

What is a Master Plan?

- A comprehensive study of an airport, describing the short-, mid-, and long-term development plans to meet future aviation demand at an airport
- Can be thought of as a tool which provides the framework necessary to guide potential airport development, while considering both internal and external impacts
- Guidelines should be consistent with local, state, and national goals
- Each Master Plan is unique, the focus of work will vary from airport to airport. A few goals of a Master Plan are:
 - To determine future aviation demand at an airport
 - To thoroughly explore concepts and alternatives on technical, economical, and environmental bases
 - To provide a graphical representation of future airport development and land use
 - To establish a schedule for implementation of proposed development
 - To identify a realistic financial plan to support development
 - To prepare and present a plan to the public that thoroughly addresses any relevant issues and adheres to local, state and federal regulations
 - To establish a framework for a continuous planning process

Forecast

- Federal Aviation Administration (FAA) approved base forecast for airfield master planning
 - Assumes growth of service to existing markets
 - Includes addition of service to Orlando, Dallas, and Detroit (all previously served markets)
 - Average seating capacity grows from 51 in 2017 to 72 in 2037

Year	Passengers	Operations
2017	425,000	43,800
2027	575,000	45,800
2037	626,000	47,900
Average Annual Growth Rate (AAGR) 2017-2037	2.0%	0.3%

Fleet Mix and Critical Aircraft

Type	2017	2027	2037
Passenger Aircraft Operations			
Regional Jet	11,186	11,557	11,466
Narrowbody	714	1,143	1,134
Cargo Aircraft Operations			
Regional Jet	657	856	1,028
Narrowbody	73	74	102
General Aviation Operations			
All Types	23,900	24,900	25,900
<u>Total</u>	<u>36,530</u>	<u>38,530</u>	<u>39,630</u>

- Future critical aircraft is a combination of the Boeing 737-700 and Bombardier CS-100

Airfield Requirements

- Runway length
 - 10-year takeoff requirement: Bombardier CRJ-900 at 7,800 feet
 - 20-year takeoff requirement: Airbus A320 at 7,900 feet
 - 10- and 20-year landing requirement: Bombardier CRJ-900 at 6,600 feet
- Instrumentation & lighting
 - Relocate instrumentation out of Runway Safety Area (RSA) and Runway Object Free Area (ROFA)
 - Provide approach lighting system on Runway 05
 - Upgrade approach lighting system on Runway 23
- Airfield standards
 - Provide standard runway safety areas
 - Increase separation between Runway 05/23 and parallel taxiway

