



Madison Municipal Airport Madison, SD

Airport Master Plan Meeting – May 28, 2026

Agenda



- Progress to Date
- Runway Obstructions
- Runway Line of Sight
- Airfield Alternatives
- Terminal Area Discussion
- Open Discussion
- Next Steps

Project Participants



➤ Project Team

- Aviation Planner – Andrew Zielike
- Airport Engineer – Aaron Storm
- Aviation Planner – Jack Vogt
- Aviation Planner – Kent Penney

➤ Madison Airport / City of Madison

- Airport Manager – Morris Riggins
- Mayor- Roy Lindsay
- Director of Engineering and Community Development – Ryan Hegg

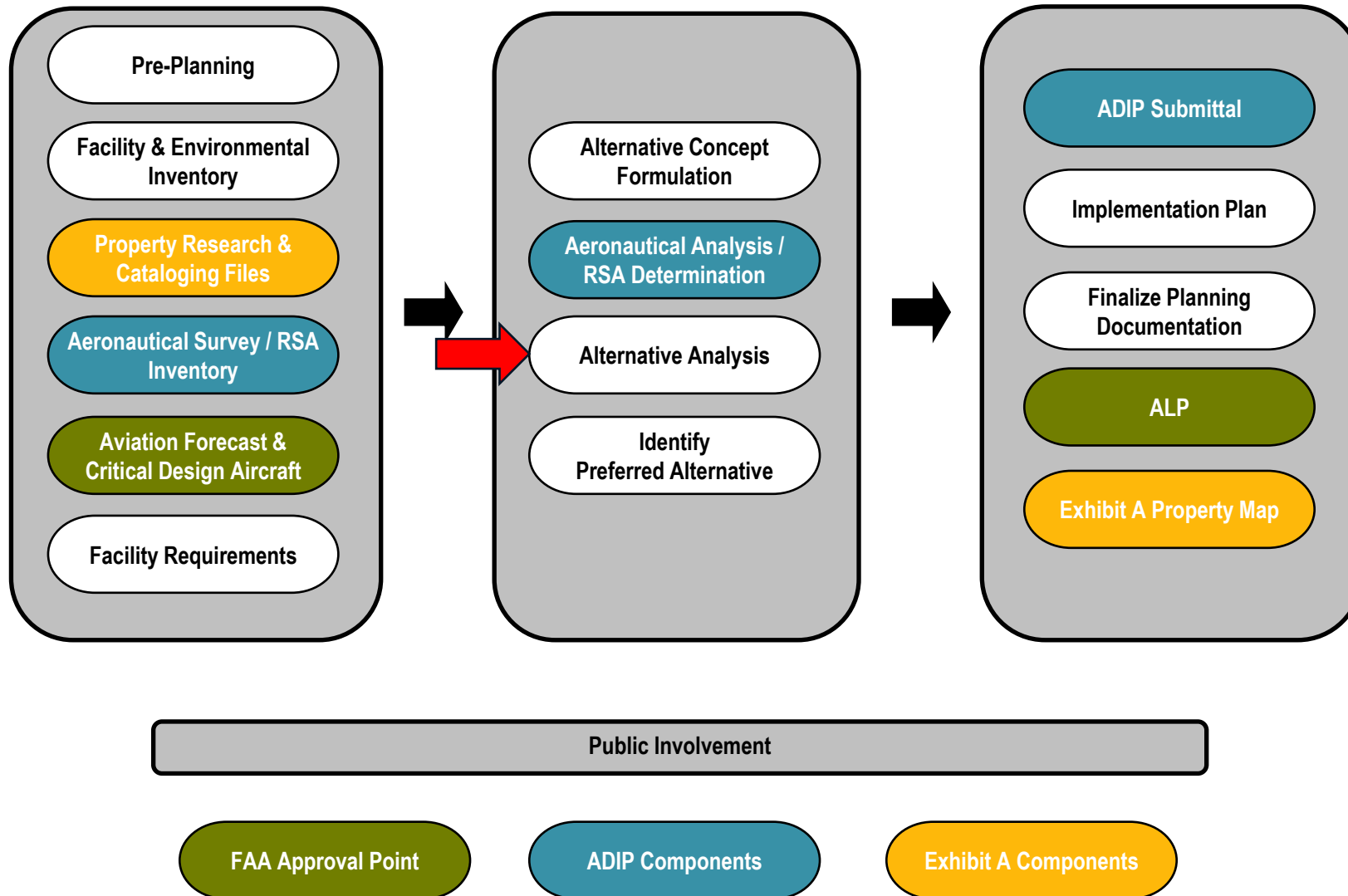
➤ Agencies Involved

- FAA – Brian Schuck
- SD DOT Aeronautics – Jon Becker

➤ Planning Committee

- Teresa Mallet– Madison Regional Health System
- Danny Frisby-Griffin – Madison High School
- Kenny Johnson – Airport Board Vice President
- Tim Peters – Airport Board President
- Morris Riggins – Airport Manager/FBO
- Roy Lindsay – City of Madison/Mayor
- Ryan Hegg – City of Madison

Project Workflow



Progress to Date



- Critical Aircraft Approved
- FAA/State Comments Received for Chapter 1, 2 and 3
 - Revised Chapters Submitted
- Exhibit A Deeds and Easements Drafted
 - Researching Encumbrances
- Existing Obstacles Evaluated
- ALP Existing Conditions Drafted



