testimony
- Condemnation/Eminent Domain
- Real Estate Advisory Services
- Tax Appeals
- Feasibility/Marketability Analysis

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Matt Ansay, MAI, CRE
President
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MAIN VALUATION GROUPS

15,500 VALUATION & CONSULTING ASSIGNMENTS IN 2022-2023

INDUSTRIAL	4,280 Assignments	185 Markets
MULTIFAMILY	2,500 Assignments	120 Markets
RETAIL	2,470 Assignments	265 Markets
OFFICE	2,060 Assignments	120 Markets
LAND/SUBDIVISION	1,025 Assignments	140 Markets
HOTELS	400 Assignments	115 Markets

Peter Lamas, MAI

Senior Managing Director

NVC
National Valuation Consultants, Inc.

Peter joined National Valuation Consultants, Inc. in 2012, and serves as a Senior Managing Director and the Regional Manager of the firm's Atlanta office and Southeast region. He oversees all aspects of the day-to-day operations of NVC's Atlanta office including marketing, bidding assignments, appraiser training and internal reviews. In addition, Peter has extensive experience appraising a wide variety of income producing property types and land throughout the United States. Specialized areas of expertise include cold storage facilities, on campus medical facilities and STARK compliance work for hospital operators.

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Professional Experience

National Valuation Consultants, Inc. — October 2012 - Present

One of the largest, privately held commercial real estate valuation and advisory companies in the United States with a focus on institutional real estate clients.

McColgan & Company — February 2006 – September 2012

Senior Vice President - Duties included counseling, feasibility analysis, and appraisal of all types of income properties and vacant land. Prior tenure with firm included June 1996 - November 1997 and July 1998 - May 2006.

Alvarez and Marsal Real Estate Advisory Services, LLC — June 2006– January 2008

Director - Responsible for the completion of real estate valuation and advisory analysis, highest and best use studies, asset management, transaction management and due diligence analysis.

Sun Suites extended Stay Hotels — November 1997 – July 1998

Director of Real Estate - Responsible for the site selection and initial development for extended stay hotel company.

RaceTrac Petroleum, Inc. — February 1994 – June 1996

Real Estate Representative - Responsible for the site selection and initial development for gas station/convenience store company.

Formal Education

Georgia State University	Master of Science – Real Estate
Georgia Institute of Technology	B.S. – Management, Cert. in Land Development

Advanced/Specialized Coursework

Preservation Theory and Practice	Real Estate Development
Urban Economic Development	Architectural Studio/Site Planning
Evaluating Commercial Construction	Partnership & Common Tenancy

Professional Affiliations & Licensing

- Member of the Appraisal Institute (MAI)
- Appraisal Institute – Atlanta Chapter President (2025), LDAC Discussion Leader (2025)
- Certified General Appraiser in Alabama, Florida, Georgia, North Carolina, South Carolina, Tennessee, Texas and Virginia
- Georgia Real Estate Broker
- Expert Witness in State Court system of Georgia

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STATE OF GEORGIA
REAL ESTATE APPRAISERS BOARD

PETER ARTHUR LAMAS

5739

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PETER ARTHUR LAMAS

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07/31/2025

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Suite 1000 - International Tower
229 Peachtree Street, N.E.
Atlanta, GA 30303-1605

LYNN DEMPSEY
Real Estate Commissioner

1133422514446631

PETER ARTHUR LAMAS

**5739**
Status **ACTIVE**

END OF RENEWAL
07/31/2025

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Atlanta, GA 30303-1605

LYNN DEMPSEY
Real Estate Commissioner

1133422514446631

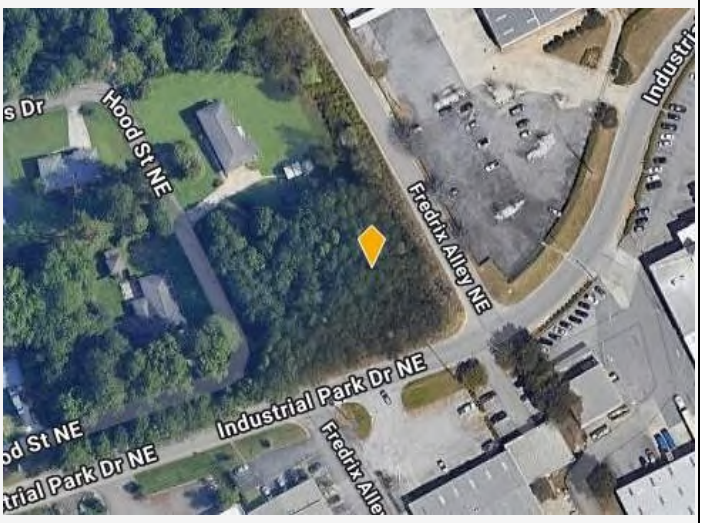
LAND SALE ABSTRACTS

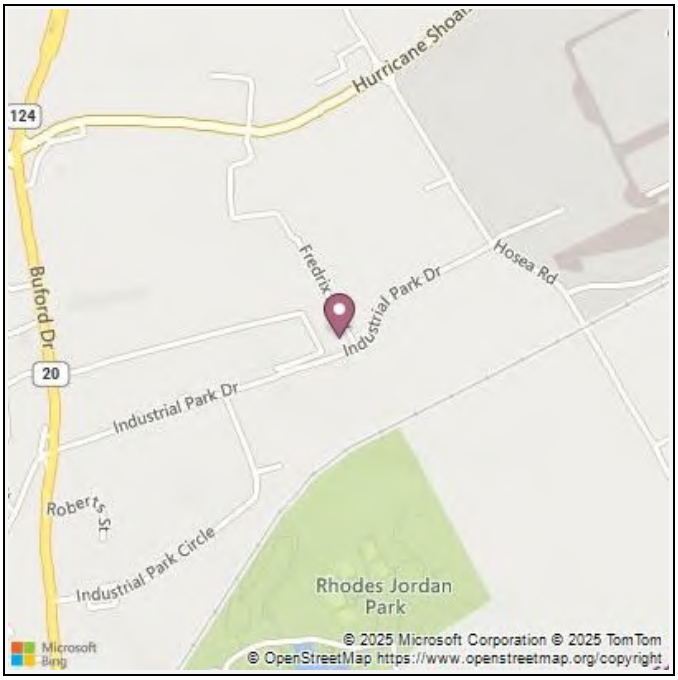
Comparable Listing 1

Land Industrial

NVC #279692

Hood Street Development Site • 0 Hood St., Lawrenceville, Georgia





PROPERTY DATA

Size	0.81 Acres / 35,284 SF
Land Use Type	Industrial
Status at Sale	Raw/Unfinished
Entitlement Status	No Entitlements/Approvals
Zoning	RS150

PROPERTY IDENTIFICATION

Property Name	Hood Street Development Site
Address / Location	0 Hood St.
City, County, State	Lawrenceville, Gwinnett, Georgia

SUMMARY OF SALIENT CHARACTERISTICS

Sale Price Per Acre	$307,407
Sale Price Per SF	$7.06
Intended Use	Industrial

LISTING DATA

Sale Price	$249,000
Date of Sale	04/21/2025
Property Interest	Fee Simple
Terms	All cash transaction
Marketing Time	460

LISTING COMMENTS

Listing of an industrial site located south of GA Hwy 316 and immediately west of Briscoe Field in Lawrenceville.

Comparable 1 Cont...

