Mercer County Regional Airport

Crosswind Runway Alternatives Meeting

February 5, 2024

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Agenda

- Introductions
- Review last meeting
- Runway 3-21 (Revised)
- Runway 9-27 (Revised)
- Questions/Comments



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Wind Analysis

ALL-WEATHER WIND COVERAGE				
CONFIGURATION	CROSSWIND COMPONENT			
	10.5 KNOTS	13 KNOTS	16 KNOTS	20 KNOTS
RUNWAY 15-33	93.50%	97.60%	99.17%	-
	-	-	-	-
	-	-	-	-
COMBINED	93.50%	97.60%	99.17%	-
SOURCE: KHZE AWOS (2012-2021, HOURLY) FROM NATIONAL CLIMATIC DATA CENTER				
83,657 TOTAL OBSERVATIONS				

INSTRUMENT FLIGHT RULES (IFR) WIND COVERAGE				
CONFIGURATION	CROSSWIND COMPONENT			
	10.5 KNOTS	13 KNOTS	16 KNOTS	20 KNOTS
RUNWAY 15-33	91.19%	96.67%	98.97%	-
	-	-	-	-
	-	-	-	-
COMBINED	91.19%	96.67%	98.97%	-
SOURCE: KHZE AWOS (2012-2021, HOURLY) FROM NATIONAL CLIMATIC DATA CENTER				
5,233 TOTAL OBSERVATIONS				
IFR = VISIBILITY LOWER THAN 3 MILES OR CEILING LOWER THAN 1,000 FEET				