Aviation Activity Update



- 24,000 Estimated Annual Operations
 - Updated from the 20,000 operations previously presented to include SDSU flight training operations
- 50 validated based aircraft
 - 1 jet and 1 turboprop added

Annual Aircraft Operations Forecast

Category	2025	2030	2035	2040	2045	CAGR
Local	9,600	10,342	11,141	12,002	12,930	1.50%
Itinerant	14,400	15,513	16,712	18,003	19,395	1.50%
Total	24,000	25,855	27,853	30,006	32,325	1.50%



Critical Design Aircraft Determination



- Primary Runway: B-II Large, TDG-1B – **Existing and Future**
- Crosswind Runway: A-I Small, TDG-1A – **Existing and Future**
- Different sections of airfield are designed to meet different design standards
- Parallel Taxiway is 35 feet wide meeting TDG-2A. Recommend planning to maintain TDG-2A.

Aircraft Approach Category **B**

- Represents speed that aircraft approaches runway
- 91 to 121 Kts

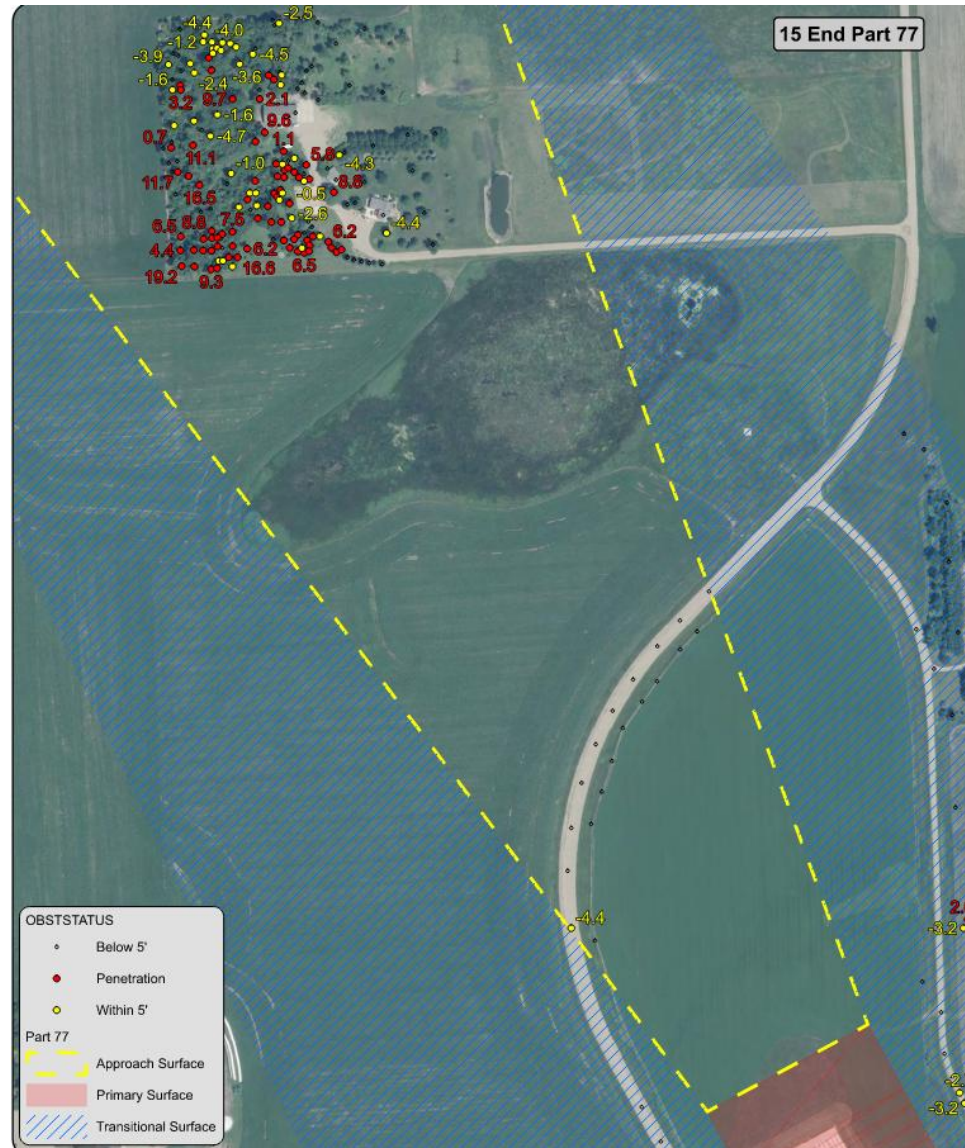
Airplane Design Group **II**

- Represents wingspan and height of aircraft
- 49' to 79' wingspan

Taxiway Design Group **1B**

- Represents pavement width and turning clearance needed by aircraft
- Main Gear Width – 0' to 15'
- Cockpit to Main Gear – 20' to 40'