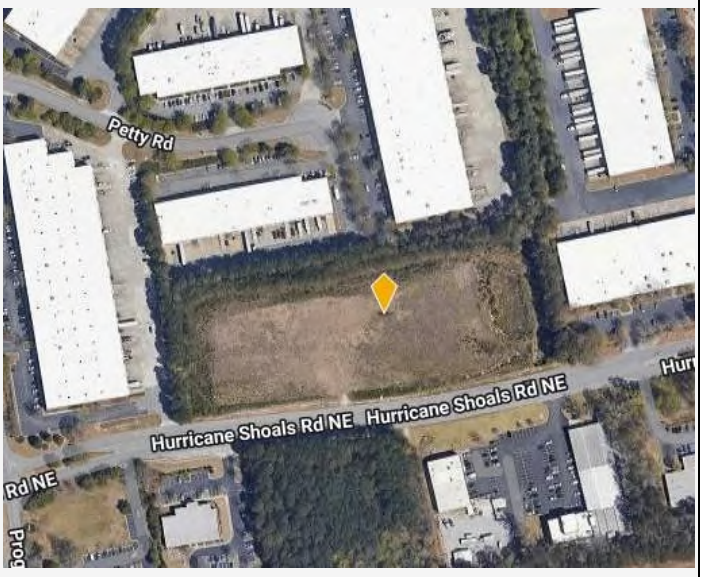
VERIFICATION	
Verified By	Listing Information
Surveyed By	Peter Lamas
Surveyed Date	04/18/2025

Comparable Listing 2

Land Industrial

NVC #279696

Progress Center II - Industrial Site • 0 Hurricane Shoals Rd NE, Lawrenceville, Georgia



PROPERTY DATA

Size	7.19 Acres / 313,196 SF
Land Use Type	Industrial
Entitlement Status	No Entitlements/Approvals
Zoning	M-1
Topography	Level

PROPERTY IDENTIFICATION

Property Name	Progress Center II - Industrial Site
Address / Location	0 Hurricane Shoals Rd NE
City, County, State	Lawrenceville, Gwinnett, Georgia

SUMMARY OF SALIENT CHARACTERISTICS

Sale Price Per Acre	$417,246
Sale Price Per SF	$9.58
Intended Use	Industrial

LISTING DATA

Sale Price	$3,000,000
Date of Sale	04/21/2025
Property Interest	Fee Simple
Terms	All cash transaction
Marketing Time	1320

LISTING COMMENTS

Industrial site listed for sale in Lawrenceville. Site is long and narrow which would limit the development potential to some degree.

Comparable 2 Cont...

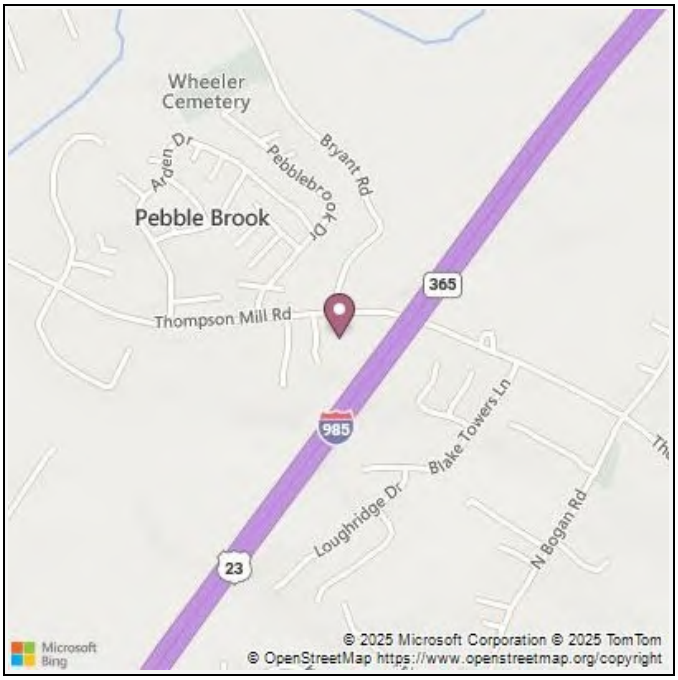
VERIFICATION	
Verified By	Marketing materials
Surveyed By	Peter Lamas
Surveyed Date	04/21/2025

Comparable Sale 3

Land Industrial

NVC #279695

4530-4538 Thompson Mill Rd Site • 4530-4538 Thompson Mill Rd, Buford, Georgia



PROPERTY DATA

Size	5.51 Acres / 240,102 SF
Land Use Type	Industrial
Entitlement Status	No Entitlements/Approvals
Zoning	Industrial
Topography	Level to rolling

SUMMARY OF SALIENT CHARACTERISTICS

Sale Price Per Acre	$417,271
Sale Price Per SF	$9.58
Intended Use	Industrial

PROPERTY IDENTIFICATION

Property Name	4530-4538 Thompson Mill Rd Site
Address / Location	4530-4538 Thompson Mill Rd
City, County, State	Buford, Gwinnett, Georgia
Assessor ID	7-266-003 7-266-004

SALE DATA

Sale Price	$2,300,000
Date of Sale	03/19/2025
Grantor	The Estate of Carl Puckett
Grantee	Vermeer Southeast
Property Interest	Fee Simple
Document #	61718-0734
Terms	All cash transaction
Marketing Time	713

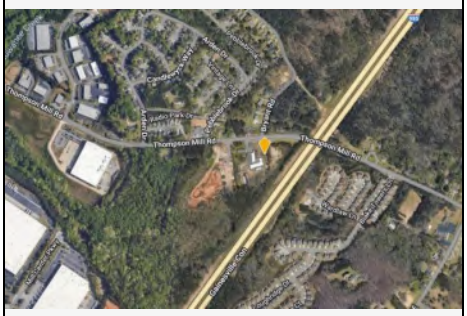
Comparable 3 Cont...

SALE COMMENTS

A private estate sold a 5.5 acre lot of land to Vermeer Southeast for $2,300,000. The land was on the market for 23 months with an initial asking price of $2,400,000. The purchaser intends to develop an industrial/showroom building on the site.

VERIFICATION

Verified By	Confidential source with the purchaser
Surveyed By	Peter Lamas
Surveyed Date	04/21/2025

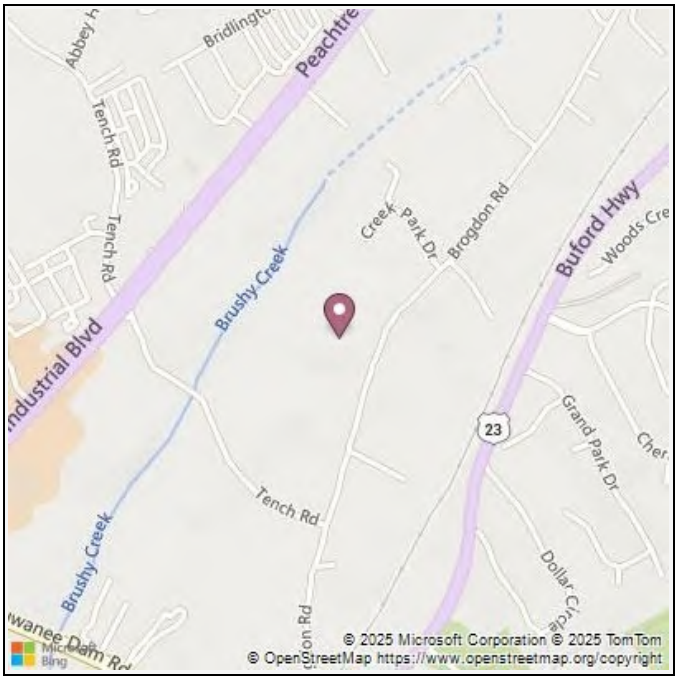


Comparable Sale 4

Land Industrial

NVC #279693

Lawrenceville Industrial Site • 00 Brogdon Rd, Suwanee, Georgia



PROPERTY DATA

Size	10.79 Acres / 470,012 SF
Land Use Type	Industrial
Entitlement Status	No Entitlements/Approvals
Zoning	M1, County
Topography	Level

SUMMARY OF SALIENT CHARACTERISTICS

Sale Price Per Acre	$532,901
Sale Price Per SF	$12.23
Intended Use	Industrial

PROPERTY IDENTIFICATION

Property Name	Lawrenceville Industrial Site
Address / Location	00 Brogdon Rd
City, County, State	Suwanee, Gwinnett, Georgia
Assessor ID	7-253-016 7-253-016

SALE DATA

Sale Price	$5,750,000
Date of Sale	12/05/2023
Grantor	Strategic Real Estate Partners
Grantee	Zehai Du
Property Interest	Fee Simple
Terms	All cash transaction
Marketing Time	469

Comparable 4 Cont...

SALE COMMENTS

Strategic Real Estate Partners sold this 10.79 acre lot on Brogdon Road in Suwanee Georgia for $5,575,000, or $532,901/acre. The buyer plans to build an 89,000 square foot industrial building on the site.