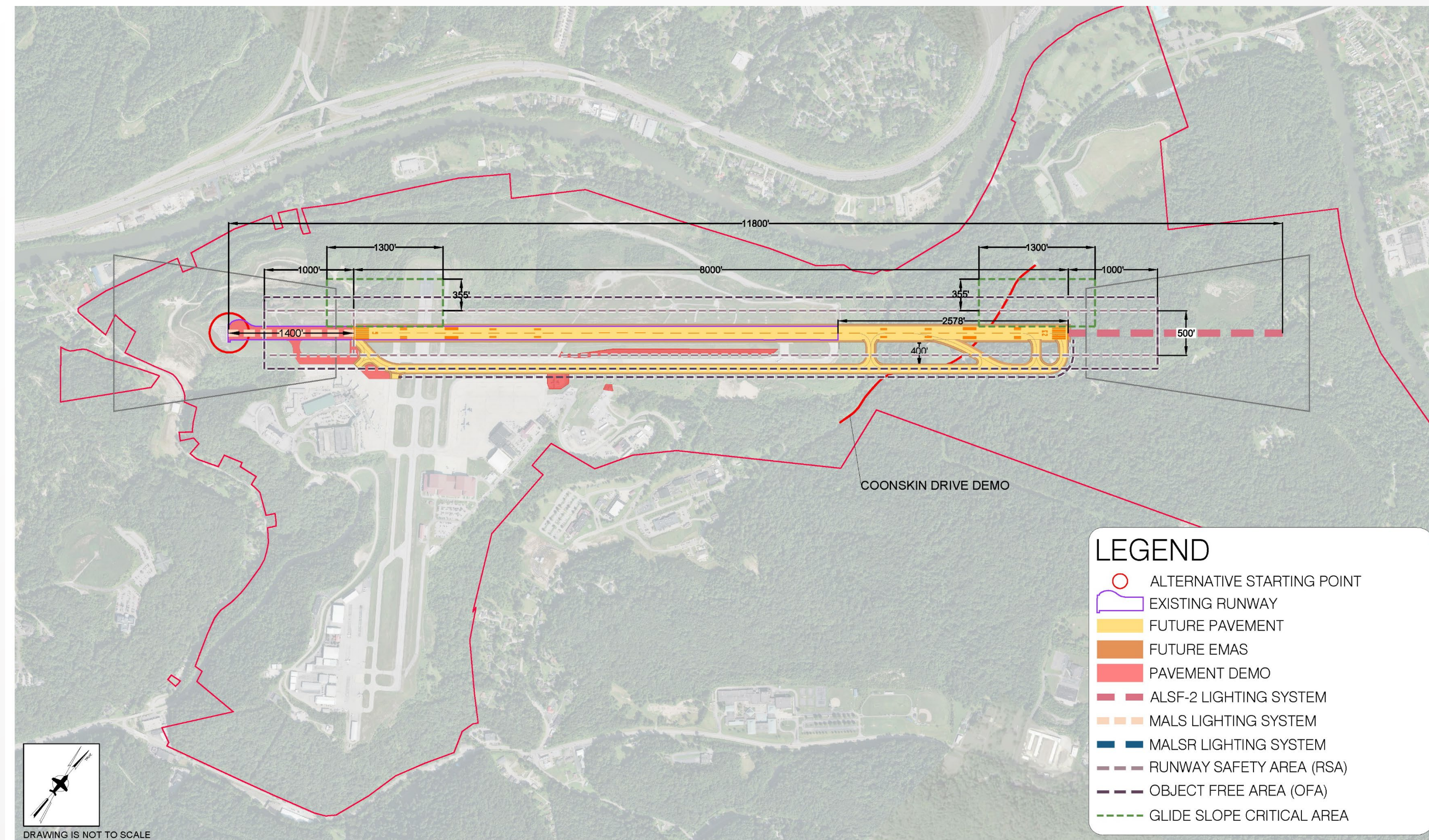


Alternatives Methodology

- Eight alternatives were evaluated with four variations of each:
 - A – No engineered materials arresting system (EMAS)
 - B – Runway 05 EMAS
 - C – Runway 23 EMAS
 - D – EMAS on both ends
- All alternatives included:
 - 8,000-foot long Runway 05/23
 - Category I approach lighting system on Runway 05
 - Category II approach lighting system on Runway 23