Obstructions- Primary Runway Part 77 Approach



Obstructions- Primary Runway Departure Surface

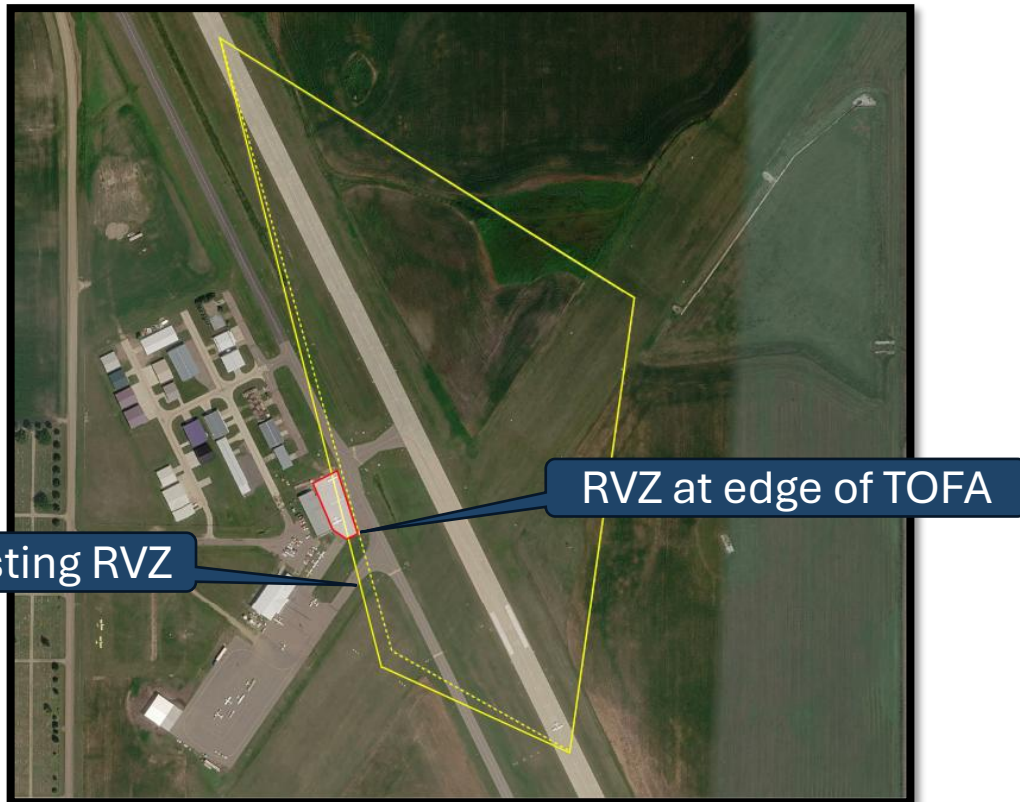


Runway Line of Sight



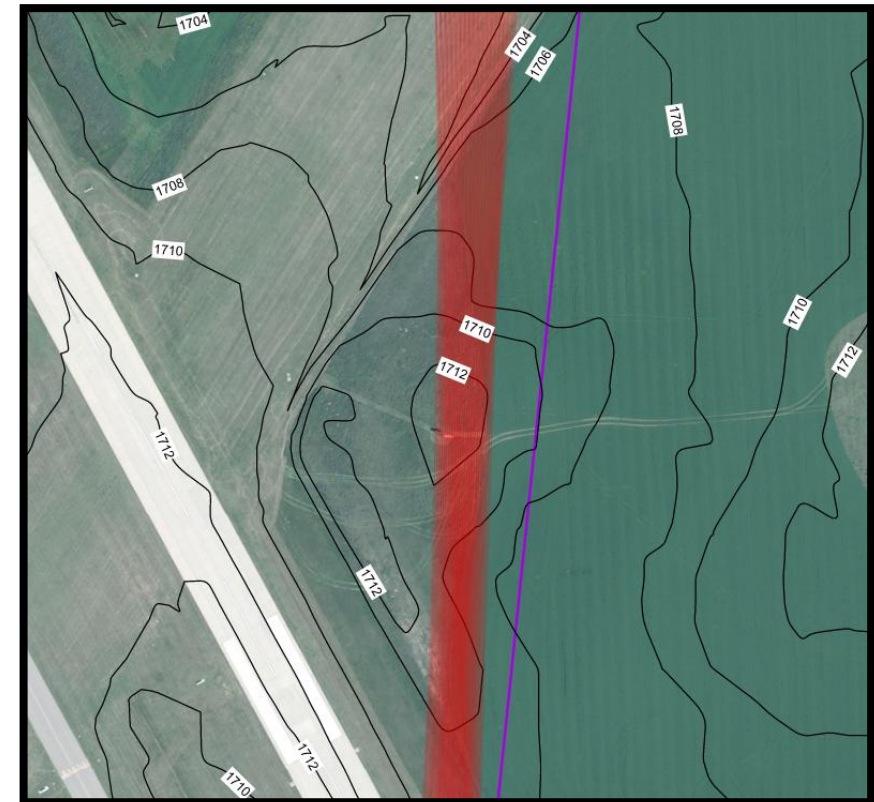
➤ RVZ on North Apron

- 60' shift to edge of Twy A TOFA
- 125' shift to edge of Twy A pavement



➤ Line of Sight Interruption

- Terrain between Runway 21 and Runway 33



Runway Length



- Existing Primary: 5,000 feet
 - Recommended Length: 5,000 feet
 - Based on Air Tractor 802 at reduced load
- Existing Crosswind: 2,380 feet
 - Recommended Length: 3,100
 - Based on compilation of small aircraft