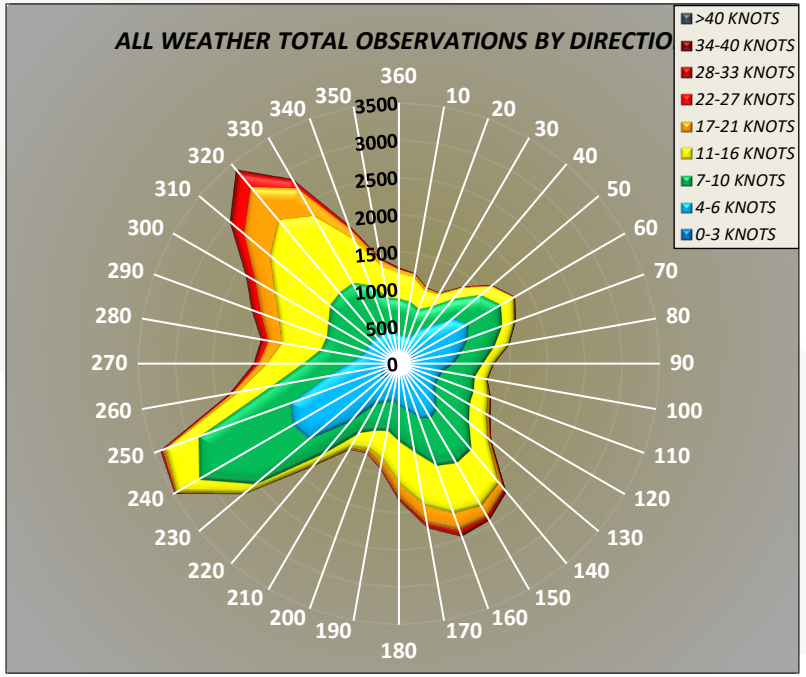


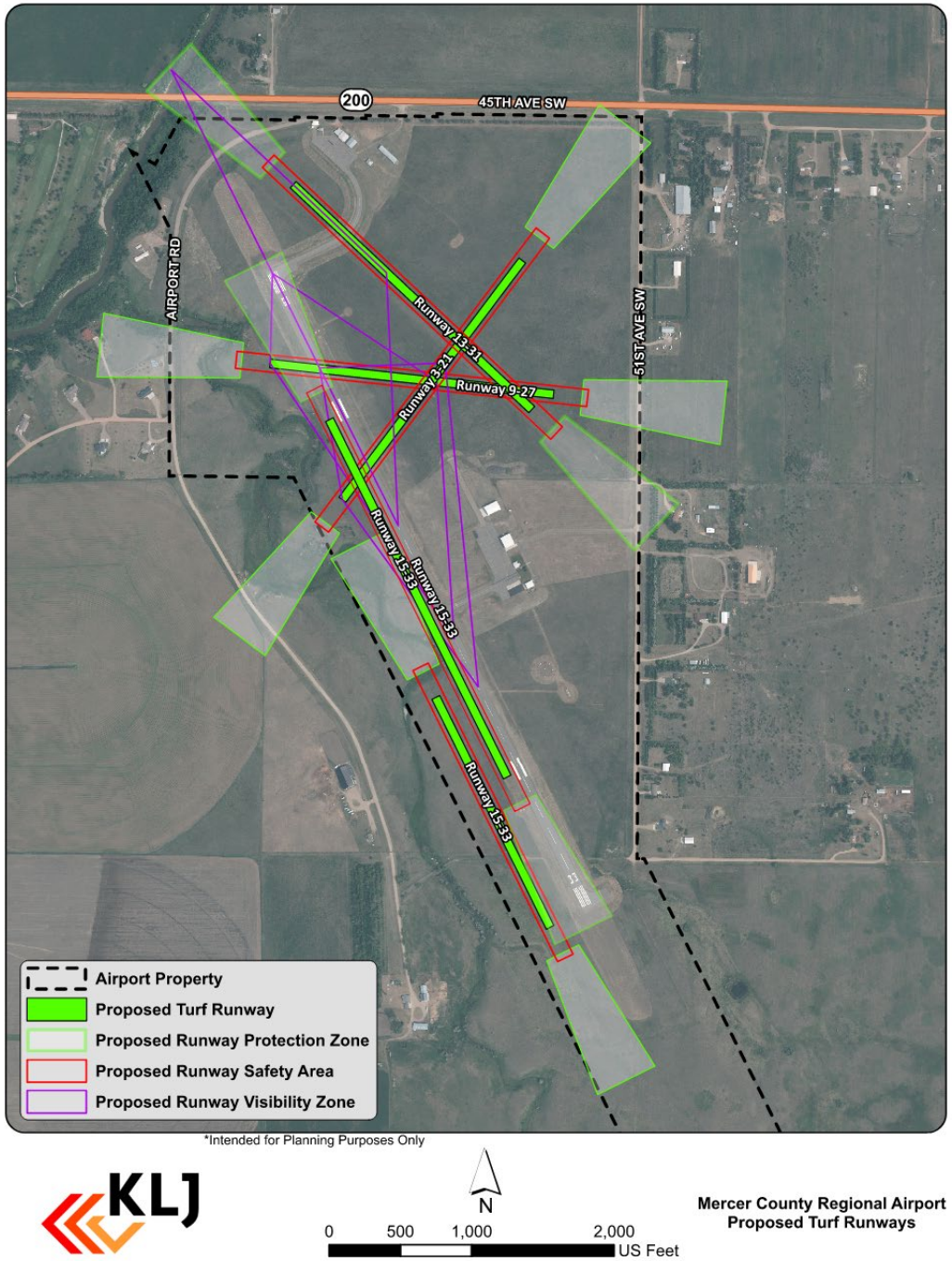
Table B-1. Allowable Crosswind Component per Runway Design Code (RDC)

RDC	Allowable Crosswind Component
A-I and B-I *	10.5 knots
A-II and B-II	13 knots
A-III, B-III, C-I through D-III D-I through D-III	16 knots
A-IV and B-IV, C-IV through C-VI, D-IV through D-VI	20 knots
E-I through E-VI	20 knots

Note: * Includes A-I and B-I small aircraft.

All Alignments Considered

	Parallel within RSA	Parallel outside RSA	3-21	9-27	13-31
Length	2,800’	1,800’	2,000’	2,000’	2,300’
Wind Coverage	94.13%	94.13%	97.22%	98.85%	96.79%
Things Affected	Use of Runway 15-33	None	Crosses Runway 15-33	Crosses Runway 15-33	Access road & crosses north taxiway
Land Requirements	None	Less than 0.1 acres needed for RPZs	9.4 acres needed for RPZs	11.7 acres needed for RPZs	6.4 acres needed for RPZs