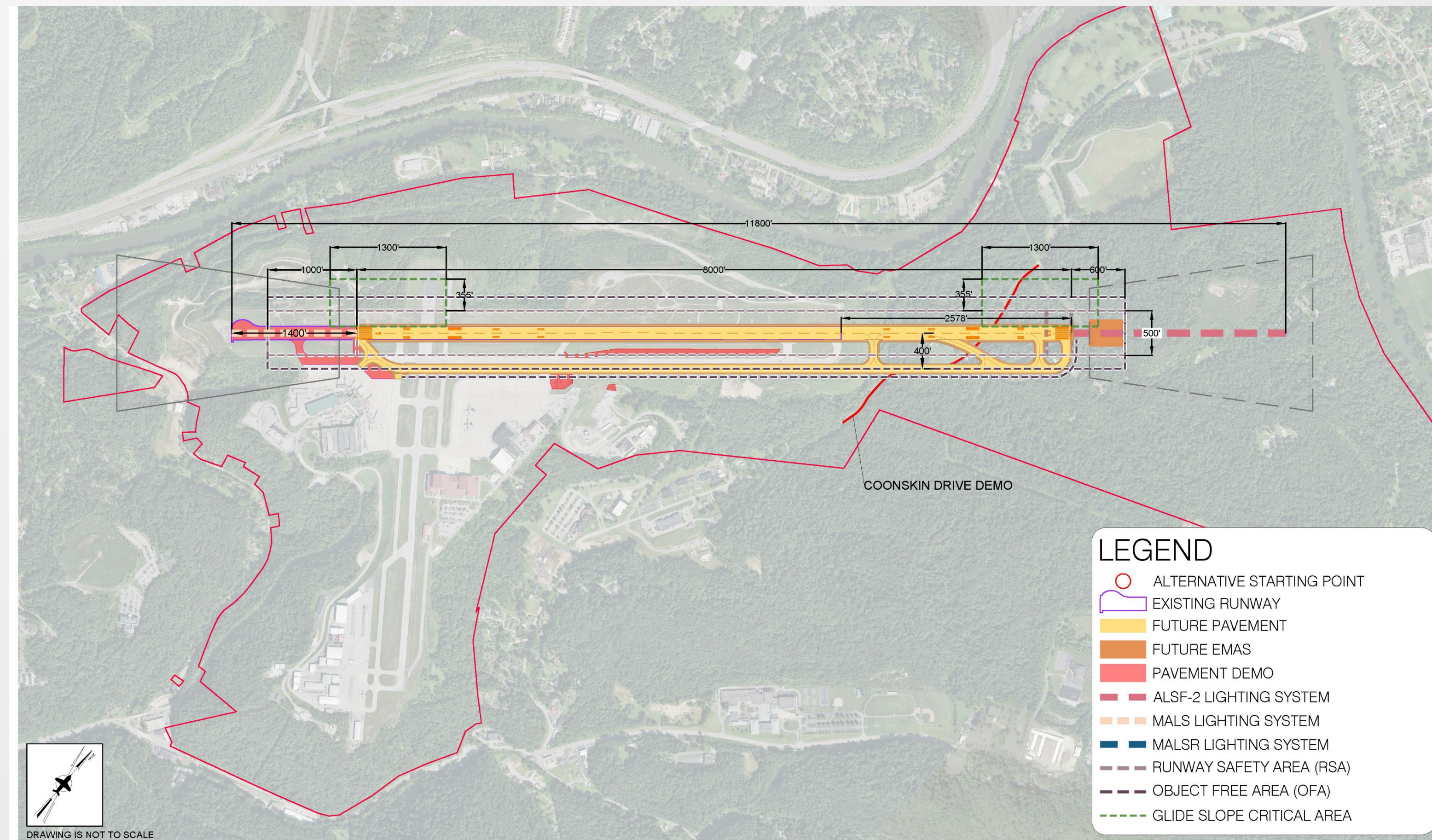


Short-Listed Alternatives



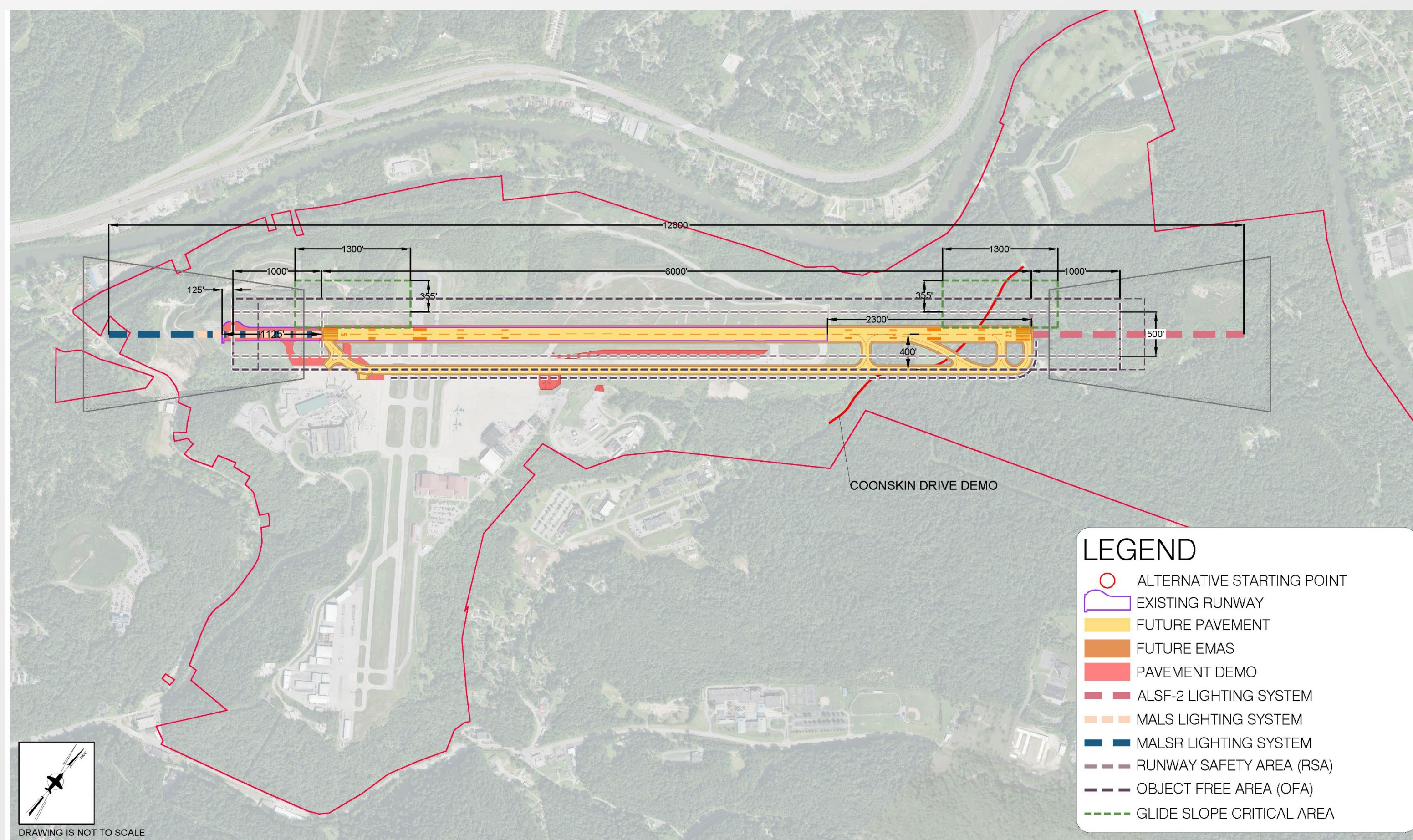
ALTERNATIVE 4A - 2,578 FT EXTENSION WITH FULL RSA ON BOTH ENDS OF RUNWAY
YEAGER AIRPORT : TAXIWAY EXTENSION ALTERNATIVES