Aircraft	Recommended Runway Length (Paved/Turf)
Cessna 150	1,900 feet/ 2,400 feet
Cessna 152	1,800 feet/ 2,300 feet
Cessna 172	1,900 feet/ 2,400 feet
Cirrus SR-22	2,600 feet/ 3,100 feet
Diamond DA-40	2,100 feet/ 2,600 feet
Mooney M20	3,400 feet/ 4,600 feet
Piper PA-24 Comanche	3,200 feet/ 4,000 feet
Air Tractor AT 802	5,200 feet (MTOW)/5,000 feet (15,600lbs)

Source: *Small Aircraft Runway Length Analysis Tool (SARLAT)*, *AT-802 Flight Manual*, *KLJ Analysis*

Considerations for Airfield Alternatives

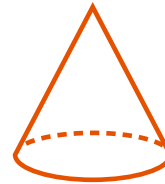


Primary Runway

Runway Protection Zone

Obstacles

Maintain Length



Turf Runway

Runway Visibility Zone

Extend Length

Wind Coverage

Obstacles

Land Acquisition

Drainage



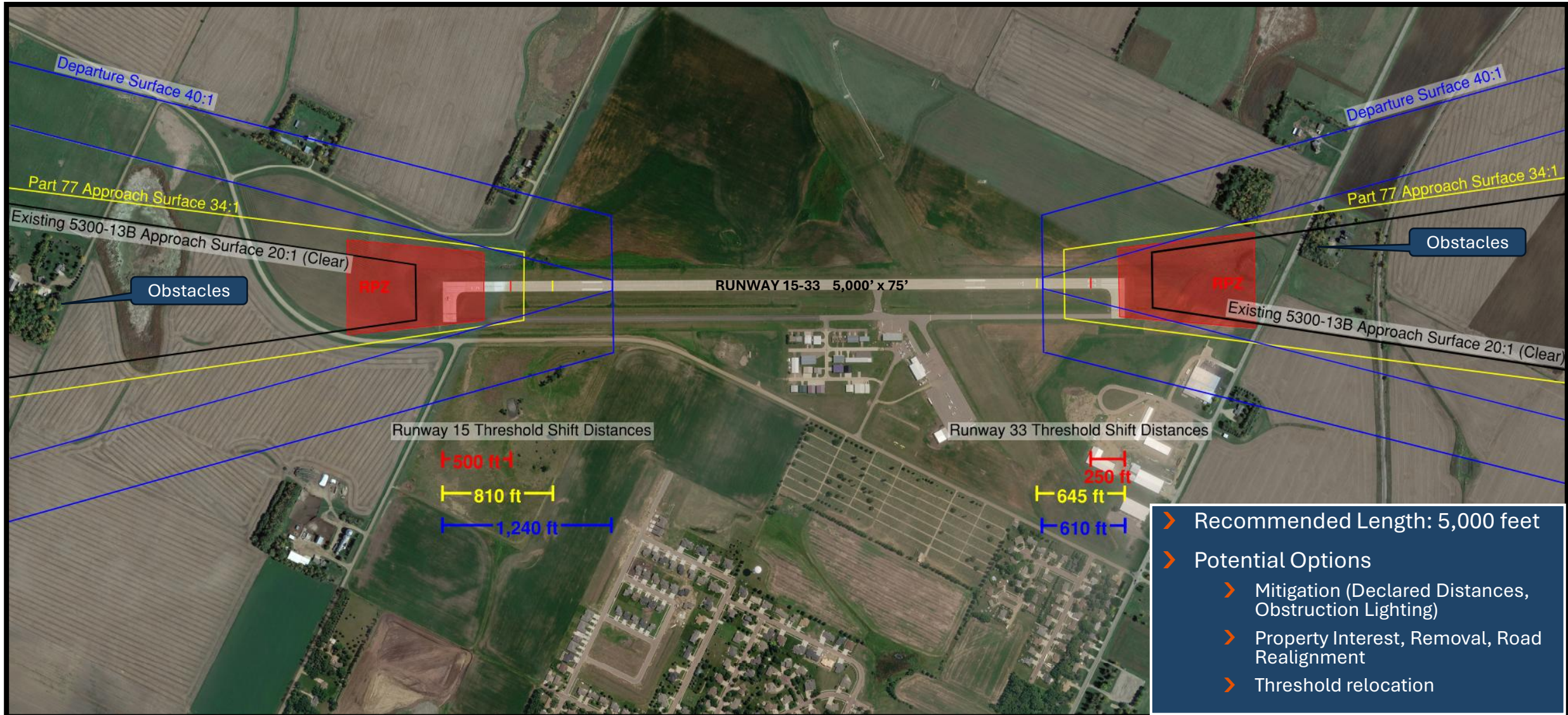
Other Airfield Considerations

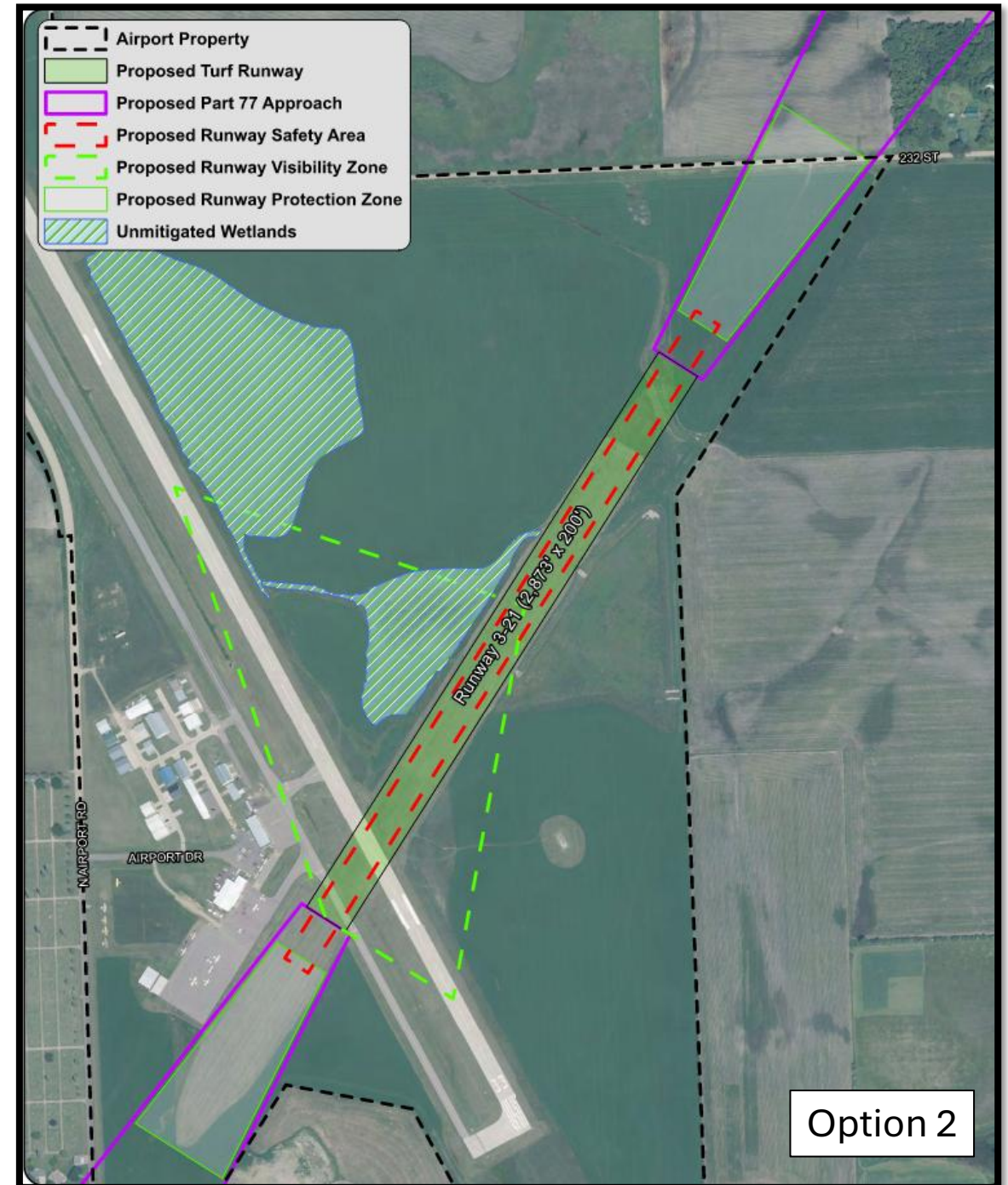
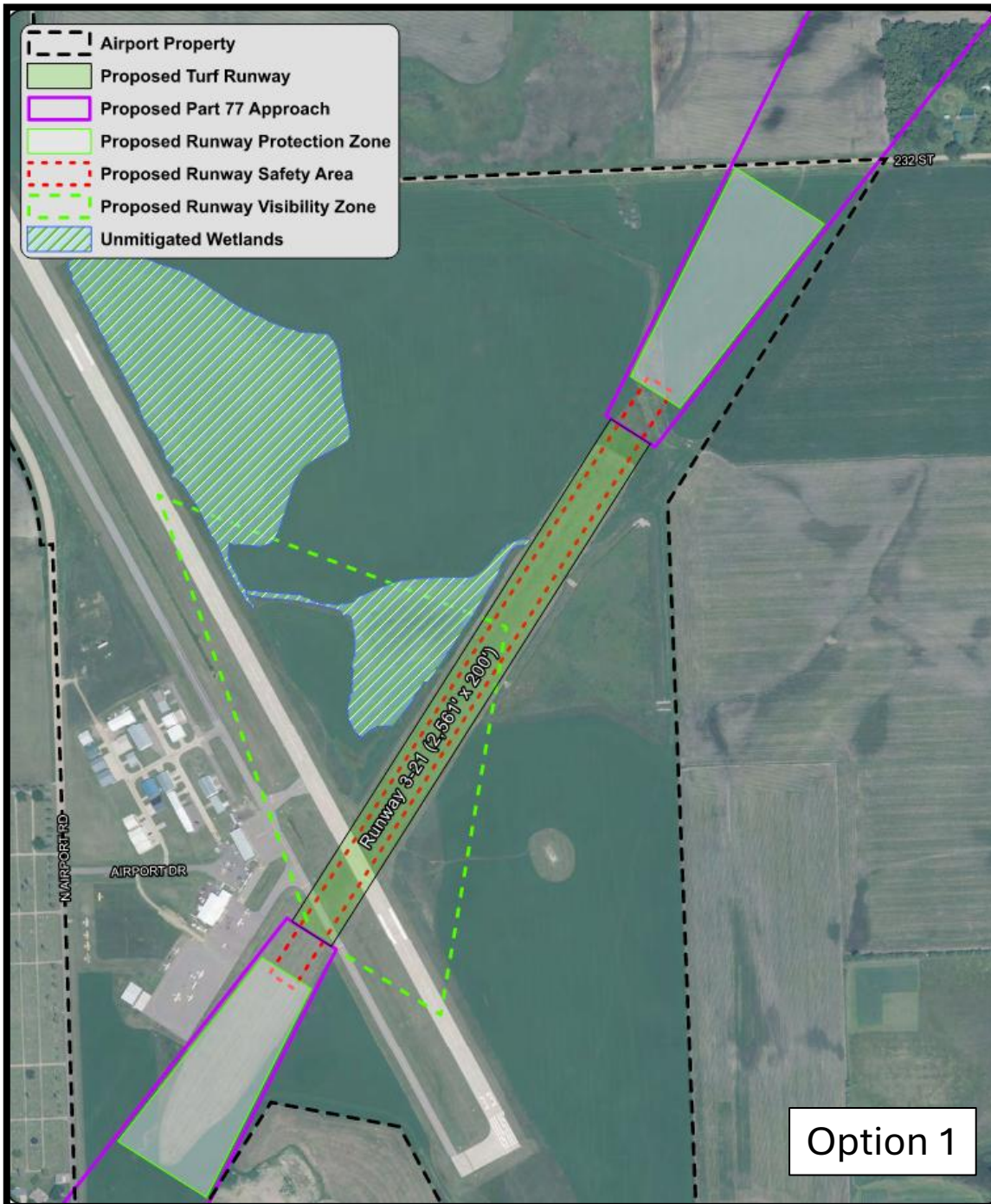
Direct Access

