LAKE CITY GATEWAY Airport

Lake City Gateway Airport

Airport Master Plan Update Presentation

Lake City, FL

(AMPSG Meeting 3)
December 16, 2021

PASSERO ASSOCIATES
engineering architecture

Agenda (December 16, 2021)

- Revised Project Process and Approach
- Airport Facilities Overview
- Airport Development Areas
- List of Facility Requirements (Summary Alternatives)
- Alternative Grading Criteria
- “Do Nothing” Option
- Runway, Taxiway and Airfield Facility Alternatives (AOA Area)
- Air Tanker Area Alternatives
- General Aviation Facility Alternatives (FBO/Terminal Area; Expansion Areas A & B)
- Airport Development Areas (Ideas are Welcomed!)
- Questions, Input, Recommendations, and Comments
- Next Steps

Revised Project Process and Approach

Meeting #1
Sponsor Meeting

1 – Project Initiation
- Kickoff Meeting
- **Inventory Site Visit**

Meeting #2
TAC (AMPSG) Meeting 1

2 – Master Plan Visioning
- **SWOT Analysis**
- **Goal Setting and Visioning**

Meeting #3
Sponsor Meeting

3 – Investigation Part 1
- Introduction
- Inventory
- Forecast
- **Working Paper #1**

Meeting #4
AMPSG Meeting 2

4 – Investigation Part 2
- Airport Design Standards,
- Demand/ Capacity, Facility Requirements
- Sustainability Considerations

Meeting #5
AMPSG Meeting 3

5 – Development Plan
- Airport Development Plan
- **Working Paper #2**
- **Draft Airport Layout Plan (ALP)**

Meeting #6
AMPSG Meeting 4

6 – Phasing and Implementation
- Phasing and Implementation Plan
- Adjusted 5-year CIP
- **Working Paper #3**

Meeting #7
Sponsor Meeting

8 – Sponsor Review
- **Draft Master Plan Document**
- **Draft ALP**

FAA Review Phase

9 – FAA/FDOT Review
- **Divisional Coordination**

Meeting #8
Sponsor Meeting

10 – FAA/FDOT Comments
- **Review FAA/FDOT Comments**
- **Send final Master Plan and ALP to FAA**

Master Plan and ALP Approval

11 – Final Documentation
- **City Approval of Master Plan and ALP**
- **FAA Approval of Master Plan and ALP**
- **FDOT Approval of Master Plan and ALP**

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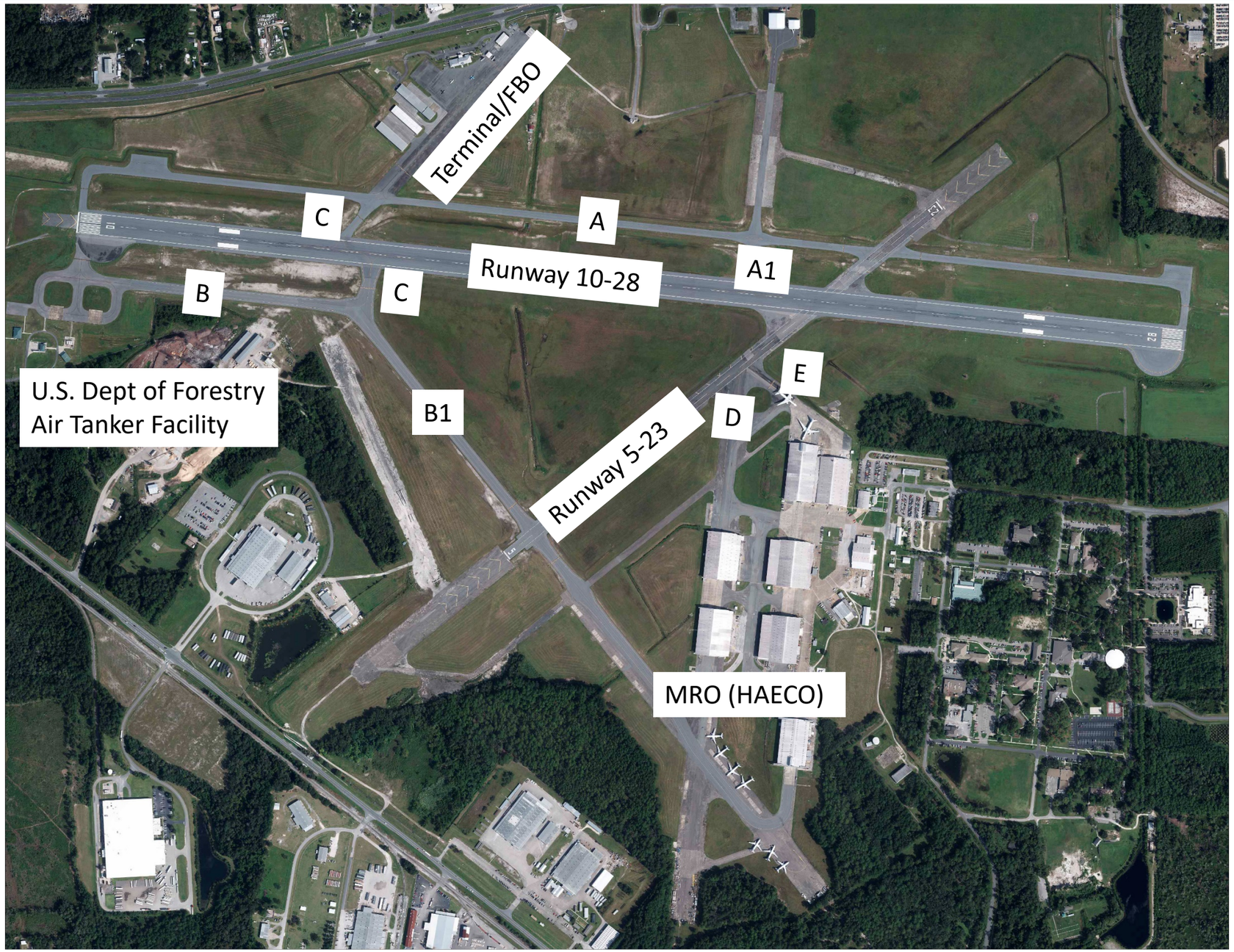
Airport Facilities Overview (Recap)



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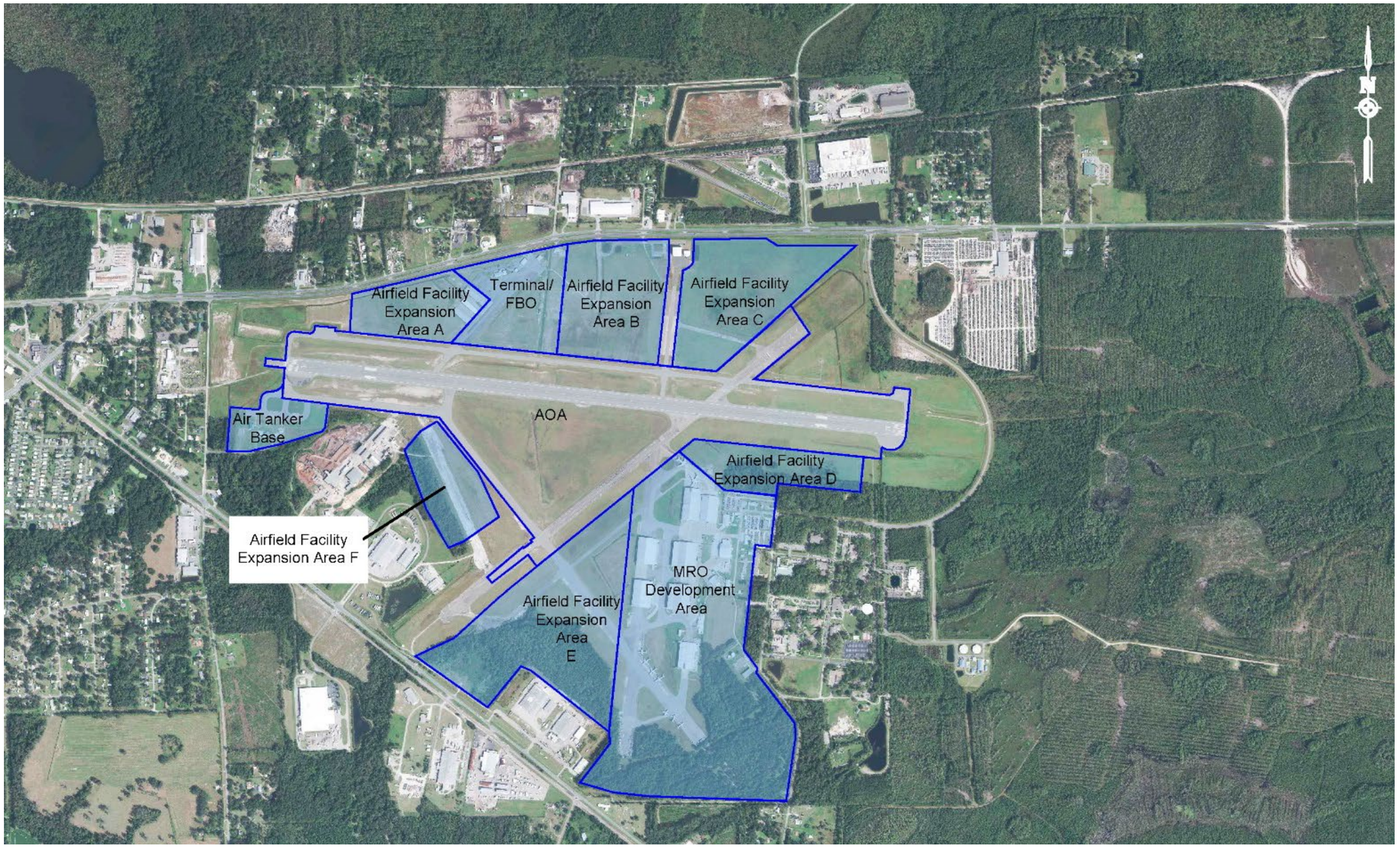
Airport Development Areas