VERIFICATION

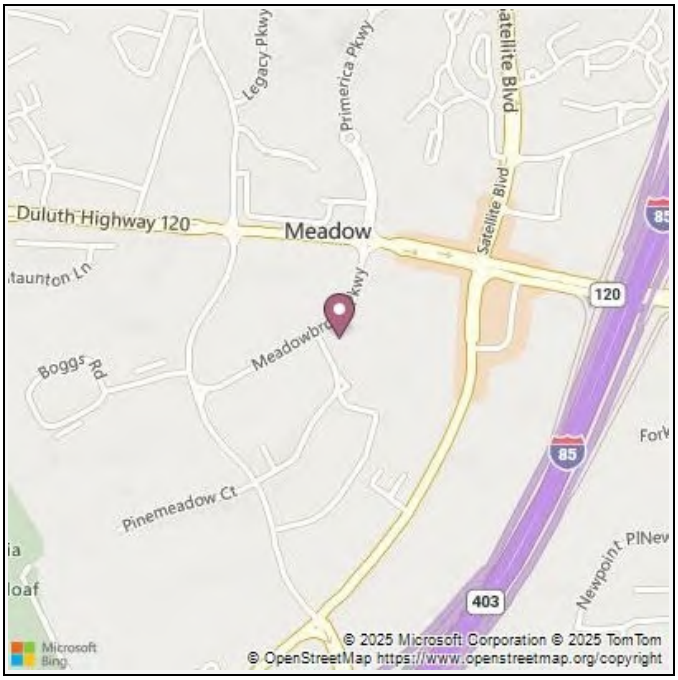
Verified By	Public Records
Surveyed By	Peter Lamas
Surveyed Date	04/21/2025

Comparable Sale 5

Land Industrial

NVC #279694

Meadowbrook Business Center Industrial Site • 2420 Meadowbrook Pky, Duluth, Georgia



PROPERTY DATA

Size	1.84 Acres / 80,150 SF
Land Use Type	Industrial
Entitlement Status	No Entitlements/Approvals
Zoning	M-1
Topography	Generally level

SUMMARY OF SALIENT CHARACTERISTICS

Sale Price Per Acre	$570,652
Sale Price Per SF	$13.10
Intended Use	Industrial

PROPERTY IDENTIFICATION

Property Name	Meadowbrook Business Center Industrial Site
Address / Location	2420 Meadowbrook Pky
City, County, State	Duluth, Gwinnett, Georgia

SALE DATA

Sale Price	$1,050,000
Date of Sale	05/23/2024
Grantor	Macke Michael M
Grantee	A & D Foods
Property Interest	Fee Simple
Document #	61211-0216
Terms	All cash transaction

Comparable 5 Cont...

SALE COMMENTS

Sale of a 1.84 acre lot to A & D Foods for $1,050,000, or $570,652/acre. The property was vacant land at the time of the sale and will be developed with an industrial use.

VERIFICATION

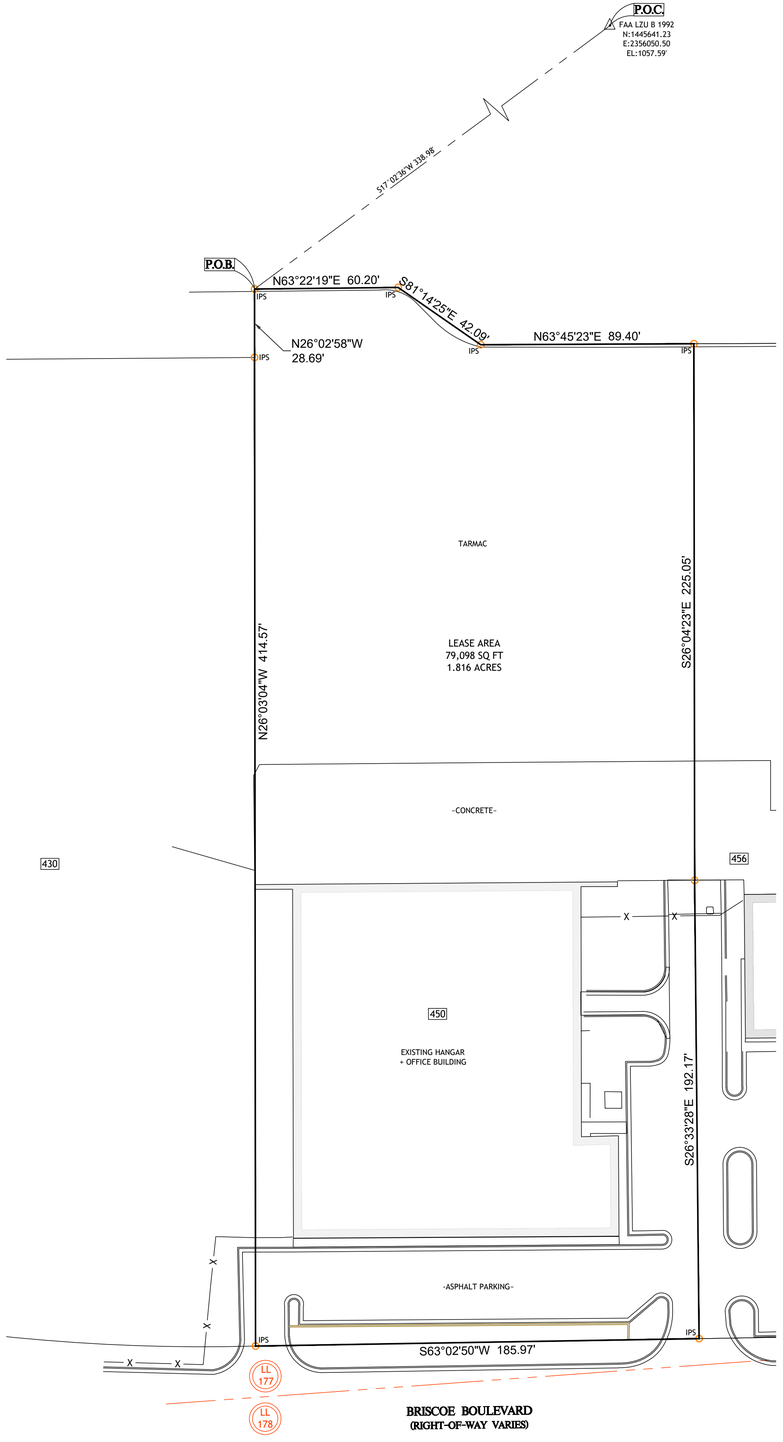
Verified By	Deed records
Surveyed By	Peter Lamas
Surveyed Date	04/21/2025

SURVEYS

BOX RESERVED FOR CLERK OF COURT

GA. WEST ZONE NAD83

GRID NORTH



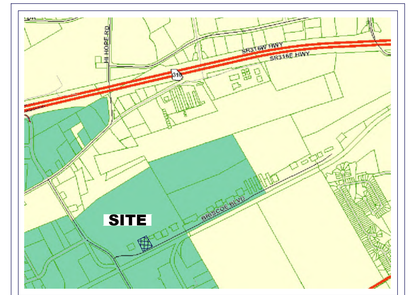
0 30 60

15 45

SCALE: 1"=30'

LEGEND

- PROPERTY LINE
- FENCE
- LAND LOT LINE
- IRON PIN FOUND AS NOTED
- PROPERTY CORNER
- 1/2" RBR HALF INCH REBAR
- IPS IRON PIN SET
- **P.O.B.** POINT OF BEGINNING
- **P.O.C.** POINT OF COMMENCEMENT