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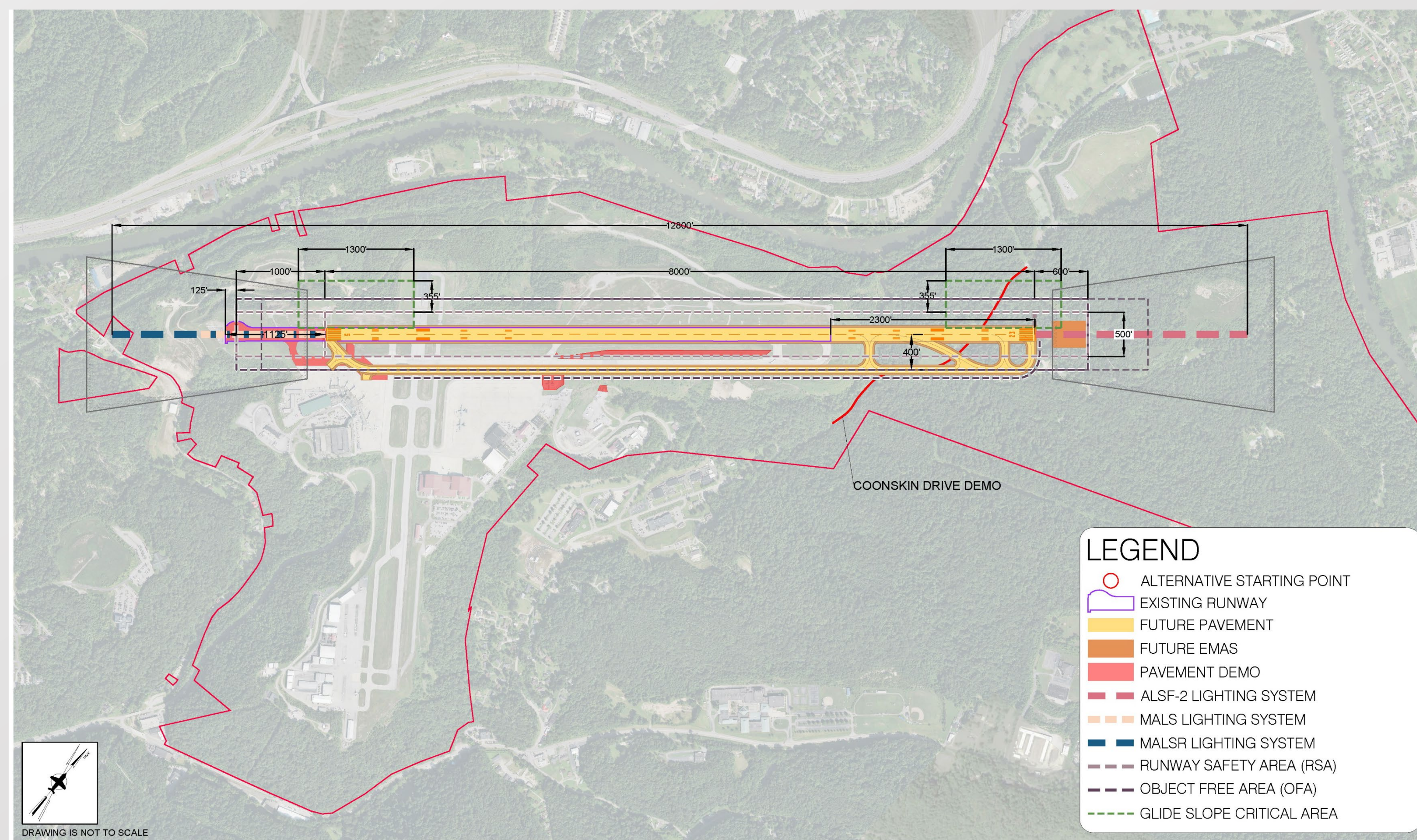
ALTERNATIVE 4C - 2,578 FT EXTENSION WITH RUNWAY 23 EMAS
YEAGER AIRPORT : RUNWAY EXTENSION ALTERNATIVES