Items Considered for Updates

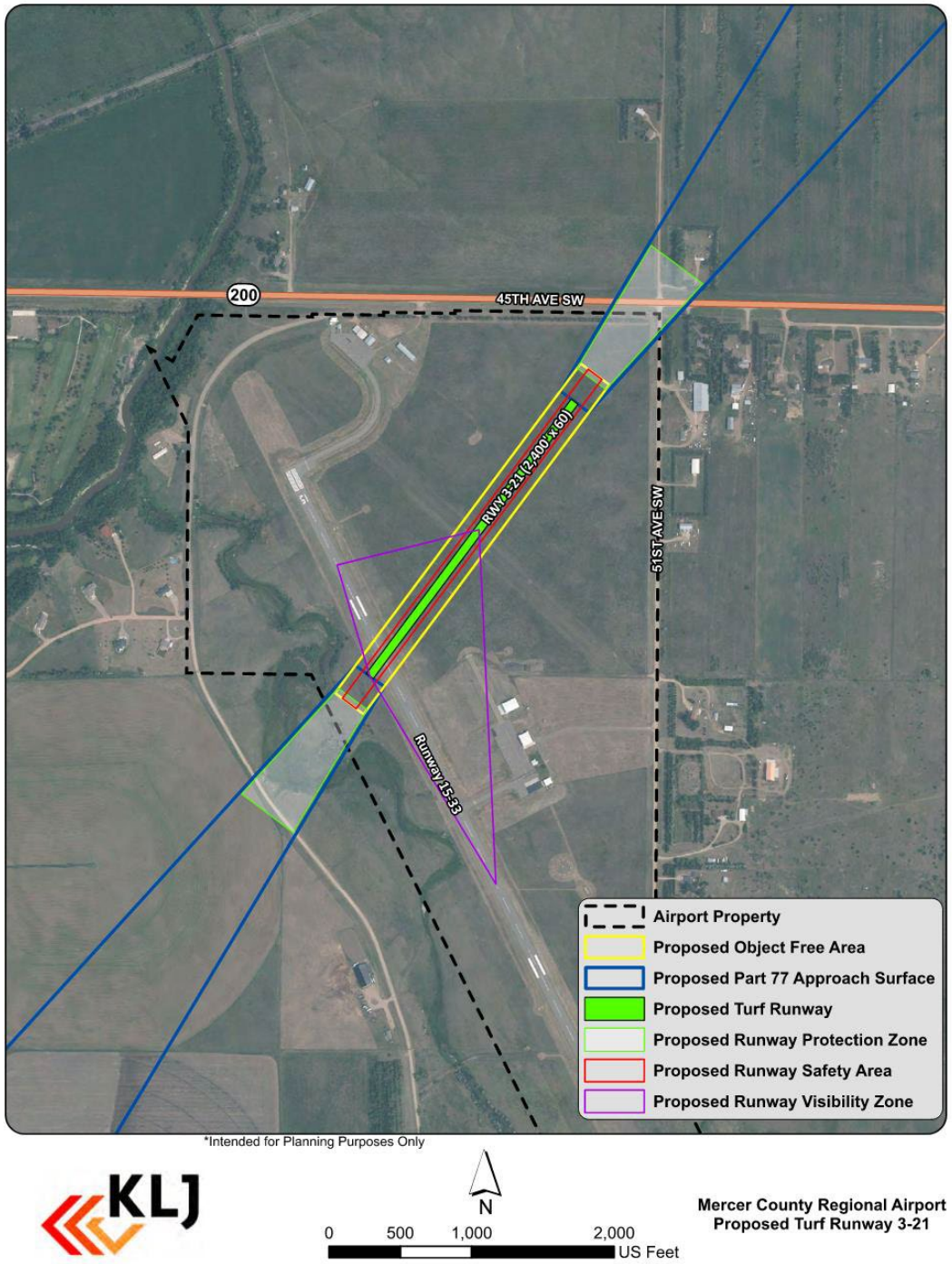
- Current runway lights and PAPI location
- Excavation needed on the west side of the current runway
- Runway Protection Zone (RPZ) placement and Part 77 surfaces
- Making sure aircraft will turnaround out of Runway 15-33 Runway Safety Area (RSA)
  - Threshold for Turf Runway 50’ outside of RSA
- Possible runway length