- *Airport Operating Area (AOA)*
- *Terminal/FBO Area*
- *Air Tanker Base (U.S. Forestry Service)*
- *MRO Development Area*
- *Airfield Facility Expansion Areas A-F*

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List of Facility Requirements (Summary Alternatives)

RUNWAYS	• Mitigate Runway 10-28 RSA deficiency, or address with declared distances. • Extend Runway 10-28 from 8,003 ft. to 8,503 ft. • Keep Runway 5-23 length at 4,000 ft. • Acquire non-compatible land within the RPZs.
TAXIWAYS	• Explore connecting Taxiway B1 to the Runway 5 end. • Explore designing a full-length parallel taxiway for Runway 5-23. • Explore extending Taxiway B to the Runway 28 end to implement a second full-length parallel taxiway for Runway 10-28.
AIRFIELD FACILITIES	• Upgrade Runway 28 LPV with installing an ILS system to accommodate approaches during CAT I conditions.
GENERAL AVIATION FACILITIES	• Provide 12 additional T-hangar Units.
	• Provide 8 additional Corporate Hangar Units.
	• Provide 1 additional Box Hangar.
AIRFIELD SUPPORT FACILITIES	• Design and construct additional public space inside the terminal for pilots and passengers, if demand is warranted.

Alternative Grading Criteria

CRITERIA	DESCRIPTION
OPERATIONAL SCREENING CRITERIA	
OPERATIONAL	Each alternative will be rated based on its benefit and improvement of the operation of the airport, related airport design standards, safety, security and capacity enhancements. The numeric rating will be assigned in response to the basic question, **does this alternative improve the physical layout and operation of the airport?**
DEVELOPMENT COST	Each alternative will be rated based on its potential development cost. It should be noted that this alternative will not determine an approximate dollar amount, but instead, factors that may make one alternative more costly than another will be considered. The numeric rating will be assigned in response to the basic question, **would this alternative cost more based on different factors (e.g., construction costs, land acquisition, demolition, etc.)?**
AIRFIELD STRATEGIC	Each alternative will be rated based on its relation to current and long-term needs identified by the Airport. The numeric rating will be assigned in response to the basic question, **how well does this alternative meet the existing and long-term needs of the airport and the Sponsor?**

DESCRIPTION	RATING
Alternative provides <u>minimal</u> (no) benefit*	1
Alternative provides <u>nominal</u> benefit/impact*	2
Alternative provides <u>moderate</u> benefit/impact*	3
Alternative provides <u>significant</u> benefit/impact*	4
Alternative provides <u>major</u> benefit/impact*	5

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“Do Nothing” Option

PROJECT TYPE	NO CHANGES TO THE AIRPORT
OPERATIONAL	1
DEVELOPMENT COST	5
AIRFIELD STRATEGIC	1
TOTAL GRADE	**7**

The No Action (or “Do Nothing”) Option: Airport is maintained in its existing state.

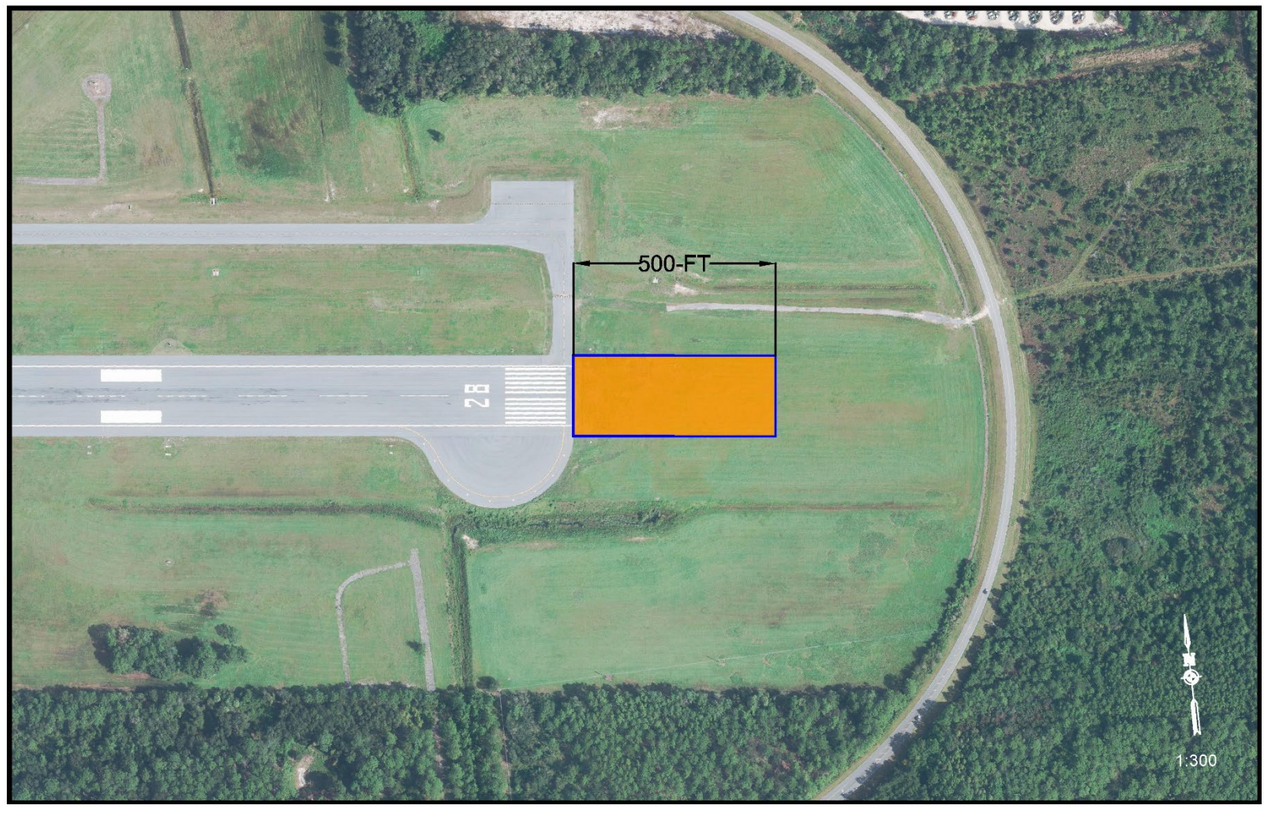
Benefits:

- No additional development costs, only future rehabilitation and maintenance costs.

Impacts:

- Runway 10-28 will not be able to accommodate the future critical aircraft, or larger aircraft.
- RSA issues will not be solved; thus, requiring declared distances (loss of usable runway).
- Airfield pavement within the Air Tanker Base Area will not be suitable to accommodate larger heavier aircraft.
- Back-taxi operations on Runway 5-23 will continue due to no parallel taxiway.
- No additional hangars will be built to accommodate existing/future demand.
- Taxiway geometry deficiencies will not be addressed and therefore will not be in accordance with FAA guidelines.

Runway Alts. (AOA Area): Extension of Runway 28



PROJECT TYPE	RUNWAY 28 EXTENSION
OPERATIONAL	5
DEVELOPMENT COST	1
AIRFIELD STRATEGIC	5
TOTAL GRADE	**11**

Runway 28 Extension Option

Benefits:

- Necessary Runway Length for Ex. and Ult. Critical Aircraft.
- Increased capacity to accommodate other large aircraft.