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ALTERNATIVE 7A - 2,300 FT EXTENSION WITH FULL RSA ON BOTH ENDS OF RUNWAY
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ALTERNATIVE 7C - 2,300 FT EXTENSION WITH RUNWAY 23 EMAS
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Evaluation of Short-Listed Alternatives

Evaluation Criteria	4A	4C	7A	7C
Runway 05 Runway Protection Zone (RPZ) Impacts	Least Impacts	Least Impacts	Most Impacts	Most Impacts
Terminal Impacts (Gate Relocation)	1 Gate Relocation	1 Gate Relocation	No Gate Impacts	No Gate Impacts
Cost ¹	\$244 M	\$251 M	\$240 M	\$249 M
Preferred Alternative	✓	Dismissed	Dismissed	Dismissed

¹ Cost includes Taxiway A relocation.

- Dismiss engineered materials arresting system (EMAS) alternatives (4C and 7C) due to cost
- Alternative 4A cost is 1.6% higher than Alternative 7A
 - Cost difference is not sufficient to choose one alternative over another
- Alternative 4A requires the relocation of a gate whereas Alternative 7A requires the relocation of more houses, businesses and roadways – gate relocation is preferred over community impacts
- **Alternative 4A is selected Master Plan project**

Environmental Overview

- All alternatives could potentially have the following environmental impacts associated with their development:
 - Loss of Wetlands
 - 4(f) Impacts to Physical And Potential Constructive Use of Coonskin Park
 - 6(f) Impacts to Replacement of Land and Resources purchased with Land and Water Conservation Funds
 - Loss of Coonskin Branch Conservation Easement WV 401 / U.S. Army Corps of Engineers Section 404 Permit of the Clean Water Act (USACE 404)
 - Impacts to Rare, Threatened and Endangered Species in construction and borrow areas, and Elk River
 - Loss of Floodplain Storage due to placing fill over Coonskin Branch
 - Cultural Resources Impacts
 - Noise and Noise-Compatible Land Use Issues
 - Potential Air Quality Impacts including Construction Emissions
 - Visual Effects of Project
 - Land Use Impacts
 - Socioeconomics, Environmental Justice, and Children's Environmental Health Impacts to Keystone Drive Residents and Coonskin Park Users
 - Potential Loss of return to service of inactive Norfolk Southern Corporation Railroad in Coonskin Park