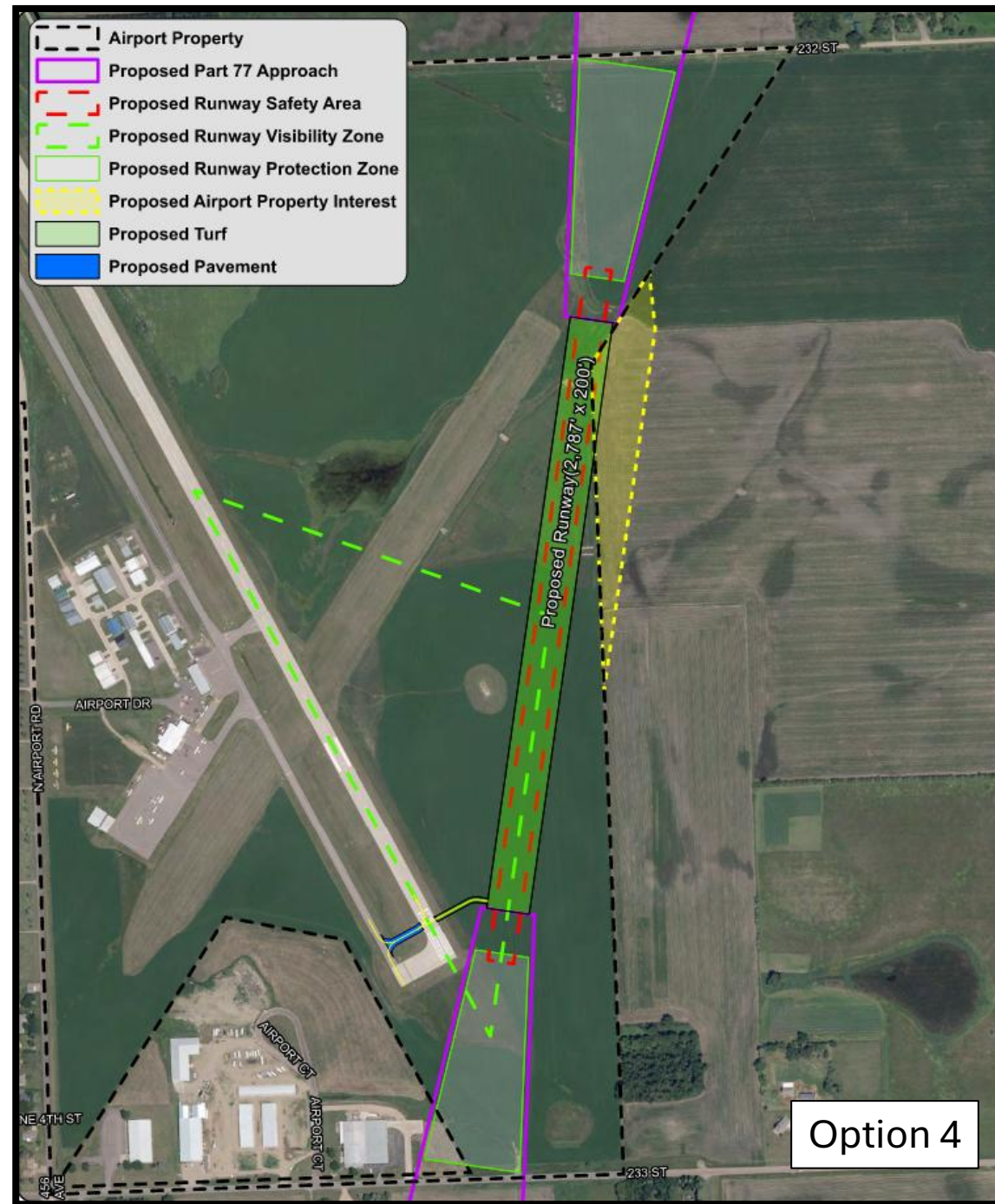
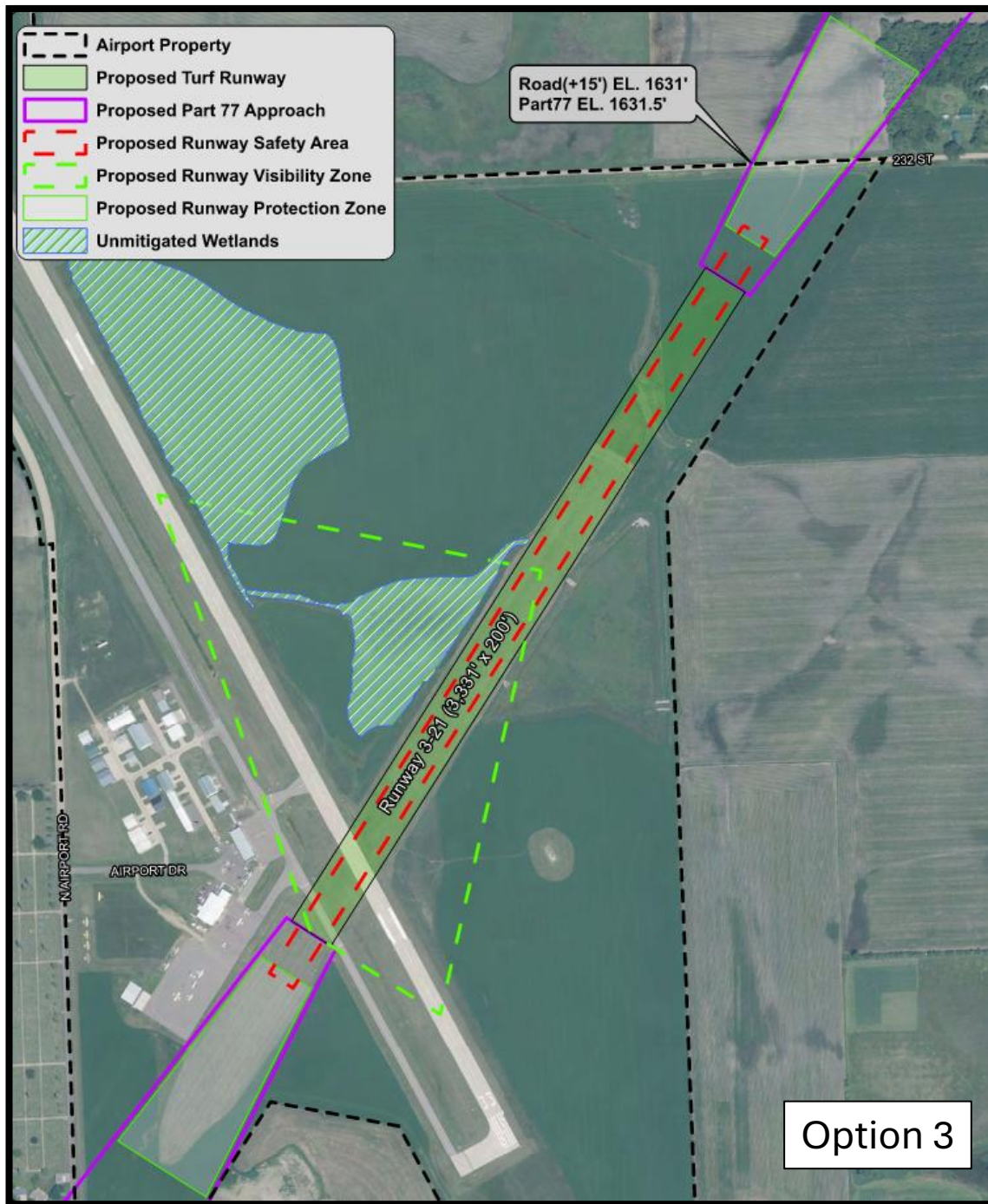
Parallel Taxiway Crossing Angle