VICINITY MAP
NOT TO SCALE

PROPERTY ADDRESS

450 BRISCOE BLVD
LAWRENCEVILLE, GA.

SITE AREA

79,098 SQ FT
1.816 ACRES

NOTES

1. THIS PLAT WAS PREPARED FOR THE EXCLUSIVE USE OF THE ENTITY NAMED IN THE CERTIFICATION HEREON. SAID CERTIFICATION DOES NOT EXTEND TO ANY UNNAMED ENTITY WITHOUT EXPRESS PERMISSION BY THE SURVEYOR NAMING SAID ENTITY.
2. THE FIELD DATA UPON WHICH THIS MAP OR PLAT IS BASED HAS A CLOSURE PRECISION OF ONE FOOT IN 63,799 FEET; AN ANGULAR ERROR OF 2.19" PER ANGLE POINT; AND WAS ADJUSTED USING LEAST SQUARES.
3. THIS MAP OR PLAT HAS BEEN CALCULATED FOR CLOSURE AND IS FOUND TO BE ACCURATE WITHIN ONE FOOT IN189,286 FEET.
4. THE FIELD WORK WAS PERFORMED ON 4/18/24. THE EQUIPMENT UTILIZED IN PERFORMING THE FIELD WORK WAS A TRIMBLE ROBOTIC S5 2".
5. THE SURVEY SHOWN HEREON WAS PREPARED WITHOUT BENEFIT OF ANY ABSTRACT OF TITLE AND ATLAS ENGINEERING MAKES NO GUARANTEES OR REPRESENTATIONS REGARDING INFORMATION SHOWN HEREON PERTAINING TO EASEMENTS, RIGHTS-OF-WAY, SETBACK LINES, AGREEMENTS, RESERVATIONS, AND OTHER SIMILAR MATTERS.
6. THE PROJECT HORIZONTAL DATUM IS RELATIVE TO THE NORTH AMERICAN DATUM 1983 (NAD83), 2011 ADJUSTMENT, PROJECTED TO THE GEORGIA STATE PLANE COORDINATE SYSTEM, WEST ZONE. THE VERTICAL DATUM IS RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) USING THE NATIONAL GEODETIC SURVEY (NGS) GEOID 2012A.
7. ALL DISTANCES SHOWN ARE HORIZONTAL GROUND DISTANCES IN U.S. SURVEY FEET (39.37 INCHES = 1 METER) UNLESS NOTED OTHERWISE.

PLAT REFERENCES

1. LEASE PARCEL EXHIBIT OF 430 BRISCOE BOULEVARD, PREPARED BY LONG ENGINEERING, DATED 10/17/20, LAST REVISED 10/28/20.
2. A SURVEY ENTITLED "SURVEY OF AVGROUP, INC." PREPARED BY GWINNETT COUNTY DEPARTMENT OF TRANSPORTATION, DATED 6/21/95.

DESCRIPTION OF PARCEL

ALL THAT TRACT OR PARCEL OF LAND LYING AND BEING IN LAND LOT 117, 5TH DISTRICT, CITY OF LAWRENCEVILLE, GWINNETT COUNTY, GEORGIA CAN BE MORE PARTICULARLY DECSRIBED AS FOLLOWS:

COMMENCING FROM AN 5/8 INCH REBAR AND CAP (KNOWN AS FAA LZU B 1992 AND HAVING THE GEORGIA STATE PLANE COORDINATES OF N:1445641.23, E:2356050.50) AND ALONG A TIE-LINE SOUTH 17 DEGREES 2 MINUTES 36 SECONDS WEST A DISTANCE OF 338.98 FEET TO THE POINT OF BEGINNING.

THE POINT OF BEGINNING THUS BEING ESTABLISHED;

PROCEED NORTH 63 DEGREES 22 MINUTES 19 SECONDS EAST, A DISTANCE OF 60.20 FEET TO A POINT; THENCE SOUTH 81 DEGREES14 MINUTES 26 SECONDS EAST, A DISTANCE OF 42.09 FEET TO A POINT; THENCE NORTH 63 DEGREES 45 MINUTES 23 SECONDS EAST, A DISTANCE OF 89.40 FEET TO A POINT; THENCE SOUTH 26 DEGREES 04 MINUTES 23 SECONDS EAST, A DISTANCE OF 225.05 FEET TO A POINT; THENCE SOUTH 26 DEGREES 33 MINUTES 28 SECONDS EAST, A DISTANCE OF 192.17 FEET TO A POINT; THENCE SOUTH 63 DEGREES 02 MINUTES 50 SECONDS WEST, A DISTANCE OF 185.97 FEET TO A POINT; THENCE NORTH 26 DEGREES 03 MINUTES 04 SECONDS WEST, A DISTANCE OF 414.57 FEET TO A POINT; THENCE NORTH 26 DEGREES 02 MINUTES 58 SECONDS WEST, A DISTANCE OF 28.69 FEET TO THE POINT OF BEGINNING.

SAID LEASE AREA CONTAINS 79,098 SQUARE FEET OR 1.816 ACRES.

REVISIONS

REV #	DATE	DESCRIPTION	REQUESTED BY

ATLAS#17925

ATLAS
2550 HERITAGE COURT, STE 250
ATLANTA, GA. 30339
TEL 770.541.7510 FAX 770.951.1496
www.oneatlas.com
COA#LSF000744 - EXP 6/30/24

LEASE PARCEL EXHIBIT
PARCEL 450
LL 177 - 5TH DISTRICT - CITY OF LAWRENCEVILLE - GWINNETT COUNTY - GEORGIA

GEORGIA REGISTERED No. 3154 LAND SURVEYOR DANIEL L. RICEMAN

DATE	5/7/24
SURVEY QC:	D.RICEMAN
CADD QC:	D.HUDSON
SURVEYED BY:	M.HENDERSON
DRAWN BY:	D.HUDSON

SHEET
1 OF 1

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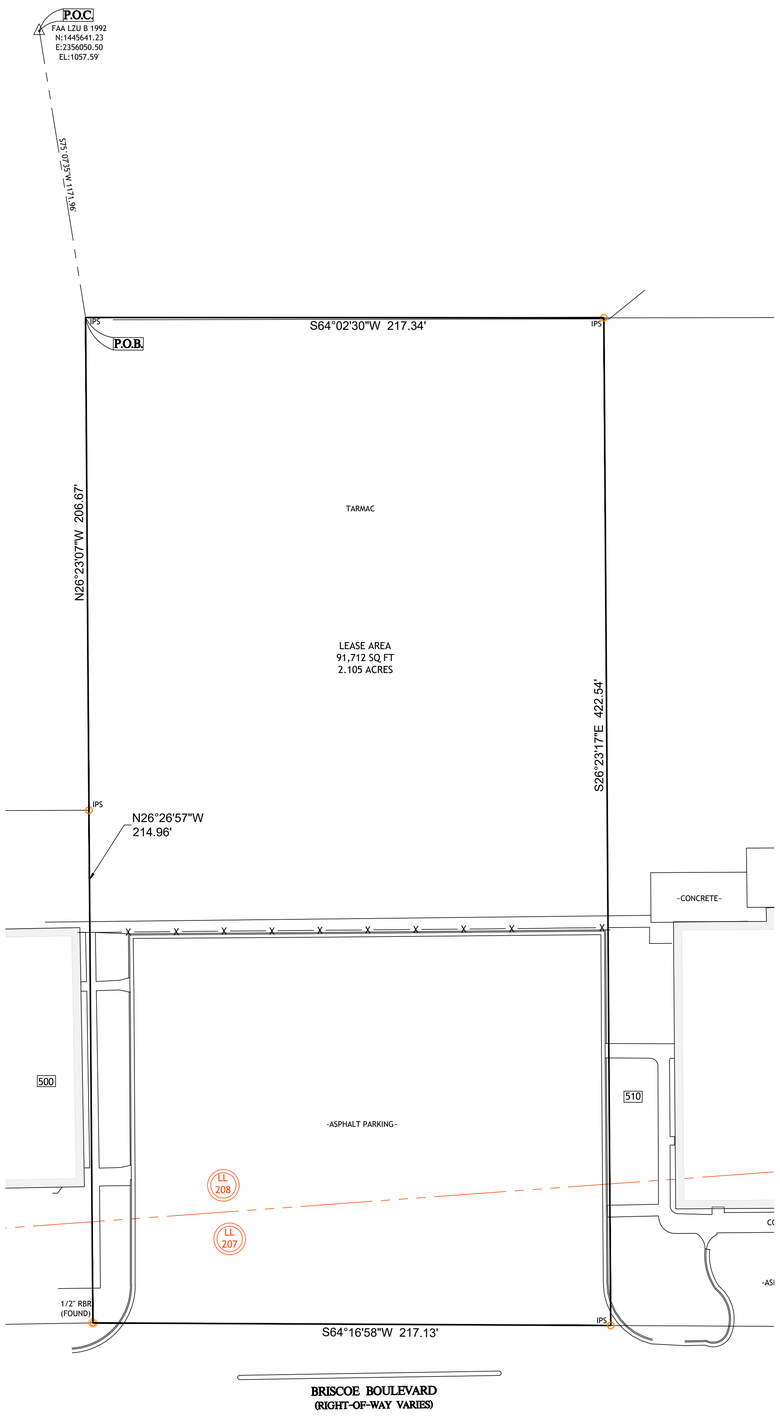
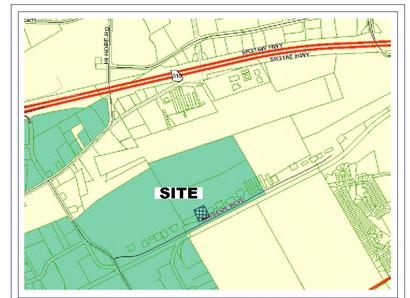
BOX RESERVED FOR CLERK OF COURT