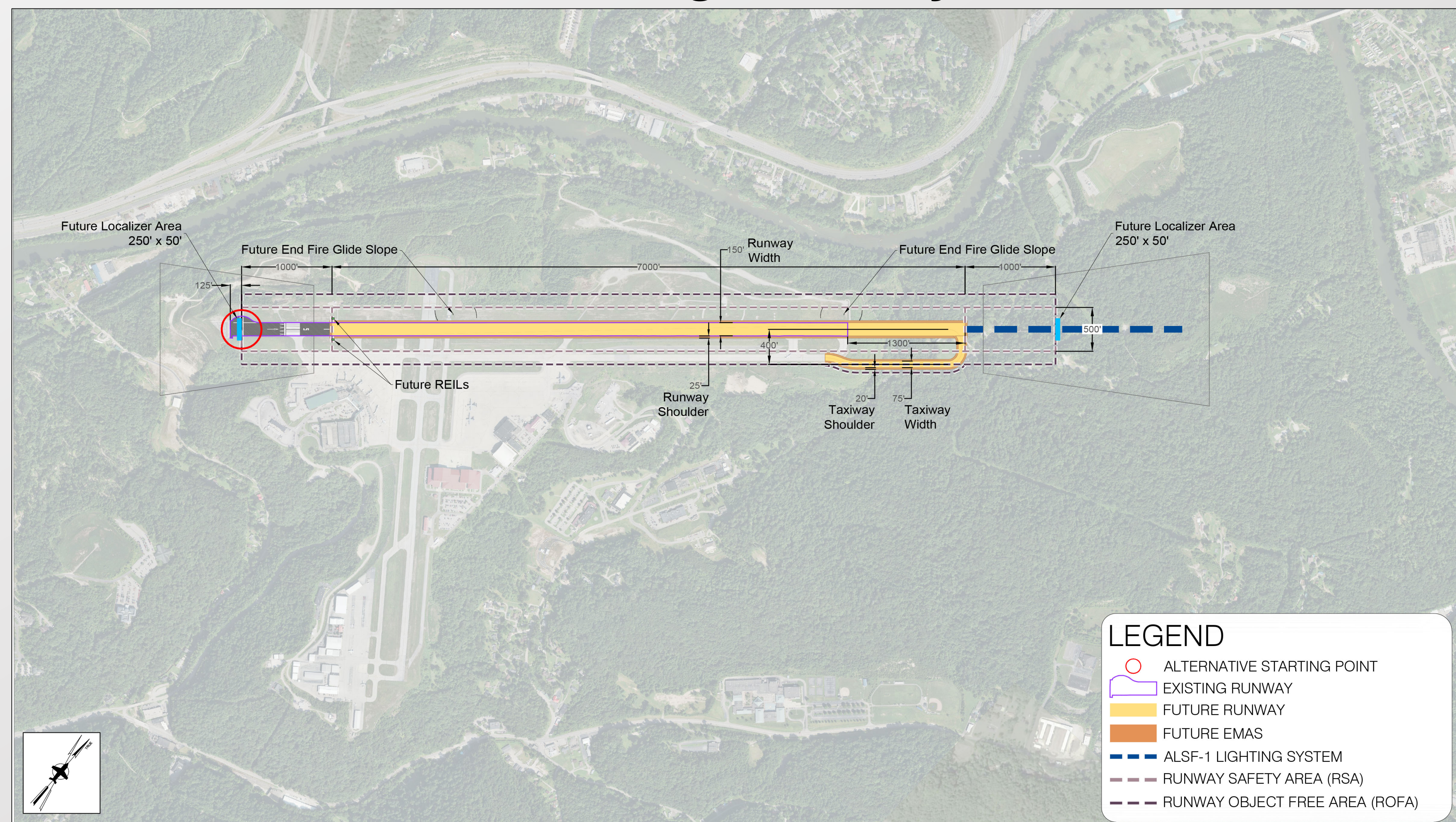
Park Impacts

- Runway 23 runway protection zone (RPZ) is fully encompassed by Coonskin Park in all alternatives
- Potential impacts to Coonskin Park will be determined through coordination with appropriate agencies and the public. These potential impacts include:
 - Closure or relocation of 8,500 linear feet of roadways for the borrow areas
 - Loss of 20 picnic shelters and sites in Coonskin Park
 - Loss of 10 hiking trails in Coonskin Park
 - Interrupted access to the Kanawha Railroad Club
 - Potential loss of return-to-service of inactive Norfolk Southern Corporation railroad that passes through Coonskin Park
 - Closure of Coonskin Drive in Coonskin Park.
 - Restrooms
 - Play structure and swing set