Impacts:

- Costs associated with the construction of new airfield pavement.
- Relocation of the perimeter fence off the Runway 28 end, and costs associated with the fence relocation.
- Environmental impacts associated with construction and the removal of airfield pavement.

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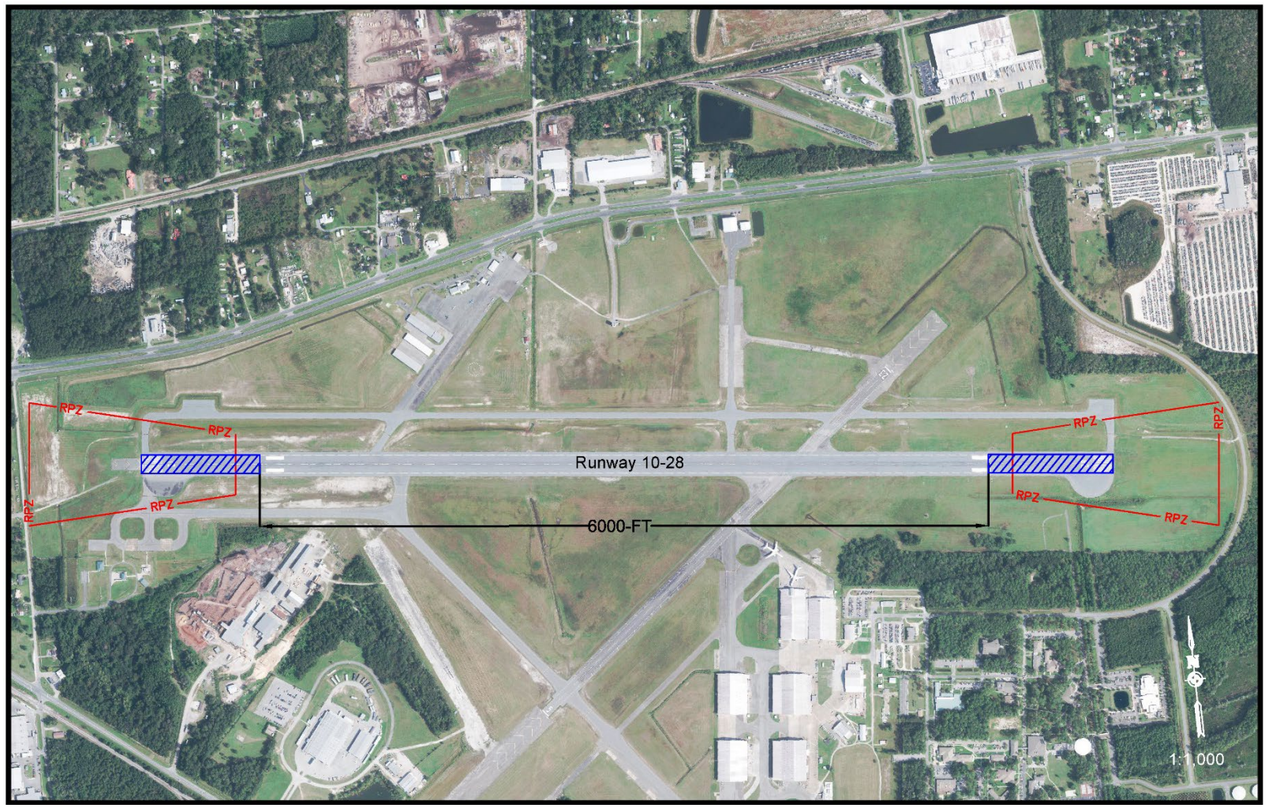
Runway Alts. (AOA Area): RPZ



PROJECT TYPE	RPZ OPTION 1	RPZ OPTION 2
OPERATIONAL	5	5
DEVELOPMENT COST	3	1
AIRFIELD STRATEGIC	5	5
TOTAL GRADE	**13**	**11**

- **Runway 10-28 RPZ Option 1: Land Acquisition/Avigation Easement Acquisition Within the Runway 10-28 RPZs**

Benefits:

- Sponsor will be able to control land development within the RPZ through acquisition or avigation easement.

Impacts:

- Cost associated with purchasing the land.

- **Runway 10-28 RPZ Option 2: Displace the Runways 10 and 28 Thresholds**

Benefits:

- Noncompatible land will not be included within the runway RPZs.

Impacts:

- Significant loss to Landing Distance Available (LDA) – Approx. 2,000 feet.
- Field surveying, and pavement marking costs for displaced thresholds.
- Potential costs associated with NAVAID relocation (PAPIs).

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Runway Alts. (AOA Area): RSA

PROJECT TYPE	RSA OPTION 1	RSA OPTION 2
OPERATIONAL	3	5
DEVELOPMENT COST	5	2
AIRFIELD STRATEGIC	5	5
TOTAL GRADE	**13**	**12**

- **<u>Runway 10-28 RSA Option 1: Runway 10-28 RSA Deficiency Mitigation Through Declared Distances</u>**

Benefits:

- Safety is enhanced through declared distances, without displacing the threshold.
- Cost effective without having to perform runway work to address the RSA deficiency.

Impacts:

- Loss of runway length for the TORA, ASDA and LDA on Runways 10 and 28.

- **<u>Runway 10-28 RSA Option 2: Install an EMAS System on Both the Runway 10 and 28 Ends</u>**

Benefits:

- Safety is enhanced by decreasing the likelihood of aircraft colliding with noncompatible land uses within the RSA.
- Runway length will not be lost, compared to declaring the distances.

Impacts:

- Costs associated with constructing and installing the EMAS systems on both Runway ends.

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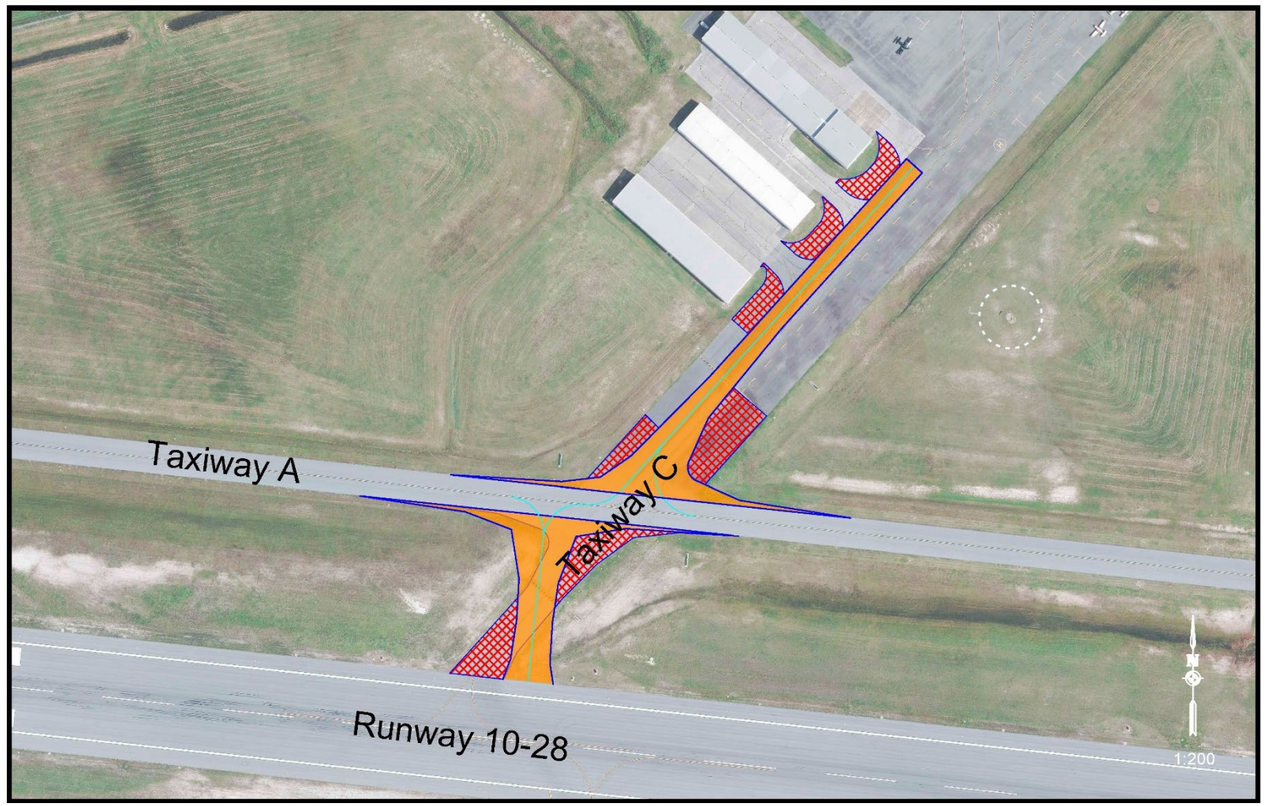
Taxiway Alts. (AOA Area): Taxiway C