GA. WEST ZONE NAD83

GRID-NORTH





VICINITY MAP
NOT TO SCALE

PROPERTY ADDRESS

510 BRISCOE BLVD.
LAWRENCEVILLE, GA.

SITE AREA

97,712 SQ FT
2.105 ACRES

NOTES

1. THIS PLAT WAS PREPARED FOR THE EXCLUSIVE USE OF THE ENTITY NAMED IN THE CERTIFICATION HEREON. SAID CERTIFICATION DOES NOT EXTEND TO ANY UNNAMED ENTITY WITHOUT EXPRESS PERMISSION BY THE SURVEYOR NAMING SAID ENTITY.
2. THE FIELD DATA UPON WHICH THIS MAP OR PLAT IS BASED HAS A CLOSURE PRECISION OF ONE FOOT IN 63,799 FEET; AN ANGULAR ERROR OF 2.19" PER ANGLE POINT; AND WAS ADJUSTED USING LEAST SQUARES.
3. THIS MAP OR PLAT HAS BEEN CALCULATED FOR CLOSURE AND IS FOUND TO BE ACCURATE WITHIN ONE FOOT IN 626,518 FEET.
4. THE FIELD WORK WAS PERFORMED ON 4/18/24. THE EQUIPMENT UTILIZED IN PERFORMING THE FIELD WORK WAS A TRIMBLE S5 2".
5. THE SURVEY SHOWN HEREON WAS PREPARED WITHOUT BENEFIT OF ANY ABSTRACT OF TITLE AND LONG ENGINEERING MAKES NO GUARANTEES OR REPRESENTATIONS REGARDING INFORMATION SHOWN HEREON PERTAINING TO EASEMENTS, RIGHTS-OF-WAY, SETBACK LINES, AGREEMENTS, RESERVATIONS, AND OTHER SIMILAR MATTERS.
6. THE PROJECT HORIZONTAL DATUM IS RELATIVE TO THE NORTH AMERICAN DATUM 1983 (NAD83), 2011 ADJUSTMENT, PROJECTED TO THE GEORGIA STATE PLANE COORDINATE SYSTEM, WEST ZONE. THE VERTICAL DATUM IS RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) USING THE NATIONAL GEODETIC SURVEY (NGS) GEOID 2012A.
7. ALL DISTANCES SHOWN ARE HORIZONTAL GROUND DISTANCES IN U.S. SURVEY FEET (39.37 INCHES = 1 METER) UNLESS NOTED OTHERWISE.

PLAT REFERENCES

1. A SURVEY FOR GWINNETT CO. AIRPORT LEASE AREA, TRACT 2, FOR PROGRESSIVE AVIATION INC., PREPARED BY GWINNETT COUNTY D.O.T., DATED 3/30/94.
2. SURVEY FOR ATLANTA JET PROPERTIES, LLC., NATIONSBANK, N.A. (SOUTH) AND FIRST AMERICAN TITLE COMPANY, PREPARED BY GWINNETT COUNTY DEPARTMENT OF TRANSPORTATION, DATED 8/15/96, LAST REVISED 9/13/96.

DESCRIPTION OF PARCEL

ALL THAT TRACT OR PARCEL OF LAND LYING AND BEING IN LAND LOT 207 & 208, 5TH DISTRICT, CITY OF LAWRENCEVILLE, GWINNETT COUNTY, GEORGIA CAN BE MORE PARTICULARLY DECSRIBED AS FOLLOWS:

COMMENCING FROM AN 5/8 INCH REBAR AND CAP (KNOWN AS FAA LZU B 1992 AND HAVING THE STATE PLANE COORDINATES OF N:1445641.23, E:2356050.50, NAD83) AND ALONG A TIE-LINE SOUTH 75 DEGREES 07 MINUTES 35 SECONDS A DISTANCE OF 1171.96 FEET TO THE POINT OF BEGINNING.

THE POINT OF BEGINNING THUS BEING ESTABLISHED;

THENCE NORTH 64 DEGREES 02 MINUTES 30 SECONDS EAST, 217.34 FEET TO A POINT; THENCE SOUTH 26 DEGREES 23 MINUTES 17 SECONDS EAST, 422.54 FEET TO A POINT; THENCE SOUTH 64 DEGREES 16 MINUTES 58 SECONDS WEST, 217.13 FEET TO A HALF INCH REBAR FOUND; THENCE NORTH 26 DEGREES 26 MINUTES 57 SECONDS WEST, 214.96 FEET TO A POINT; THENCE NORTH 26 DEGREES 23 MINUTES 07 SECONDS WEST, 206.67 FEET TO THUTE POINT OF BEGINNING.

SAID LEASE PARCEL CONTAINS 91,712 SQUARE FEET OR 2.105 ACRES.

LEGEND

	PROPERTY LINE
x x x x x	FENCE
	LAND LOT LINE
	IRON PIN FOUND AS NOTED
	PROPERTY CORNER
1/2" RBR	HALF INCH REBAR
IPS	IRON PIN SET
P.O.B.	POINT OF BEGINNING
P.O.C.	POINT OF COMMENCEMENT

0 30 60
15 45
SCALE: 1"=30'

REVISIONS			
REV #	DATE	DESCRIPTION	REQUESTED BY

ATLAS#17925

ATLAS
2550 HERITAGE COURT, STE 250
ATLANTA, GA. 30339
TEL 770.951.1496 FAX 770.951.1496
www.oneatlas.com
COA#LSF000744 - EXP 6/30/24