Runup Areas

Primary & Crosswind Runways







Crosswind Runway Options



Condition	Existing	Option 1	Option 2	Option 3	Option 4 (RWY 10-28)
Combined Wind Coverage	96.95%	96.95%	96.95%	96.95%	95.30%
RVZ Impacts	North Apron	None	None	None	None
Runway Protection Zone Impacts	None	None	Rwy 21: 232 nd St Rwy 3: None	Rwy 21: 232 nd St Rwy 3: None	None
-13B Approach Surface	None	Potential	Potential	Potential	None
Part 77 Approach Surface	None	Potential	Potential	Potential	None
Drainage Impacts	-	Drainage Ditch/Culvert	Drainage Ditch/Culvert	Drainage Ditch/Culvert	Drainage Basin Relocation
Property Interest Acquisition	None	Potential Obstacles	1.4+ Acres RPZ + Obstacles	5.3+ Acres RPZ + Obstacles	6-8 acres BRL
Total Runway Length	2,380	2,561	2,873	3,331	2,787
Meets 3,100' Length Recommendation	No	No	No	Yes	No
Terminal Area Constrained	Yes	Yes	Yes	Yes	No

Airfield Taxiway System



- Bypass taxiways
 - Alternative for Runup Operations
- Run-up / Holding Bays
- Remove direct access
 - Relocated midfield connector taxiway
- Parallel Taxiway crossing angle
 - Must be within 0°-15°