PROJECT TYPE	TAXIWAY C OPTION
OPERATIONAL	5
DEVELOPMENT COST	3
AIRFIELD STRATEGIC	5
TOTAL GRADE	**13**

- **Taxiway C Option (Preferred): Taxiway C Realignment**

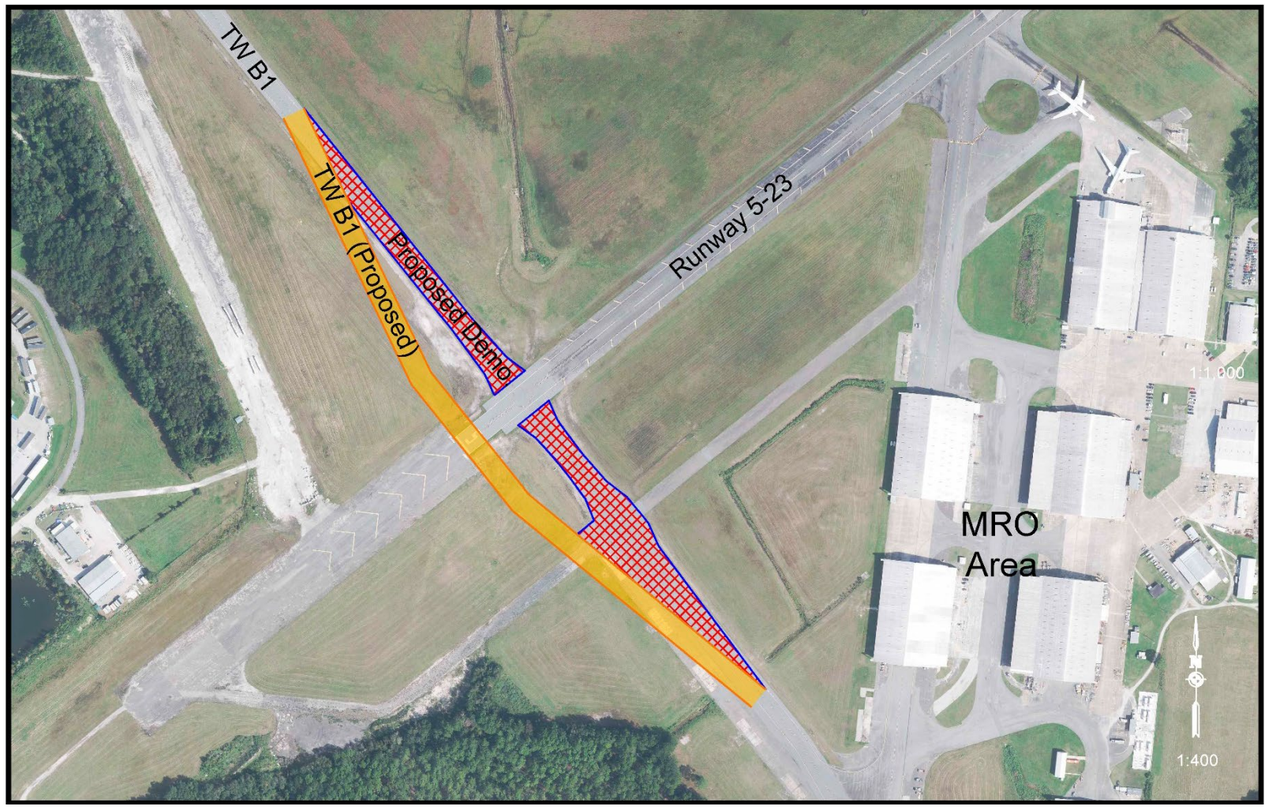
Benefits:

- Taxiway connectors are perpendicular from Taxiway A to Runway 10-28.
- Improved safety for airfield taxi operations within the terminal area.
- Demolition of excess airfield pavement that is not in use.

Impacts:

- Cost associated with removal of excess pavement that is not in use.
- Costs associated with the construction of new airfield pavement.
- Environmental impacts associated with construction and the removal of airfield pavement.

Taxiway Alts. (AOA Area): Taxiway B1



PROJECT TYPE	TW B1 OPTION
OPERATIONAL	5
DEVELOPMENT COST	3
AIRFIELD STRATEGIC	5
TOTAL GRADE	**13**

- **<u>Taxiway B1 Option: Taxiway B1 Realignment at the Runway 5 End</u>**

Benefits:

- Decreases aircraft safety issues arising from back-taxi operations to get to the Runway 5 end.
- Satisfies FAA requirement for entrance/exit taxiways.

Impacts:

- Costs associated with the construction of the taxiway.
- Costs associated with the installation of drainage infrastructure under the new taxiway.
- Costs associated with the installation of the taxiway lighting system.

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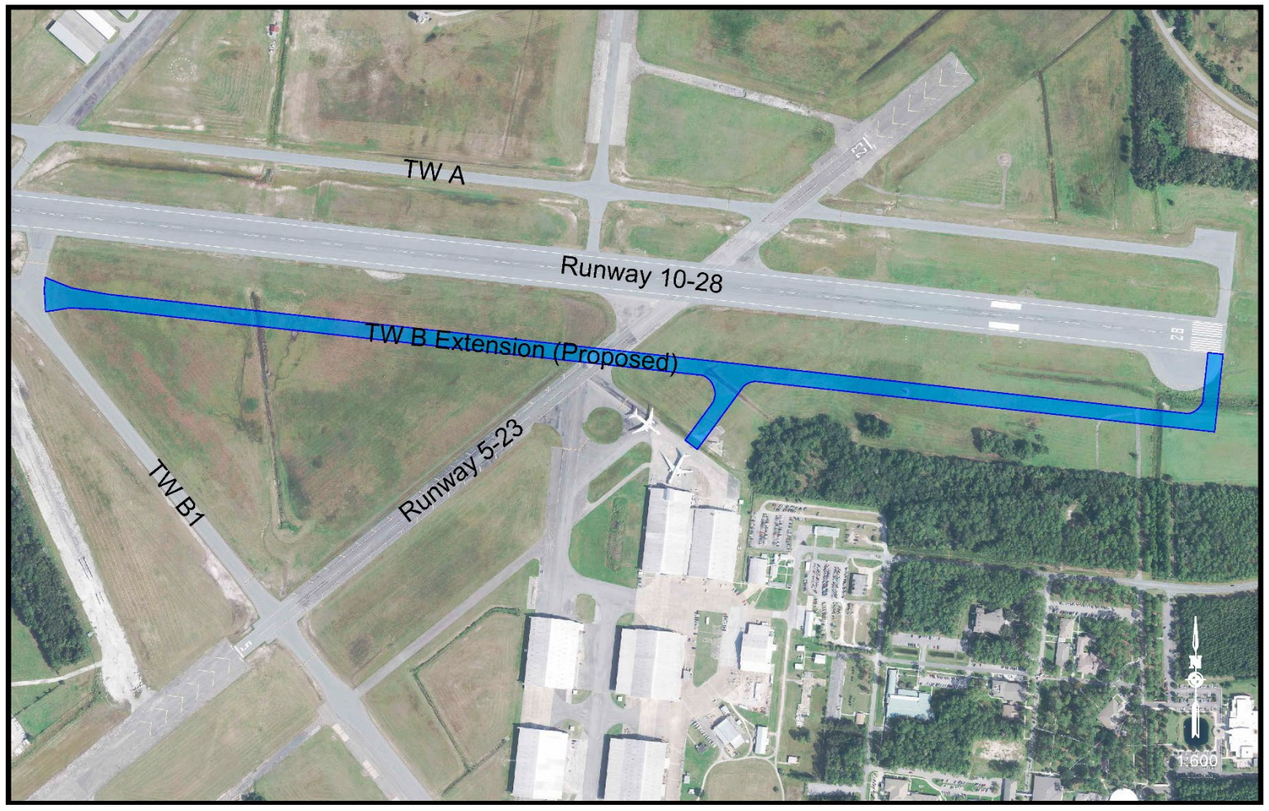
Taxiway Alts. (AOA Area): Taxiway B Extension Option 1



- **<u>Taxiway B Ext. Option 1: Extension of Taxiway B to the Runway 28 End with connector to MRO Area</u>**