LEASE EXHIBIT

PARCEL 510 RAMP AREA

LL 207 & 208 - 5TH DISTRICT - CITY OF LAWRENCEVILLE - GWINNETT COUNTY - GEORGIA

GEORGIA REGISTERED No. 3154 LAND SURVEYOR DANIEL L. RICEMAN

DATE	5/7/24
SURVEY QC:	D.RICEMAN
CADD QC:	D.HUDSON
SURVEYED BY:	M.HENDERSON
DRAWN BY:	D.HUDSON

SHEET
1 OF 1

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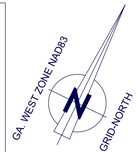
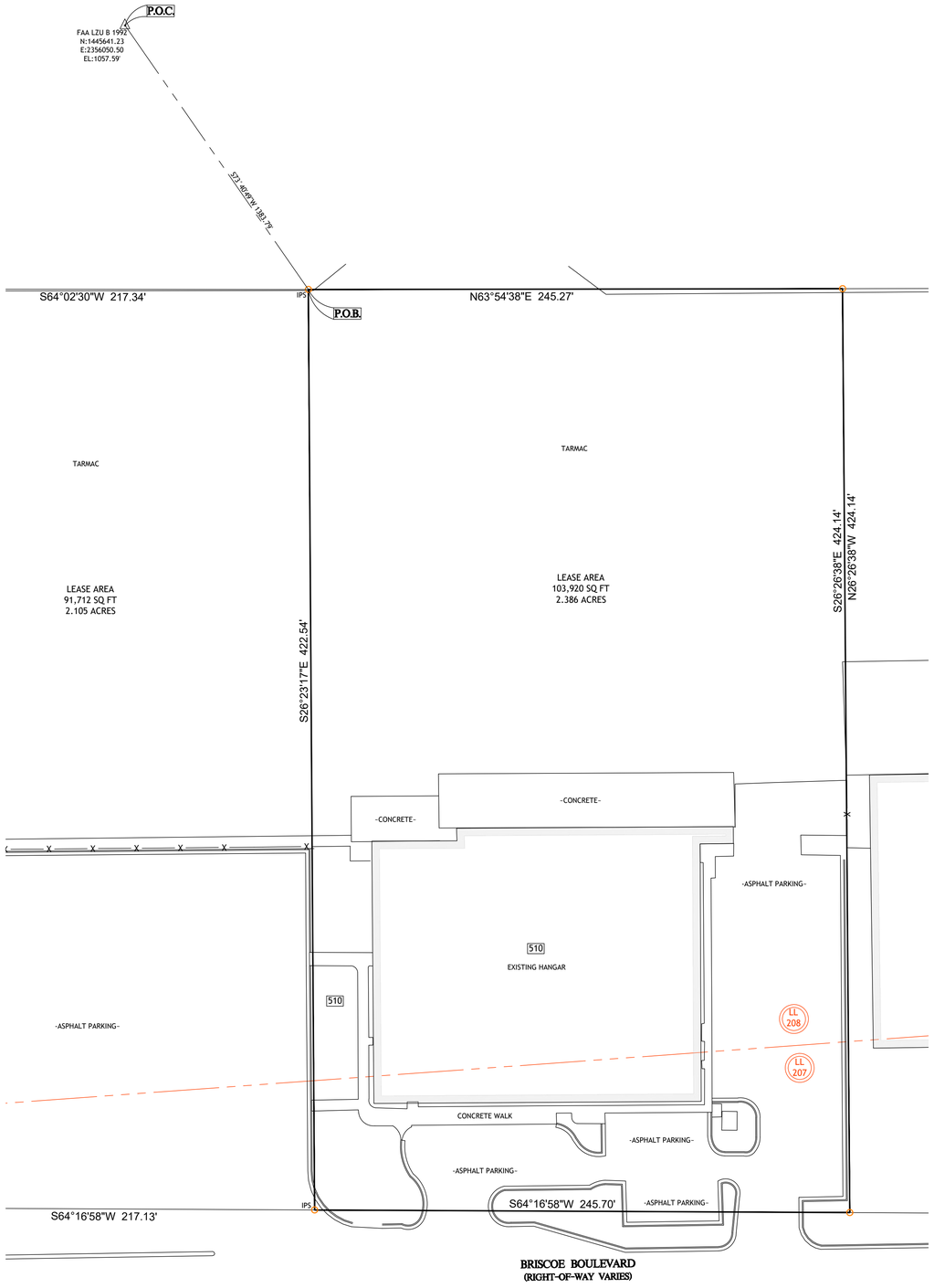
BOX RESERVED FOR CLERK OF COURT

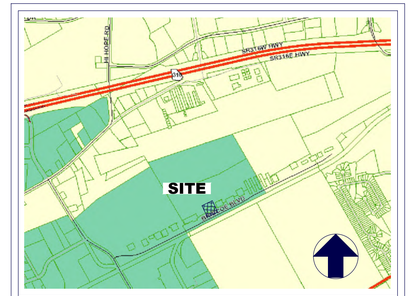




LEGEND

———	PROPERTY LINE
——X——X——X——X——X——	FENCE
——— — — ———	LAND LOT LINE
○	IRON PIN FOUND AS NOTED
○	PROPERTY CORNER
1/2" RBR	HALF INCH REBAR
IPS	IRON PIN SET
P.O.B.	POINT OF BEGINNING
P.O.C.	POINT OF COMMENCEMENT

0 30 60
15 45
SCALE: 1"=30'



VICINITY MAP
NOT TO SCALE

PROPERTY ADDRESS

510 BRISCOE BLVD.
LAWRENCEVILLE, GA.

SITE AREA

103,920 SQ FT
2.386 ACRES

NOTES

1. THIS PLAT WAS PREPARED FOR THE EXCLUSIVE USE OF THE ENTITY NAMED IN THE CERTIFICATION HEREON. SAID CERTIFICATION DOES NOT EXTEND TO ANY UNNAMED ENTITY WITHOUT EXPRESS PERMISSION BY THE SURVEYOR NAMING SAID ENTITY.
2. THE FIELD DATA UPON WHICH THIS MAP OR PLAT IS BASED HAS A CLOSURE PRECISION OF ONE FOOT IN 63,799 FEET; AN ANGULAR ERROR OF 2.19" PER ANGLE POINT; AND WAS ADJUSTED USING LEAST SQUARES.
3. THIS MAP OR PLAT HAS BEEN CALCULATED FOR CLOSURE AND IS FOUND TO BE ACCURATE WITHIN ONE FOOT IN 626,518 FEET.
4. THE FIELD WORK WAS PERFORMED ON 4/18/24. THE EQUIPMENT UTILIZED IN PERFORMING THE FIELD WORK WAS A LEICA TS12 P 3".
5. THE SURVEY SHOWN HEREON WAS PREPARED WITHOUT BENEFIT OF ANY ABSTRACT OF TITLE AND LONG ENGINEERING MAKES NO GUARANTEES OR REPRESENTATIONS REGARDING INFORMATION SHOWN HEREON PERTAINING TO EASEMENTS, RIGHTS-OF-WAY, SETBACK LINES, AGREEMENTS, RESERVATIONS, AND OTHER SIMILAR MATTERS.
6. THE PROJECT HORIZONTAL DATUM IS RELATIVE TO THE NORTH AMERICAN DATUM 1983 (NAD83), 2011 ADJUSTMENT, PROJECTED TO THE GEORGIA STATE PLANE COORDINATE SYSTEM, WEST ZONE. THE VERTICAL DATUM IS RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) USING THE NATIONAL GEODETIC SURVEY (NGS) GEOID 2012A.
7. ALL DISTANCES SHOWN ARE HORIZONTAL GROUND DISTANCES IN U.S. SURVEY FEET (39.37 INCHES = 1 METER) UNLESS NOTED OTHERWISE.

PLAT REFERENCES

1. A SURVEY ENTITLED "EXHIBIT A" OF "GWINNETT CO. AIRPORT LEASE FOR GMD", PREPARED BY GWINNETT COUNTY COUNTY DEPARTMENT OF TRANSPORTATION, DATED 4/26/09.
2. A SURVEY FOR GWINNETT CO. AIRPORT LEASE AREA, TRACT 2, FOR PROGRESSIVE AVIATION INC., PREPARED BY GWINNETT COUNTY D.O.T., DATED 3/30/94.
3. SURVEY FOR ATLANTA JET PROPERTIES, LLC., NATIONSBANK, N.A. (SOUTH) AND FIRST AMERICAN TITLE COMPANY, PREPARED BY GWINNETT COUNTY DEPARTMENT OF TRANSPORTATION, DATED 8/15/96, LAST REVISED 9/13/96.

DESCRIPTION OF PARCEL

ALL THAT TRACT OR PARCEL OF LAND LYING AND BEING IN LAND LOT 207 & 208, 5TH DISTRICT, CITY OF LAWRENCEVILLE, GWINNETT COUNTY, GEORGIA CAN BE MORE PARTICULARLY DECSRIBED AS FOLLOWS:

COMMENCING FROM AN 5/8 INCH REBAR AND CAP (KNOWN AS FAA LZU B 1992 AND HAVING THE STATE PLANE COORDINATES OF N:1445641.23, E:2356050.50, NAD83) AND ALONG A TIE-LINE SOUTH 73 DEGREES 40 MINUTES 49 SECONDS A DISTANCE OF 1383.79 FEET TO THE POINT OF BEGINNING.

THE POINT OF BEGINNING THUS BEING ESTABLISHED;

THENCE NORTH 63 DEGREES 54 MINUTES 38 SECONDS EAST, 245.27 FEET TO A POINT; THENCE SOUTH 26 DEGREES 26 MINUTES 38 SECONDS EAST, 424.14 FEET TO A POINT; THENCE SOUTH 64 DEGREES 16 MINUTES 58 SECONDS WEST, 245.70 FEET TO A POINT; THENCE NORTH 26 DEGREES 23 MINUTES 17 SECONDS WEST, 422.54 FEET TO THE POINT OF BEGINNING.

SAID LEASE PARCEL CONTAINS 103,920 SQUARE FEET OR 2.386 ACRES.