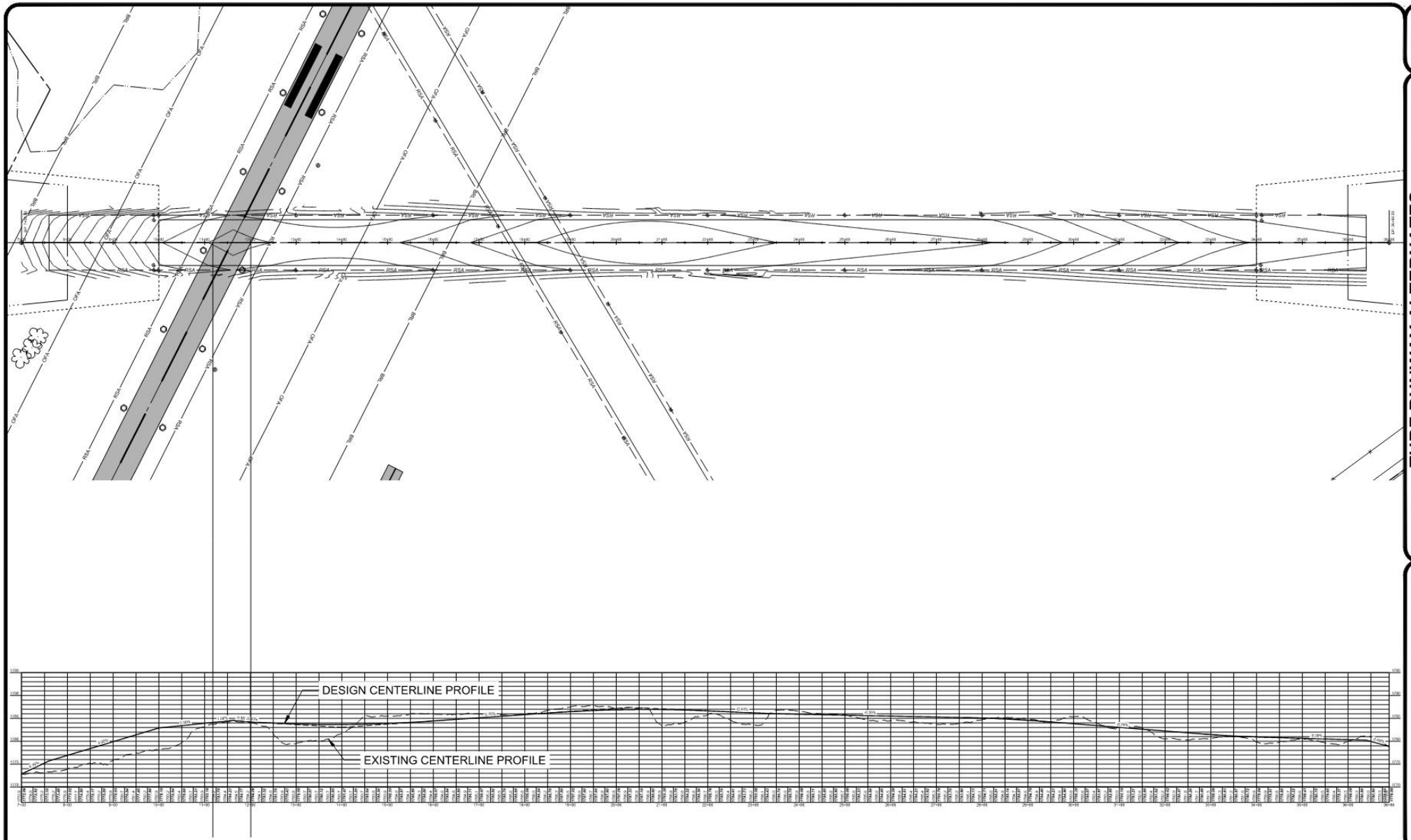
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Runway 3-21 (Revised)

- 2,400’ x 60’
- Extended the runway to maximum capacity
- 3 End RPZ up to the front of the residence
- Runway Visibility Zone (RVZ) could affect development north





Runway 3-21 (Revised)

TURF RUNWAY ALTERNATES

MERCER COUNTY AIRPORT AUTHORITY

HAZEN, NORTH DAKOTA

RUNWAY 3 - 21 PLAN & PROFILE

DRAFTED: TJL

REVIEWED:

PROJECT NUMBER: 2205-01745

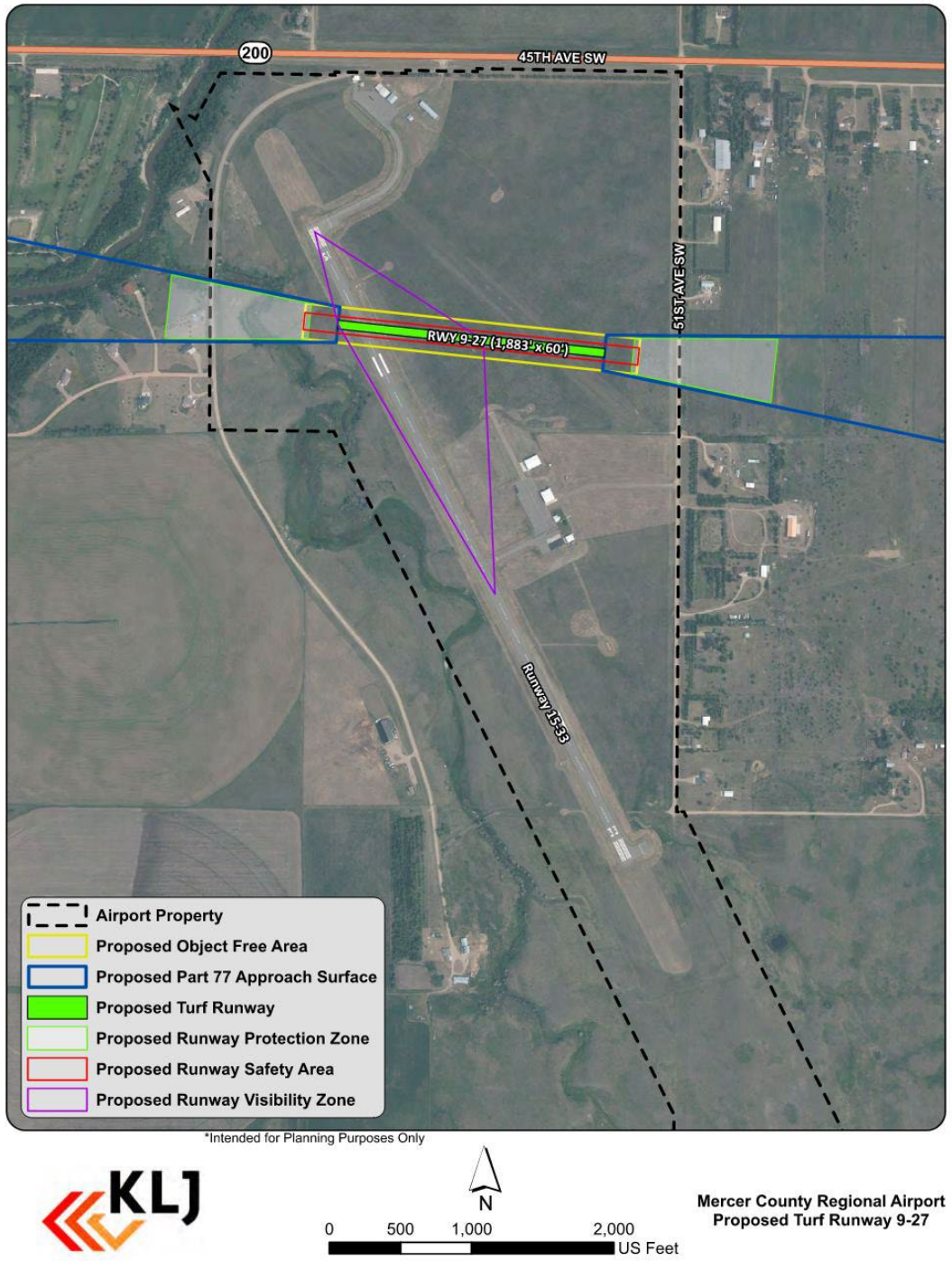
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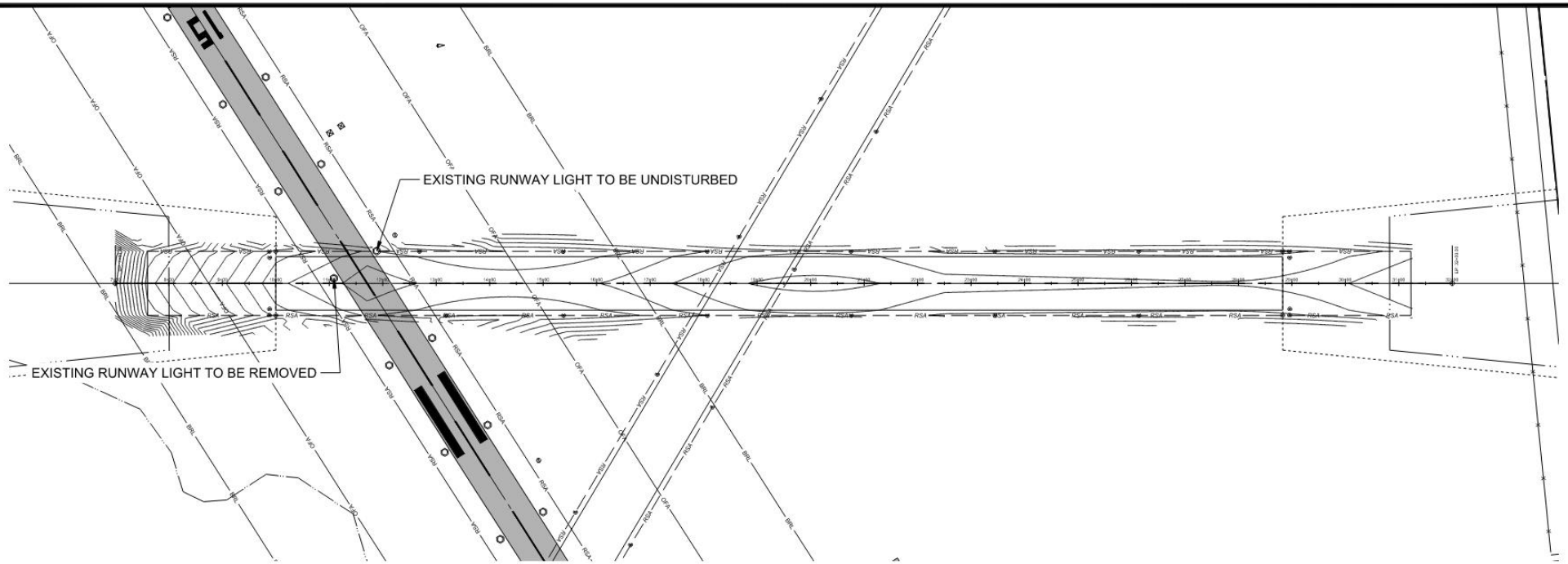
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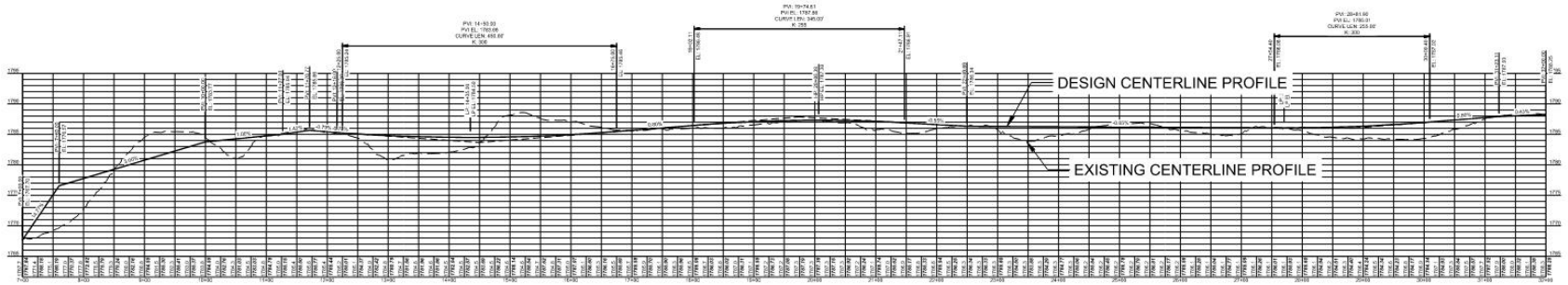
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Runway 9-27 (Revised)