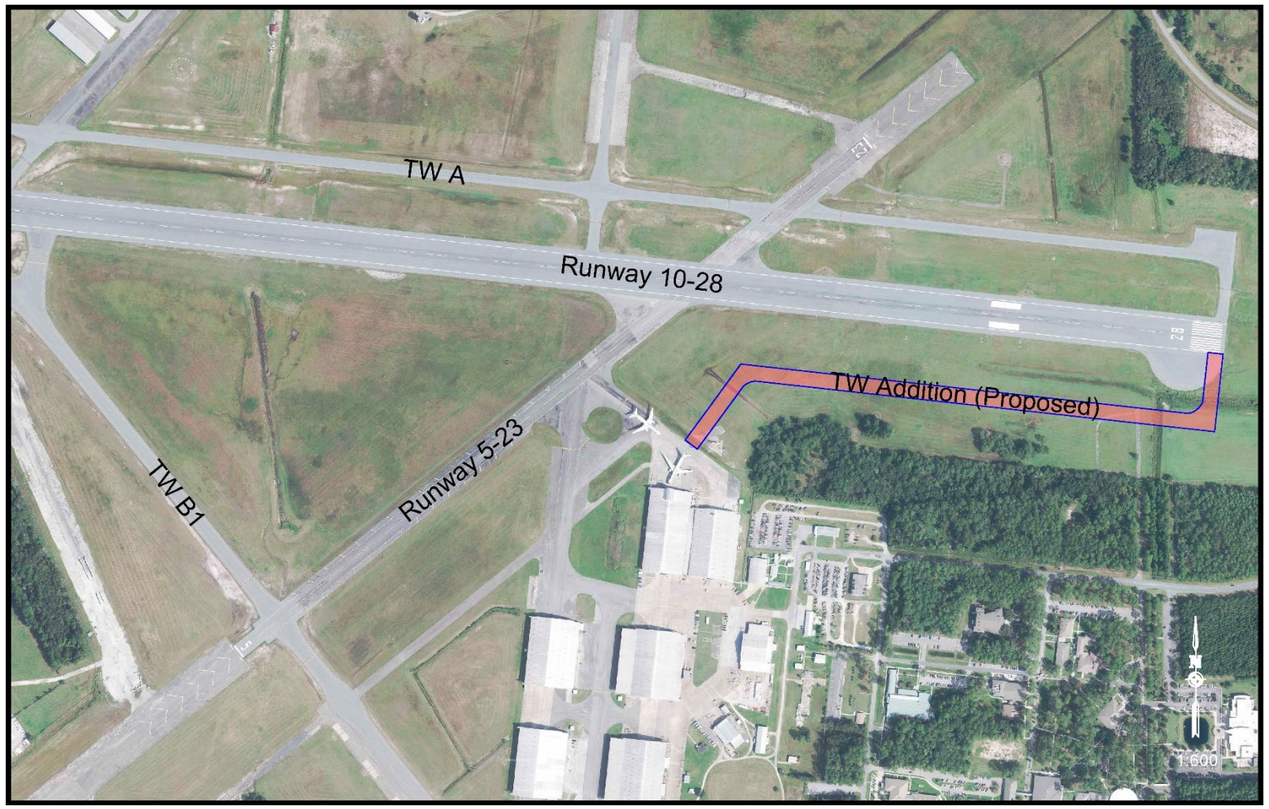
Benefits:

- Increases additional access to both ends of Runway 10-28.
- Minimizes back-taxi for HAECO when needing to access Runway 28.

Impacts:

- Costs associated with the construction of the taxiway.
- Costs associated with the installation of drainage infrastructure under the new taxiway.
- Costs associated with the installation of the taxiway lighting system.

Taxiway Alts. (AOA Area): Taxiway B Extension Option 2



PROJECT TYPE	OPTION 1	OPTION 2
OPERATIONAL	5	4
DEVELOPMENT COST	2	3
AIRFIELD STRATEGIC	5	4
TOTAL GRADE	**12**	**11**

- **<u>Taxiway B Ext. Option 2: Partial Taxiway B Connector from MRO area to Runway 28</u>**

Benefits:

- Increases additional access to the Runway 28 end.
- Minimizes back-taxi for MRO users when needing to access Runway 28.

Impacts:

- Costs associated with the construction of the taxiway.
- No direct taxiway connection to the Runway 10 end.
- Costs associated with the installation of drainage infrastructure under the new taxiway.
- Costs associated with the installation of the taxiway lighting system.

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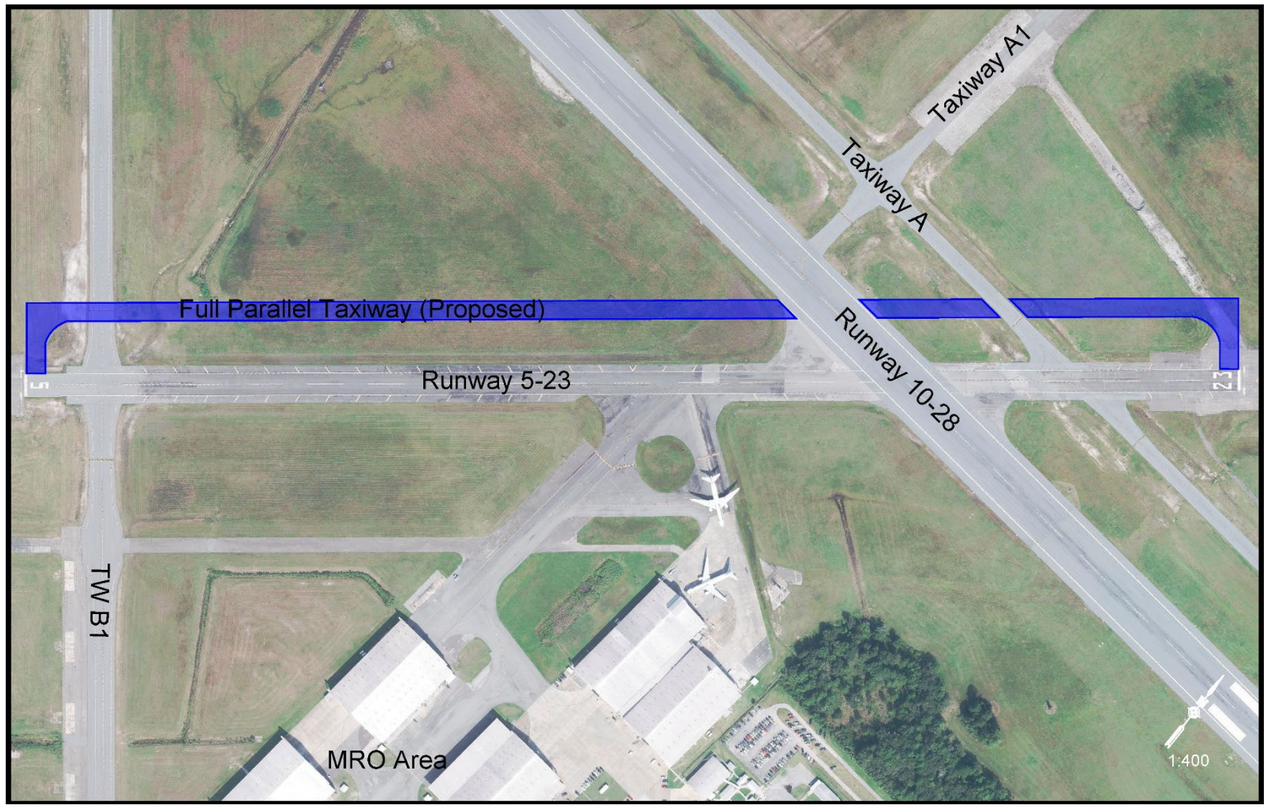
Taxiway Alts. (AOA Area): Runway 5-23 Taxiway Option 1



- **<u>Runway 5-23 Taxiway Option 1: Construct Parallel Taxiway Northwest of Runway 5-23</u>**