REVISIONS

REV #	DATE	DESCRIPTION	REQUESTED BY

ATLAS#17925

ATLAS
2550 HERITAGE COURT, STE 250
ATLANTA, GA. 30339
TEL 770.661.3540 FAX 770.951.1496
www.oneatlas.com
COA#:LSF000744 - EXP 6/30/24

LEASE EXHIBIT
PARCEL 510
LL 207 & 208 – 5TH DISTRICT – CITY OF LAWRENCEVILLE – GWINNETT COUNTY – GEORGIA

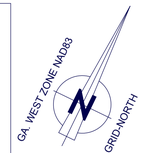
GEORGIA REGISTERED 3154 LAND SURVEYOR DANIEL L. RICEMAN

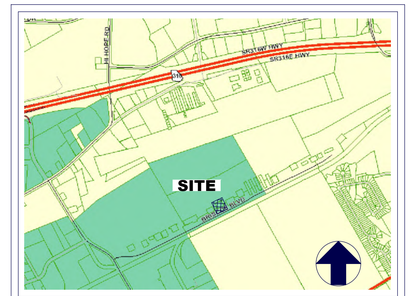
DATE	5/7/24
SURVEY QC:	D.RICEMAN
CADD QC:	D.HUDSON
SURVEYED BY:	M.HENDERSON
DRAWN BY:	D.HUDSON

SHEET
1 OF 1

P:\LEI PROJECTS\17925 Southside Lease Parcels\02 SURVEY\05 Working\DAN\17925_South Lease parcels.dwg, 5/7/2024 1:29:56 PM

BOX RESERVED FOR CLERK OF COURT





VICINITY MAP
NOT TO SCALE

PROPERTY ADDRESS

520 BRISCOE BLVD.
LAWRENCEVILLE, GA.

SITE AREA

89,116 SQ FT
2.046 ACRES

NOTES

1. THIS PLAT WAS PREPARED FOR THE EXCLUSIVE USE OF THE ENTITY NAMED IN THE CERTIFICATION HEREON. SAID CERTIFICATION DOES NOT EXTEND TO ANY UNNAMED ENTITY WITHOUT EXPRESS PERMISSION BY THE SURVEYOR NAMING SAID ENTITY.
2. THE FIELD DATA UPON WHICH THIS MAP OR PLAT IS BASED HAS A CLOSURE PRECISION OF ONE FOOT IN 63,799 FEET; AN ANGULAR ERROR OF 2.19" PER ANGLE POINT; AND WAS ADJUSTED USING LEAST SQUARES.
3. THIS MAP OR PLAT HAS BEEN CALCULATED FOR CLOSURE AND IS FOUND TO BE ACCURATE WITHIN ONE FOOT IN 327,117 FEET.
4. THE FIELD WORK WAS PERFORMED ON 4/18/24. THE EQUIPMENT UTILIZED IN PERFORMING THE FIELD WORK WAS A LEICA TS12 P 3".
5. THE SURVEY SHOWN HEREON WAS PREPARED WITHOUT BENEFIT OF ANY ABSTRACT OF TITLE AND LONG ENGINEERING MAKES NO GUARANTEES OR REPRESENTATIONS REGARDING INFORMATION SHOWN HEREON PERTAINING TO EASEMENTS, RIGHTS-OF-WAY, SETBACK LINES, AGREEMENTS, RESERVATIONS, AND OTHER SIMILAR MATTERS.
6. THE PROJECT HORIZONTAL DATUM IS RELATIVE TO THE NORTH AMERICAN DATUM 1983 (NAD83), 2011 ADJUSTMENT, PROJECTED TO THE GEORGIA STATE PLANE COORDINATE SYSTEM, WEST ZONE. THE VERTICAL DATUM IS RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) USING THE NATIONAL GEODETIC SURVEY (NGS) GEOID 2012A.
7. ALL DISTANCES SHOWN ARE HORIZONTAL GROUND DISTANCES IN U.S. SURVEY FEET (39.37 INCHES = 1 METER) UNLESS NOTED OTHERWISE.

PLAT REFERENCES

1. SURVEY FOR JAMES JUSTICE - AIRPORT LEASE, PREPARED BY GWINNETT COUNTY D.O.T., DATED 6/16/96.
2. A SURVEY ENTITLED "EXHIBIT A" OF "GWINNETT CO. AIRPORT LEASE FOR GMD", PREPARED BY GWINNETT COUNTY COUNTY DEPARTMENT OF TRANSPORTATION, DATED 4/26/99.
3. A SURVEY FOR GWINNETT CO. AIRPORT LEASE AREA, TRACT 2, FOR PROGRESSIVE AVIATION INC., PREPARED BY GWINNETT COUNTY D.O.T., DATED 3/30/94.
4. SURVEY FOR ATLANTA JET PROPERTIES, LLC., NATIONSBANK, N.A. (SOUTH) AND FIRST AMERICAN TITLE COMPANY, PREPARED BY GWINNETT COUNTY DEPARTMENT OF TRANSPORTATION, DATED 8/15/96, LAST REVISED 9/13/96.

DESCRIPTION OF PARCEL

ALL THAT TRACT OR PARCEL OF LAND LYING AND BEING IN LAND LOT 207 & 208, 5TH DISTRICT, CITY OF LAWRENCEVILLE, GWINNETT COUNTY, GEORGIA CAN BE MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING FROM AN 5/8 INCH REBAR AND CAP (KNOWN AS FAA LZU B 1992 AND HAVING THE STATE PLANE COORDINATES OF N:1445641.23, E:2356050.50, NAD83) AND ALONG A TIE-LINE SOUTH 72 DEGREES 12 MINUTES 49 SECONDS A DISTANCE OF 1626.04 FEET TO THE POINT OF BEGINNING.

THENCE NORTH 63 DEGREES 54 MINUTES 38 SECONDS EAST, 210.12 FEET TO A HALF INCH REBAR; THENCE SOUTH 26 DEGREES 21 MINUTES 01 SECONDS EAST TO A POINT, 425.50 FEET TO A HALF INCH REBAR FOUND ON THE NORTHERLY RIGHT-OF-WAY OF BRISCOE DRIVE (VARIABLE RIGHT-OF-WAY); THENCE ALONG SAID RIGHT-OF-WAY SOUTH 64 DEGREES 16 MINUTES 58 SECONDS WEST, 209.44 FEET TO A POINT; THENCE DEPARTING SAID RIGHT-OF-WAY NORTH 26 DEGREES 26 MINUTES 38 SECONDS WEST, 424.14 FEET TO THE POINT OF BEGINNING.

SAID LEASE PARCEL CONTAINS 89,116 SQUARE FEET OR 2.046 ACRES.

LEGEND

	PROPERTY LINE
X X X X X	FENCE
	LAND LOT LINE
	IRON PIN FOUND AS NOTED
	PROPERTY CORNER
1/2" RBR	HALF INCH REBAR
IPS	IRON PIN SET
P.O.B.	POINT OF BEGINNING
P.O.C.	POINT OF COMMENCEMENT

0 30 60
15 45
SCALE: 1"=30'

REVISIONS			
REV #	DATE	DESCRIPTION	REQUESTED BY

ATLAS#17925

ATLAS
2550 HERITAGE COURT, STE 250
ATLANTA, GA. 30339
TEL: 770.661.3434 FAX: 770.951.1496
www.oneatlas.com
COA#:LSF000744 - EXP 6/30/24

LEASE EXHIBIT
PARCEL 520

LL 207 & 208 - 5TH DISTRICT - CITY OF LAWRENCEVILLE - GWINNETT COUNTY - GEORGIA

GEORGIA REGISTERED No. 3154 LAND SURVEYOR DANIEL L. RICEMAN

DATE	5/7/24
SURVEY QC:	D.RICEMAN
CADD QC:	D.HUDSON
SURVEYED BY:	M.HENDERSON
DRAWN BY:	D.HUDSON

SHEET
1 OF 1

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ENGAGEMENT LETTER

NVC
National Valuation Consultants, Inc.

Via email: Matthew.Smith@gwinnettcounty.com

March 31, 2025

Mr. Matthew Smith
Airport Director
Gwinnett County Airport
Gwinnett County Government
600 Briscoe Boulevard
Lawrenceville, GA 30046

Re: An Appraisal of Four (4) Improvements located at:
450, 510, 520 Briscoe Blvd, Lawrenceville, GA 30046

Dear Mr. Smith,

This letter will confirm your request that National Valuation Consultants, Inc. prepare an appraisal of the above referenced property. The purpose of the appraisal will be to provide our opinion of the "as is" market rents of the following properties as of the date of our inspection.

450 Briscoe
510 Briscoe Building
510 Briscoe Parking
520 Briscoe

We understand that the intended use is for internal, decision-making purposes.