Phasing

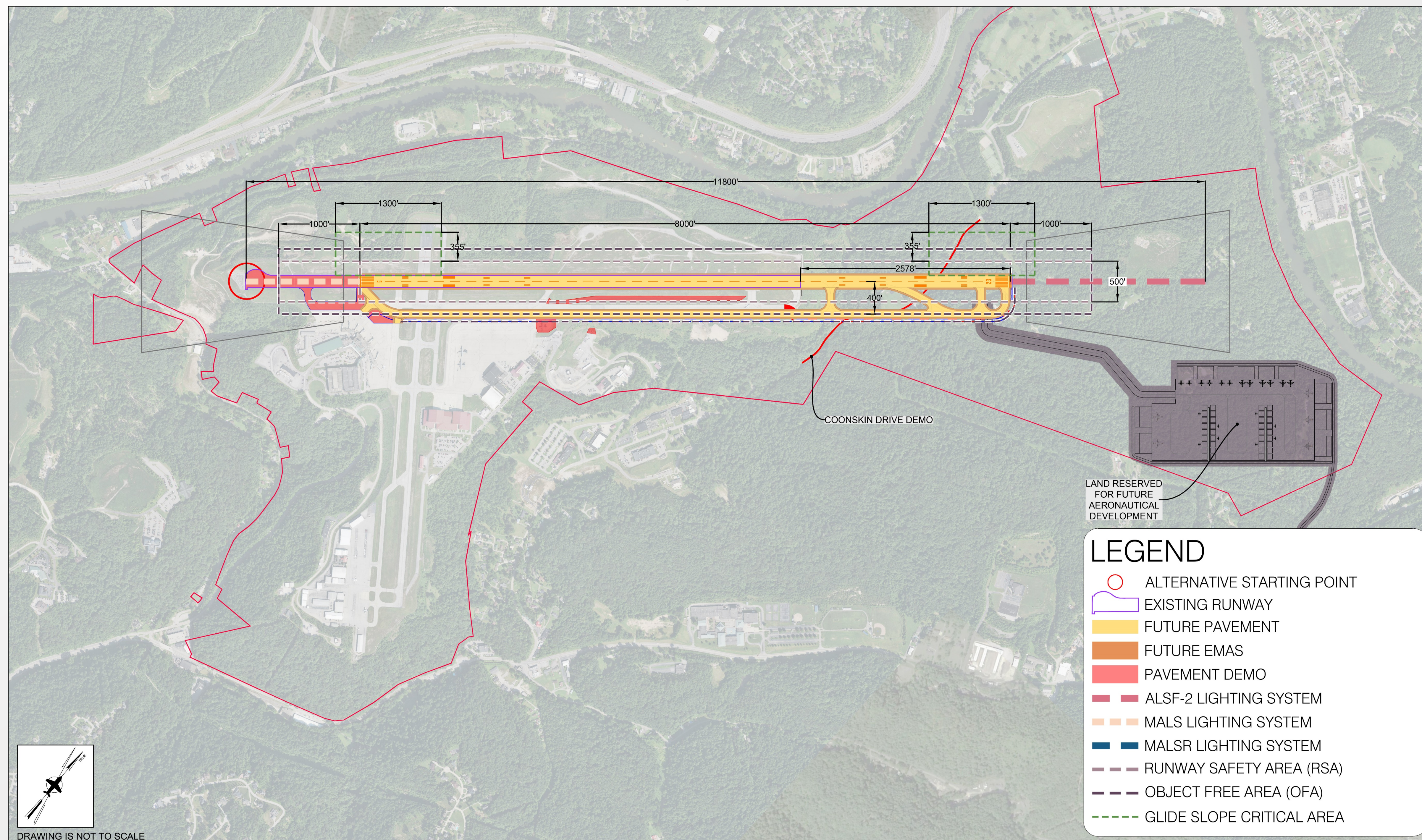
- Master Plan shows need for 8,000-foot long runway in 2030
 - Not justified by current commercial operations
- Proposed Phase 1 project : runway safety area (RSA) improvements with a modest increase in runway length (6,800 feet to 7,000 feet)
 - Preferred alternative results in greater change in elevation which requires longer runway to maintain the same capacity as 6,800 feet
- Proposed Phase 2 project: Extension to 8,000 would occur at a later time if alternative funding cannot be secured for full project now