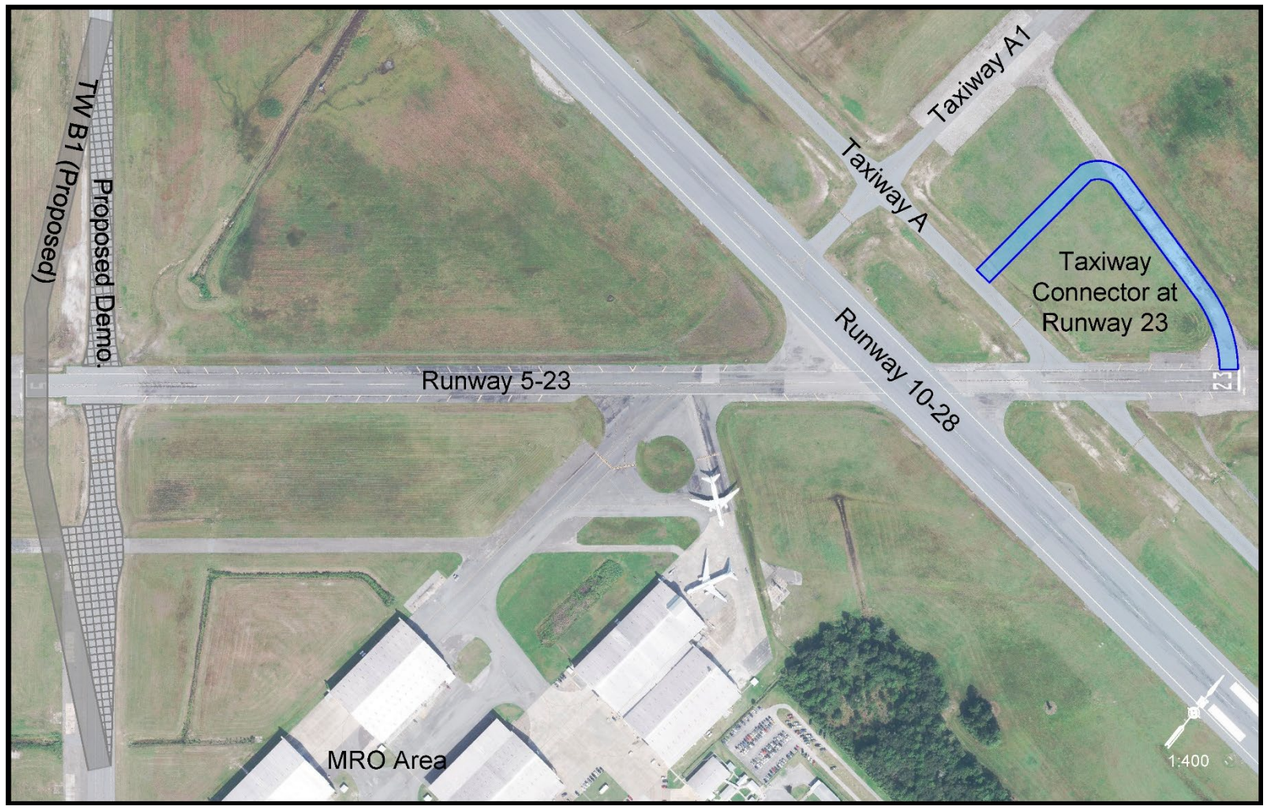
Benefits:

- Provides access to both ends of Runway 5-23.
- Minimizes back-taxi operations on Runway 5-23; thus, improving airfield safety.

Impacts:

- Costs associated with the construction of the taxiway.
- Costs associated with the installation of drainage infrastructure under the new taxiway.
- Costs associated with the installation of the taxiway lighting system.

Taxiway Alts. (AOA Area): Runway 5-23 Taxiway Option 3



- **<u>Runway 5-23 Taxiway Option 2: Construct Taxiway Connector at the Runway 23 End via Taxiway A</u>**

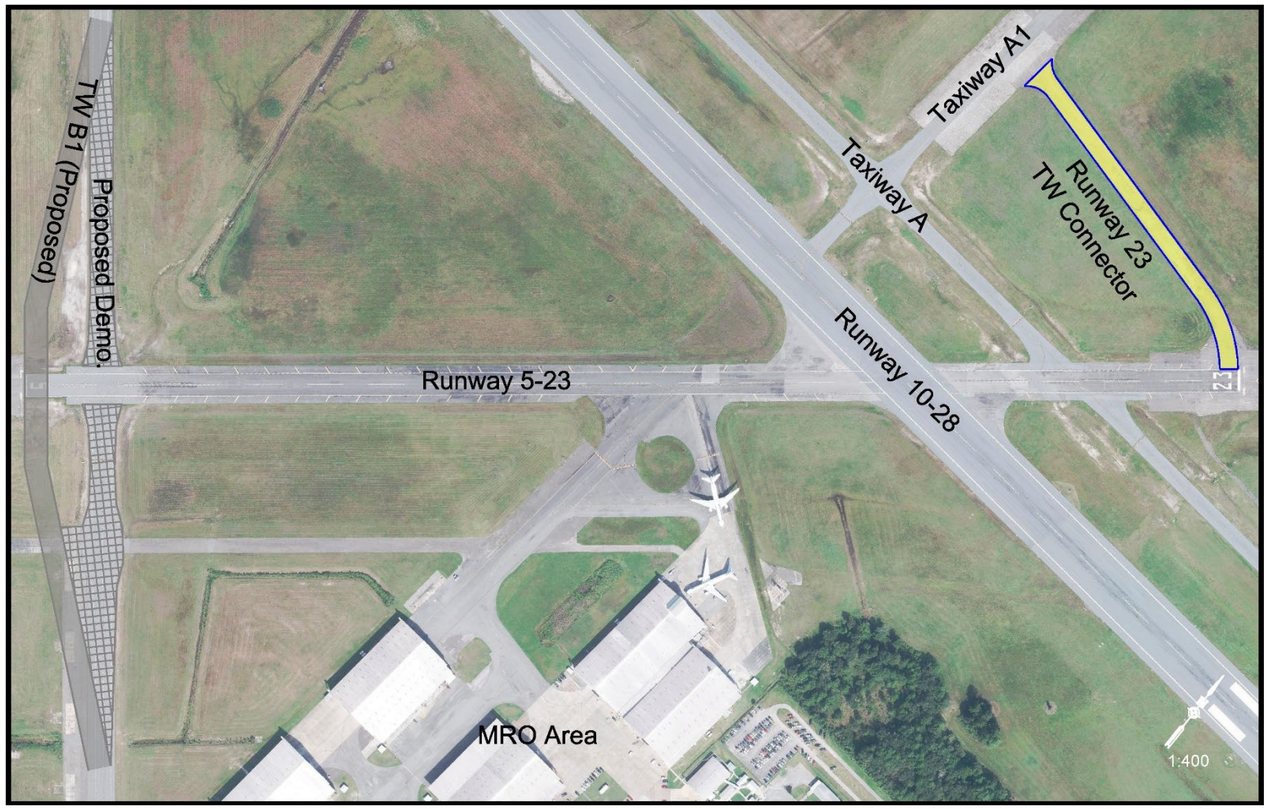
Benefits:

- Provides access to both ends of Runway 5-23.
- Minimizes back-taxi operations on Runway 5-23; thus, improving airfield safety.

Impacts:

- Costs associated with the construction of the taxiway.
- Longer taxi times especially at the Runway 23 end due to using Taxiway A to access the runway ends.
- Costs associated with the installation of drainage infrastructure under the new taxiway.
- Costs associated with the installation of the taxiway lighting system.

Taxiway Options (AOA Area): Runway 5-23 Taxiway Option 3



PROJECT TYPE	OPTION 1	OPTION 2	OPTION 3
OPERATIONAL	5	5	4
DEVELOPMENT COST	2	3	3
AIRFIELD STRATEGIC	5	5	5
TOTAL GRADE	**12**	**13**	**12**

- **<u>Runway 5-23 Taxiway Option 3: Construct Taxiway Connectors at the Runway 23 End via Taxiway A1</u>**