- 1,883’ x 60’
- Had to shorten from previous option (2,000’)
- Would need easements right away to ensure limited development in the RPZs







Runway 9-27 (Revised)

TURF RUNWAY ALTERNATES

MERCER COUNTY AIRPORT AUTHORITY

HAZEN, NORTH DAKOTA

RUNWAY 9-27 PLAN & PROFILE

DRAFTED: TJL

REVIEWED:

PROJECT NUMBER: 2205-01745

SHEET: -

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Comparison

	3-21 (Revised)	9-27 (Revised)
Length	2,400	1,833
Combined Wind coverage	97.22%	98.85%
Possible Easement Area	11.0 acres	9.0 acres (portion currently developable)
Unclassified Excavation	20,600 cubic yards	12,200 cubic yards
Topsoiling (obtained on-site)	5,500 cubic yards	4,400 cubic yards
Estimated Cost	$940,000	$620,000
Items Affected	1 current runway light. Apron development could be limited.	1 current runway light. Must limit development within the RPZs.

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Crosswind Alternatives Open Discussion



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Next Steps

- Complete Airport Inventory
- Complete Aviation Forecasting
- Complete Facility Requirements
- Terminal/Hangar Area Alternatives

- Next Meeting: Terminal/Hangar Area Alternatives

- Website: inputcentral.com/hze-airportplan

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Questions/Comments

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