Phase 1: 7,000-foot Long Runway



Ultimate Plan

Ultimate Plan: 8,000-foot Long Runway

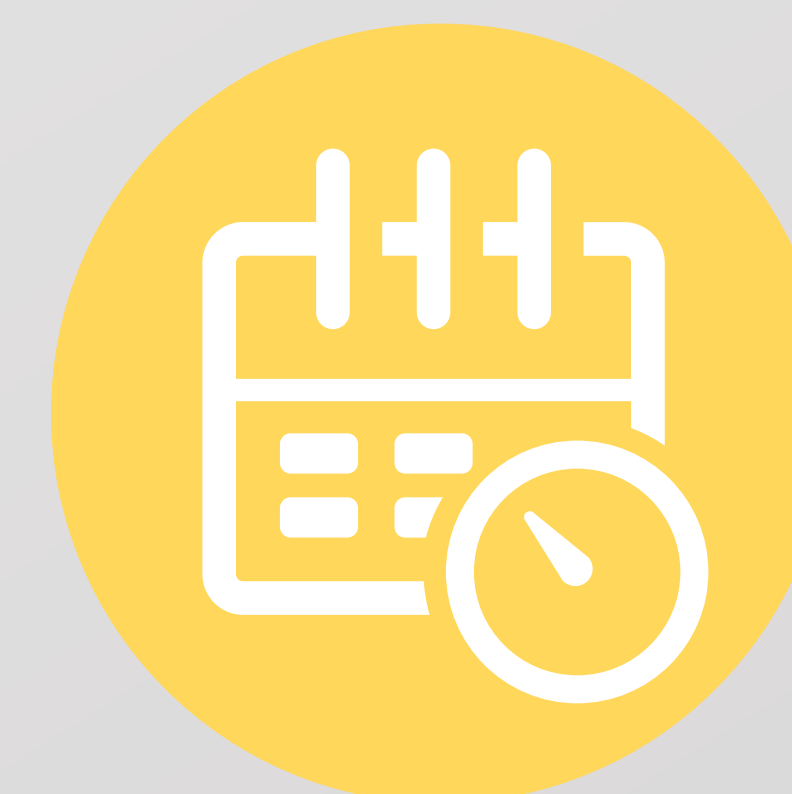


- Ultimate Plan includes:
 - Extension of Runway 05/23 to a length of 8,000 feet
 - Relocation of Taxiway A to provide the required 400 feet of separation from Runway 05/23
 - Potential expansion area for apron and hangar development

Finance Plan

- Funding for Master Plan projects stem from federal, state, and local funding sources

Source of Funds	Eligibility
FAA Airport Improvement Program (AIP)	Eligible for up to 90% of costs
FAA Airport Development for Eligible Mountaintop Airports	The FAA shall give priority consideration to mass grading and associated structural support at mountaintop airports
West Virginia Department of Transportation, Aeronautics Commission	Eligible for half of local share (usually 5%)
Passenger Facility Charges	Can be used to issue bonds Max \$4.50 PFC being imposed Around \$1 M in PFC revenues/year
Local Airport Funds	Remainder funded by local funds – Airport cash or issuance of revenue bonds



Next Steps

- Obtain comments from public
- Finalize Airfield Master Plan and Airport Layout Plan (ALP)
- Submit to Federal Aviation Administration (FAA) for review
 - FAA approval of the ALP and Master Plan indicates that the proposed development depicted on the ALP conforms to the FAA airport design standards. This does not constitute approval to construct a project.
- Conduct environmental review
- Secure funding for short-term projects from FAA and West Virginia Department of Transportation (WVDOT)