Types of Hangars and Layouts



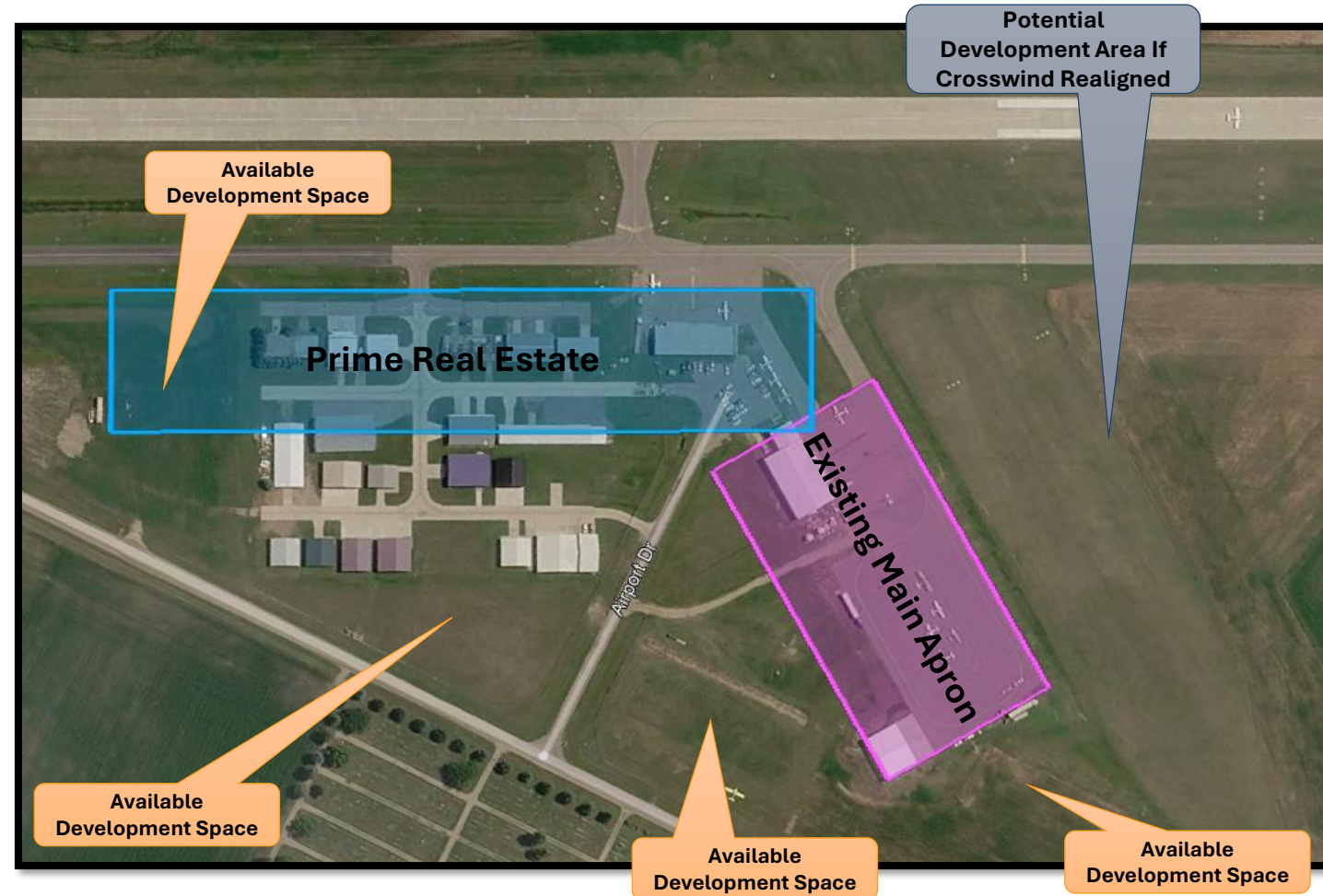
Typical Aircraft Hangar Attributes				
	T-Hangars	Small Storage Less than 6,000 sf	Large Storage More than 6,000 sf	FBO/SASO
Photo Examples				
Dedicated Apron	None	None	Equal to depth of hangar	Equal to depth of hangar (plus apron for services)
Airport Apron Access	No	No	No	Yes
Setbacks from Taxilanes	Yes - for Design Group (I or II)	Yes - for Design Group (I or II)	Yes plus Apron - for Design Group (II+)	Yes plus Apron - for Design Group (II+)
Airside Taxi Route	Yes - for Design Group (I or II)	Yes - for Design Group (I or II)	Yes - for Design Group (II+)	Yes - for Design Group (II+)
Public Road Access/Parking	No	Yes or No *	Yes*	Yes*

* Any business/corporate hangar located on an airport should have public road access and parking for customers/passengers. Particularly those customers/passengers who are not trained in driving on an airport.

Terminal Area



- MDS is a higher activity airport with constrained development space
 - Efficient utilization is necessary
- Key committee considerations
 - Distinct development zones
 - Understanding prime real estate
 - Strategic transition and phasing
- Terminal area needs
 - Increased aircraft parking
 - Additional Group I and II hangar development space
 - Aerial application space



Next Steps



- Refine airfield alternatives based on feedback
 - Develop Terminal Area alternatives
 - Select preferred alternatives
 - Schedule Public Open House
 - Submit Exhibit A
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- **Website:** <https://inputcentral.com/mds-airportplan>

Thank you for participating!

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