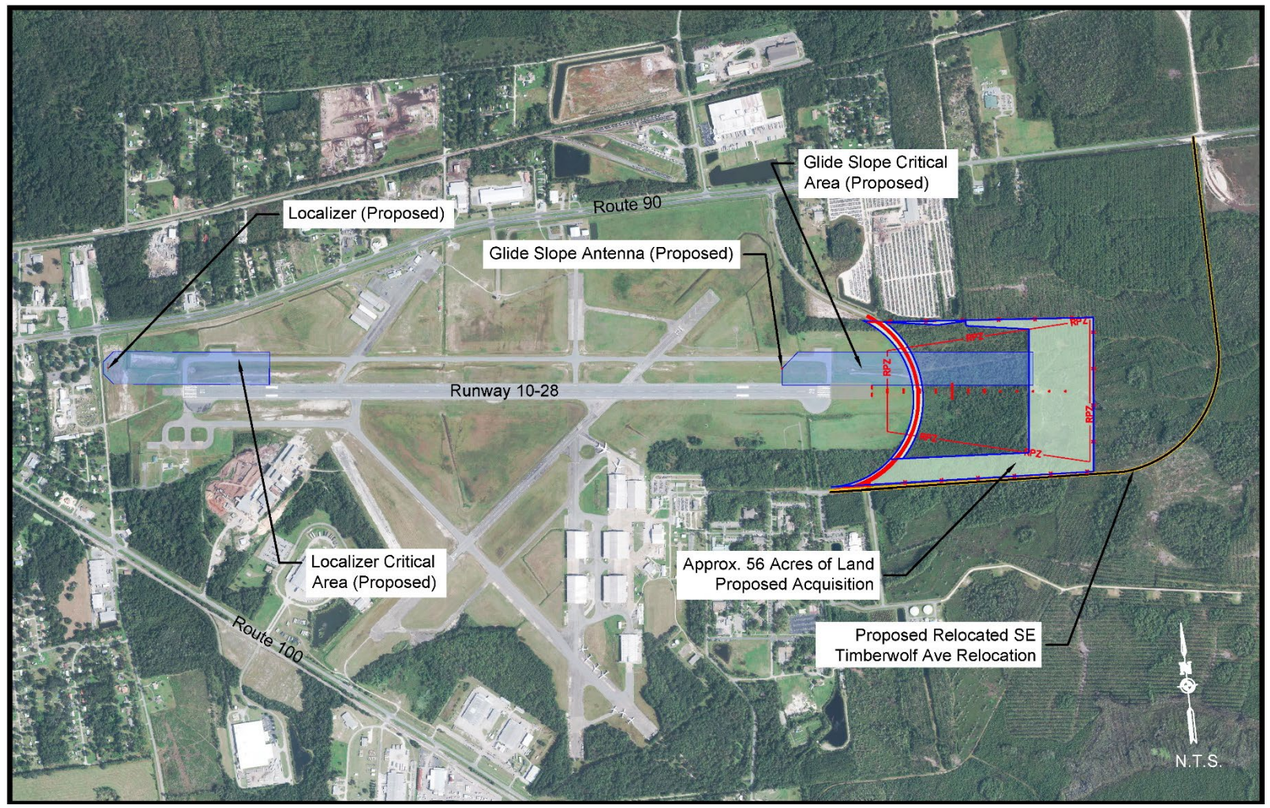
Benefits:

- Provides access to both ends of Runway 5-23.
- Minimizes back-taxi operations on Runway 5-23; thus, improving airfield safety.

Impacts:

- Costs associated with the construction of the taxiway.
- Longer taxi times especially at the Runway 23 end due to using Taxiway A1 to access the runway ends.
- Costs associated with the installation of drainage infrastructure under the new taxiway.
- Costs associated with the installation of the taxiway lighting system.

Airfield Facilities (AOA Area): Runway 28 Approach Procedure Upgrade



PROJECT TYPE	RUNWAY 28 INSTRUMENT APPROACH UPGRADE OPTION
OPERATIONAL	5
DEVELOPMENT COST	1
AIRFIELD STRATEGIC	5
TOTAL GRADE	**11**

<u>Runway 28 Instrument Approach Upgrade Option: Upgrade Runway 28 Approach Minimums to CAT I Conditions</u>

Benefits:

- Allows aircraft to land with precision instrument guidance during low visibility and inclement weather conditions.
- A Precision Instrument Approach (PIR) will provide pilots with both vertical and course guidance during landing operations, unlike Non-Precision Instrument (NPI) approach procedures that just provide course guidance during landing operations.
- Land Acquisition to ensure compatible airport land uses.

Impacts:

- Costs associated with changing the pavement markings on Runway 10-28 from NPI to PIR markings.
- Costs associated with constructing the localizer, glide slope antenna, approach lighting system (MALSR), and facilities associated with the glide slope antenna.
- Costs associated with relocating Airport perimeter fence.
- Costs associated with acquiring approximately 56 acres of land.
- Environmental impacts associated with the construction, pavement markings.
- Costs associated with Relocating SE Timberwolf Ave.

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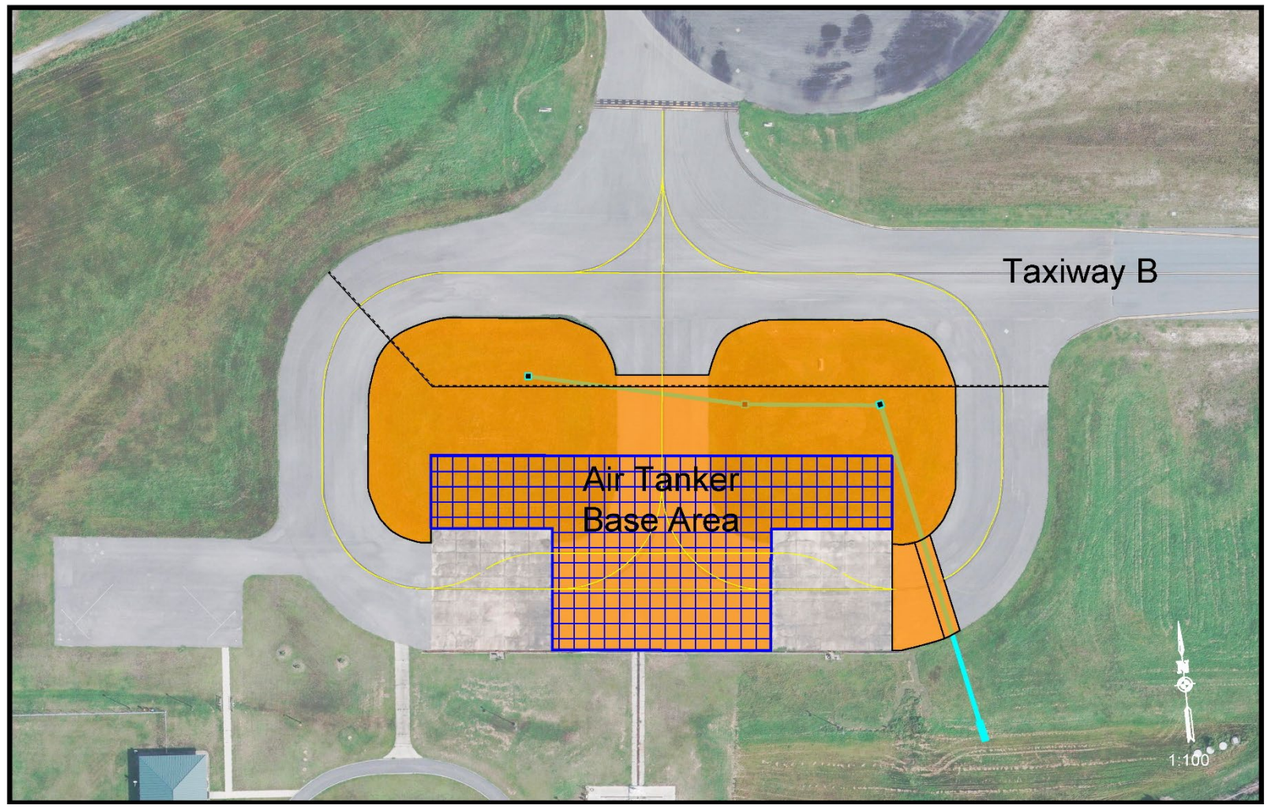
U.S. Forestry Service Apron Alternative (Air Tanker Area): Apron Pavement Upgrade



PROJECT TYPE	AIR TANKER BASE APRON PAVEMENT UPGRADE OPTION
OPERATIONAL	5
DEVELOPMENT COST	2
AIRFIELD STRATEGIC	5
TOTAL GRADE	**12**

- **<u>Air Tanker Base Apron Pavement Upgrade Option: U.S. Forestry Service Apron Pavement Option</u>**