The appraisal report will be prepared in conformance with the current Uniform Standards of Professional Appraisal Practice (USPAP) adopted by the Appraisal Standards Board of the Appraisal Foundation; and with the written appraisal requirements and guidelines established by the Appraisal Institute for an appraisal.

The requested appraisal will be delivered in approximately ***three weeks from your date of authorization***, provided all requested information is received in a timely manner. Please understand that this is our best estimate of the delivery date and may be subject to change because of conditions beyond our control. The fee is also subject to modification and/or change, by mutual agreement, should you require changes to the assignment described herein.

The fee for our services will be $9,800. NVC will require payment promptly upon delivery of the report to you. The payment is due and payable at our offices in Centennial, Colorado before work will begin. In the event of cancellation of the assignment, or if the assignment is placed on hold for more than thirty (30) days, all applicable charges for services rendered by NVC to the date of such cancellation will be due within thirty (30) days from the date of invoice.

The fee quoted above is for the reports only and does not include court preparation or post-appraisal consultation, if any. Court preparation and consultation time are billed at the rate of $450 per hour for senior staff and $250 per hour for other staff. These fees are subject to increase after six months from the date of this agreement. It is also corporate policy that prior to any deposition or court testimony, we must be paid in full not only for current billings, but any outstanding past accounts as well.

It is mutually agreed that our acceptance of this assignment is not contingent upon any predetermined conclusions to value, marketability, or feasibility. Should the assignment be terminated, you agree to pay for our time and costs incurred prior to receipt of written notice of cancelation.

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If this agreement is given to an attorney for collection or enforcement, the prevailing party shall be entitled to recover all costs, expenses and reasonable attorney's fees incurred because of the legal action.

Our report will contain numerous assumptions and limiting conditions which are requisite to the conclusions reached therein. The standard assumptions and limiting conditions are set forth in Exhibit "A" attached hereto and made a part hereof for all purposes. Your signature below acknowledges that you have read, understood, and agreed to these assumptions. In addition to these standard assumptions, there may be assumptions contained in our report which are specific to your property. Regarding these latter assumptions, your signature below acknowledges that, unless we have been notified in writing by you within twenty days of receipt of our report, you accept these assumptions as stated therein.

By signing hereafter, the client hereby acknowledges and agrees that National Valuation Consultants, Inc., as well as any employee or agents, shall be indemnified against any, and all losses, claims, damages, liabilities, costs or expenses to which the recipient and/or third-party user may become subject to in connection with the preparation of these reports.

We will deliver the report in PDF format. If requested, we will also deliver a hard copy at the cost of $250.00 per copy.

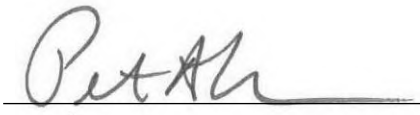
If the foregoing is agreeable, please sign where indicated on the enclosed copy of this letter and return to me along with the requested data. Please keep a copy for your files. We look forward to working with you on this assignment. Please feel free to contact me if you have any questions.

By:

Matthew L. Smith

Mr. Matthew Smith
Gwinnett County Airport

April 7, 2025
Date



Peter A. Lamas, MAI
Senior Managing Director
National Valuation Consultants, Inc.

March 31, 2025
Date

Exhibit "A"

ASSUMPTIONS AND LIMITING CONDITIONS

1. Disclosure of the contents of the appraisal report is governed by the bylaws and regulations of the professional appraisal organizations with which the appraiser is affiliated: specifically, the Appraisal Institute.

2. This Report should be relied upon only by the Intended User(s) and only for the Intended Use(s) identified at the time of the assignment. Furthermore, the Report is to be used in whole and not in part. The Report shall not be duplicated or provided to any third party in whole or in part without the written consent of NVC. Exempt from this restriction is duplication for the internal use of the Intended User and its attorneys, accountants, or advisors for the sole benefit of the Intended User. Also exempt from this restriction is transmission of the Report pursuant to any requirement of any court, governmental authority, or regulatory agency having jurisdiction over the intended user, provided that the Report and its contents shall not be published, in whole or in part, in any public document without the written consent of NVC. Written consent and approval from NVC must be obtained before this appraisal report can be conveyed by anyone to the public through advertising, public relations, news, sales, or other media. Any third party, not covered by the exemptions herein, who may possess this report, is advised that they should rely on their own independently secured advice for any decision in connection with this property. NVC shall have no accountability or responsibility to any such third party.

3. The appraiser will not be required to give testimony or appear in court because of having made this appraisal, with reference to the property in question, unless previous arrangements have been made.

4. The distribution of the total valuation in this report between land and improvements applies only under the stated highest and best use of the property. The separate allocation of value for land and improvements must not be used in conjunction with any other appraisal and is invalid if so used.

5. The legal description used in this report is assumed to be correct.

6. No survey of the property has been made by the appraiser and no responsibility is assumed in connection with such matters. Maps and sketches are included only to assist the reader in visualizing the property.

7. No responsibility is assumed for matters of a legal nature affecting title to the property, nor is an opinion of title rendered. The title is assumed to be good and merchantable unless otherwise stated.

8. It is assumed that there are no hidden or unapparent conditions of the property, subsoil, (including termite infestations) or structures which would render it more or less valuable. No responsibility is assumed for such conditions or for engineering which may be required to discover such.

9. All mechanical components are assumed to be in operable condition as would be considered standard for properties similar to the subject in type and age. The heating, cooling, ventilation, plumbing and electrical equipment are considered to be in similar condition to the observable elements of the improvements unless otherwise stated. The insulation and energy efficiency of the improvements are assumed to be adequate and standard for the subject type and age unless otherwise noted.

10. Information furnished by others is assumed to be true, correct and reliable. A reasonable effort has been made to verify such information; however, no responsibility for its accuracy is assumed by the appraiser.

11. The value estimate assumes responsible ownership and competent management.

12. Unless otherwise stated in this report, the existence of hazardous substances, including without limitation asbestos, polychlorinated biphenyls, petroleum leakage, or agricultural chemicals, which may or may not be present on the property, or other environmental conditions, were not called to the attention of nor did the appraiser become aware of such during the appraiser's inspection. The appraiser has no knowledge of the existence of such materials on or in the property unless otherwise stated. The appraiser, however, is not qualified to test such substances or conditions. If the presence of such substances, such as asbestos, urea formaldehyde foam insulation, or other hazardous substances or environmental conditions, may affect the value of the property, the value estimated is predicated on the assumption that there is no such condition on or in the property or in such proximity thereto that it would cause a loss in value. No responsibility is assumed for any such conditions, or for any expertise or engineering knowledge required to discover them.

13. Opinions of value contained in this report are estimates. There is no guarantee, written or implied, that the subject property will sell or lease for the indicated amounts.

14. The appraisers of National Valuation Consultants, Inc. reserve the right to amend and/or alter statements, analyses, conclusions and value estimates if information pertinent to this assignment is made known to us after the completion of the report.

15. By signing hereafter, the client hereby acknowledges and agrees that National Valuation Consultants, Inc., as well as any employee, agent, or officer thereof, shall be completely indemnified against any and all losses, claims, damages, liabilities, costs or expenses to which the recipient and/or third party user may become subject but only if National Valuation Consultants, Inc. or any other indemnified person shall not have been negligent or shall not have taken or omitted to take any action in bad faith in connection with the preparation of this report.

16. The Americans with Disabilities Act ("ADA") became effective January 26, 1992. We have not made a specific compliance survey and analysis of this property to determine whether or not it is in conformity with the various detailed requirements of the ADA. It is possible that a compliance survey of the property, together with a detailed analysis of the requirements of the ADA, could reveal that the property is not in compliance with one or more of the requirements of the Act. If so, this fact could have a negative effect upon the value of the property. Since we have no direct evidence relating to this issue, we did not consider possible noncompliance with the requirements of ADA in estimating the value of the property.

17. Unless otherwise noted, all prospective value estimates, if any, in this appraisal, are based on the market conditions which exist at the date of inspection combined with an informed forecast, based on current trends in supply and demand for the property type under appraisal, as to what such conditions will be at the future date of property completion and or stabilization. The appraiser cannot be held responsible for unforeseeable events, such as unexpected new construction, unanticipated changes in economic conditions, or any other such events which might occur, and which would alter market conditions prior to the effective date of the appraisal.