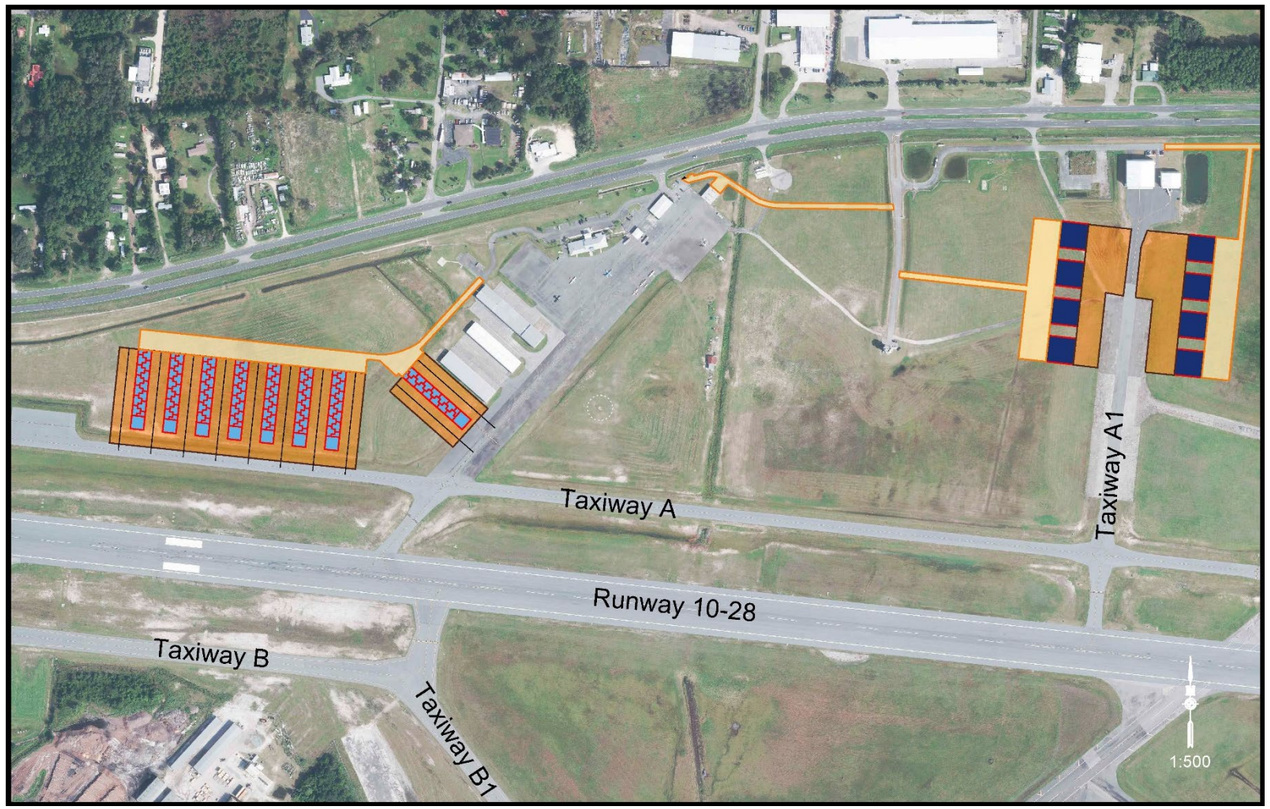
Benefits:

- Provides enough pavement to service the DC-10 and other large tanker aircraft for firefighting.
- Pavement will be strengthened to accommodate larger heavier aircraft.
- Increase firefighting capabilities with the use of larger aircraft.
- Pavement markings will designate areas for the DC-10 and larger aircraft to park safely away from the Taxiway B safety area.

Impacts:

- Impervious surface increases; thus, increasing the stormwater capacity of the site that will need to be mitigated by expanding drainage infrastructure.
- Costs associated with drainage infrastructure installation, and cost of pavement materials (asphalt, crushed concrete, stabilization of the sub-grade layer).
- Costs associated with construction.
- Environmental impacts associated with construction.

General Aviation Facilities (FBO/Terminal Area; Expansion Areas A & B): Hangars



PROJECT TYPE	GA HANGARS OPTION
OPERATIONAL	5
DEVELOPMENT COST	2
AIRFIELD STRATEGIC	5
TOTAL GRADE	**12**

- **<u>GA Hangars Option: Construct Additional T-hangar Units, Corporate Hangar Units and Box Hangars at LCQ Within the Planning Period</u>**

Benefits:

- At a minimum, 12 additional t-hangar units, 8 additional corporate hangar units and one box hangar will be available to satisfy future demand.
- Pilots on the hangar waiting list are decreased.

Impacts:

- Development costs associated with the construction of the t-hangars, box hangar, corporate hangars, and associated airport roads.
- Development costs associated with tree clearing for the additional hangar areas.
- Minimal impacts to existing operations within the terminal parking area.
- Environmental impacts associated with construction.

General Aviation Facilities (FBO/Terminal Area): FBO/Terminal Expansion

PROJECT TYPE	FBO/TERMINAL EXPANSION OPTION
OPERATIONAL	5
DEVELOPMENT COST	2
AIRFIELD STRATEGIC	5
TOTAL GRADE	**12**

- **<u>FBO/Terminal Expansion Option: Expand Terminal to Accommodate Existing and Future Itinerant Demand During Peak Times</u>**

Benefits:

- Additional space to accommodate pilots and passengers during peak times for meetings, flight planning, recreation, etc.

Impacts:

- Development costs associated with the terminal expansion.
- Development costs associated with implementing additional infrastructure with terminal expansion.
- Minimal impacts to existing operations during construction.
- Airport access road, west of the terminal, will need to be relocated.
- Environmental costs associated with construction.

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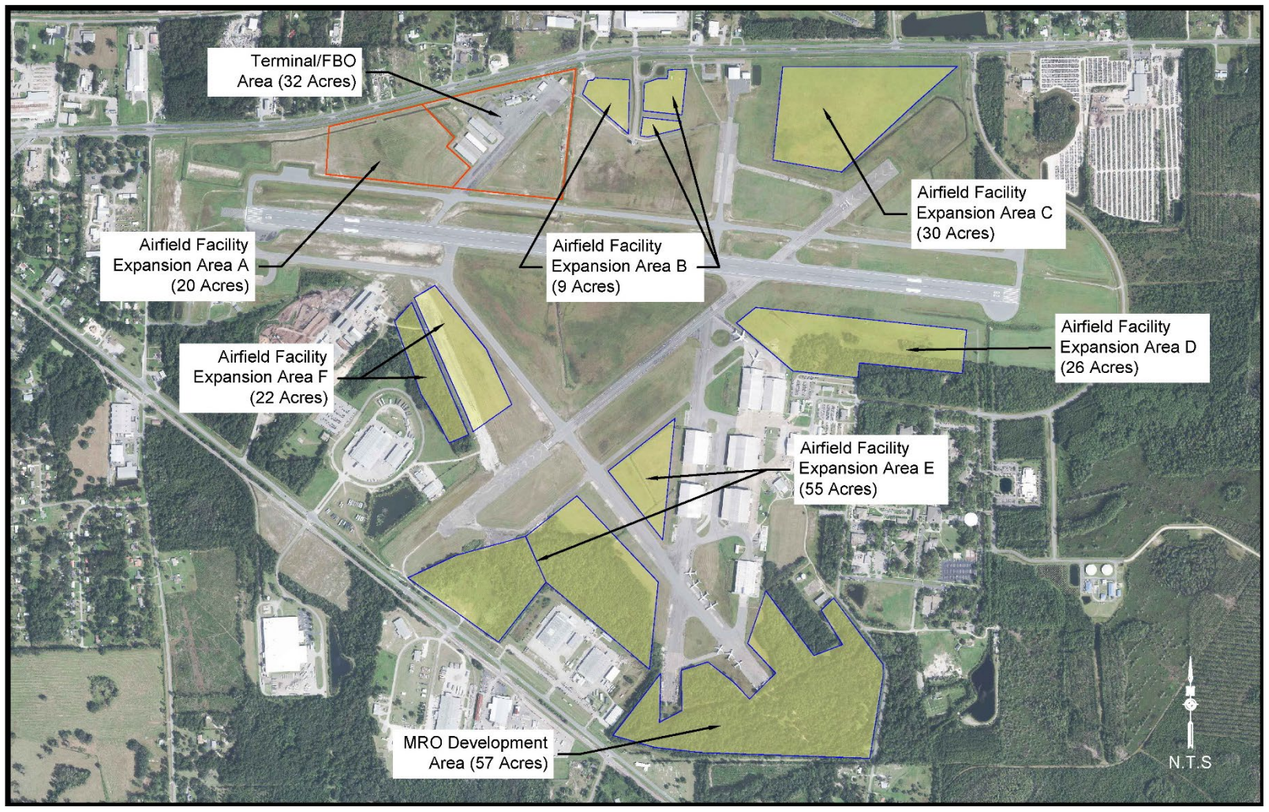
Airport Development Areas (Ideas are Welcomed!)



Airport Expansion Areas

- **Expansion Areas A-F consist of approximately 260 acres of land. Approximately 200 Acres of land (B-F and MRO areas) are open for development.**
  - *These areas are open for both aeronautical and non-aeronautical development.*
  - *Open to any ideas for consideration by the City and Airport.*
  - *Previous alternatives already identified in Expansion Areas A and B are recommendations, based on needs identified by the facility requirements section of this master plan.*

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Questions, Input, Recommendations, and Comments

Next Steps

Next Steps

- Anticipated Next Meeting – March/April 2022
- ALP Completion
- Draft Master Plan Document Completion including Implementation Plan
- Sponsor ALP and document review
- FAA/FDOT ALP and document review
- Local, FAA, and FDOT ALP and document approval