Madison Municipal Airport – Madison, SD

Airport Master Plan Kickoff Meeting – July 29, 2025

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Agenda

- Introductions
- Airport Master Planning
- Roles & Responsibilities
- Planning Considerations
- Existing Conditions
- Open Discussion



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Introductions

- Project Team
  - Aviation Planner – Andrew Zielike
  - Airport Engineer – Aaron Storm
  - Aviation Planner – Jack Vogt
- Madison Airport / City of Madison
  - Airport Manager – Morris Riggin
  - 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
  - Mathew Wollmann – Airport Board/President
  - Tim Peters – Airport Board/Vice President
  - Morris Riggin – Airport Manager/FBO
  - Roy Lindsay – City of Madison/Mayor
  - Ryan Hegg – City of Madison

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Roles & Responsibilities

KLJ Planning Team

- Manage Study, Complete Technical Work, Provide Analysis and Recommendations

Master Plan Advisory Committee

- Identify Wants & Needs
- Ask Questions & Review Analysis
- Provide Feedback & Recommendations

City of Madison/Airport Advisory Board

- Provide Guiding Principles, Make Decision(s), Review and Approve Planning Documents & ALP

FAA / SD DOT

- Provide Technical Guidance, Approve Critical Design Aircraft, Review Airport Master Plan, Approve ALP



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Airport Master Plan

What is it?

"Road Map" for meeting aviation needs

Preserves flexibility to respond to future demands

Allows airport to cost-effectively keep pace with aviation growth

Considers environmental and socioeconomic impact of development

Components

AIRPORT MASTER PLAN NARRATIVE REPORT

AIRPORT LAYOUT PLAN

RSA DETERMINATION

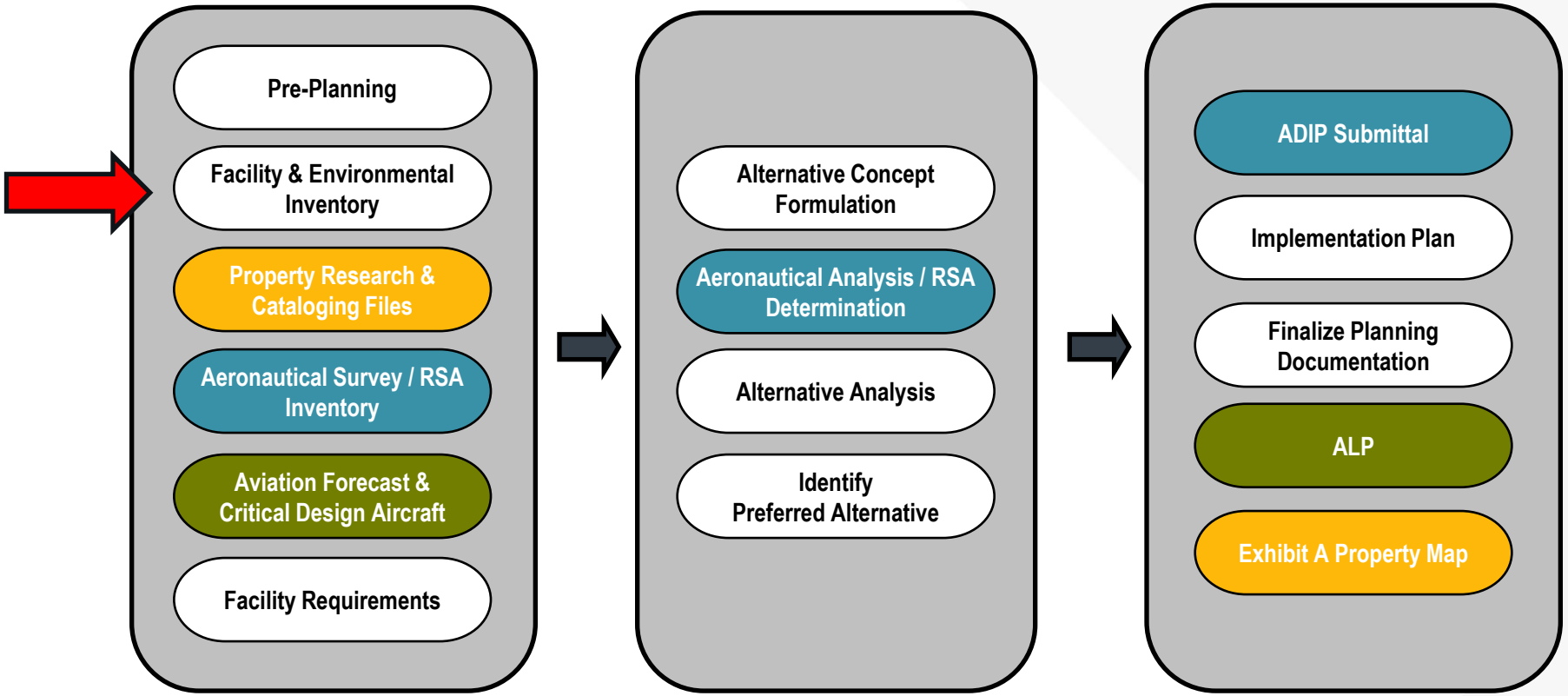
EXHIBIT A / PROPERTY MAP

AERONAUTICAL SURVEY

Why is Airport Planning Needed Now?

- Update the Airport Layout Plan (ALP) from 2008 to current FAA design standards
- Develop short-, mid-, long-term year (5-20) Airport Capital Improvement Plan (ACIP)
- Evaluate crosswind runway length and use
- Examine areas for future hangar development
- Evaluate location for aircraft run up operations
- Evaluate additional areas for apron expansion and aircraft parking

Project Workflow



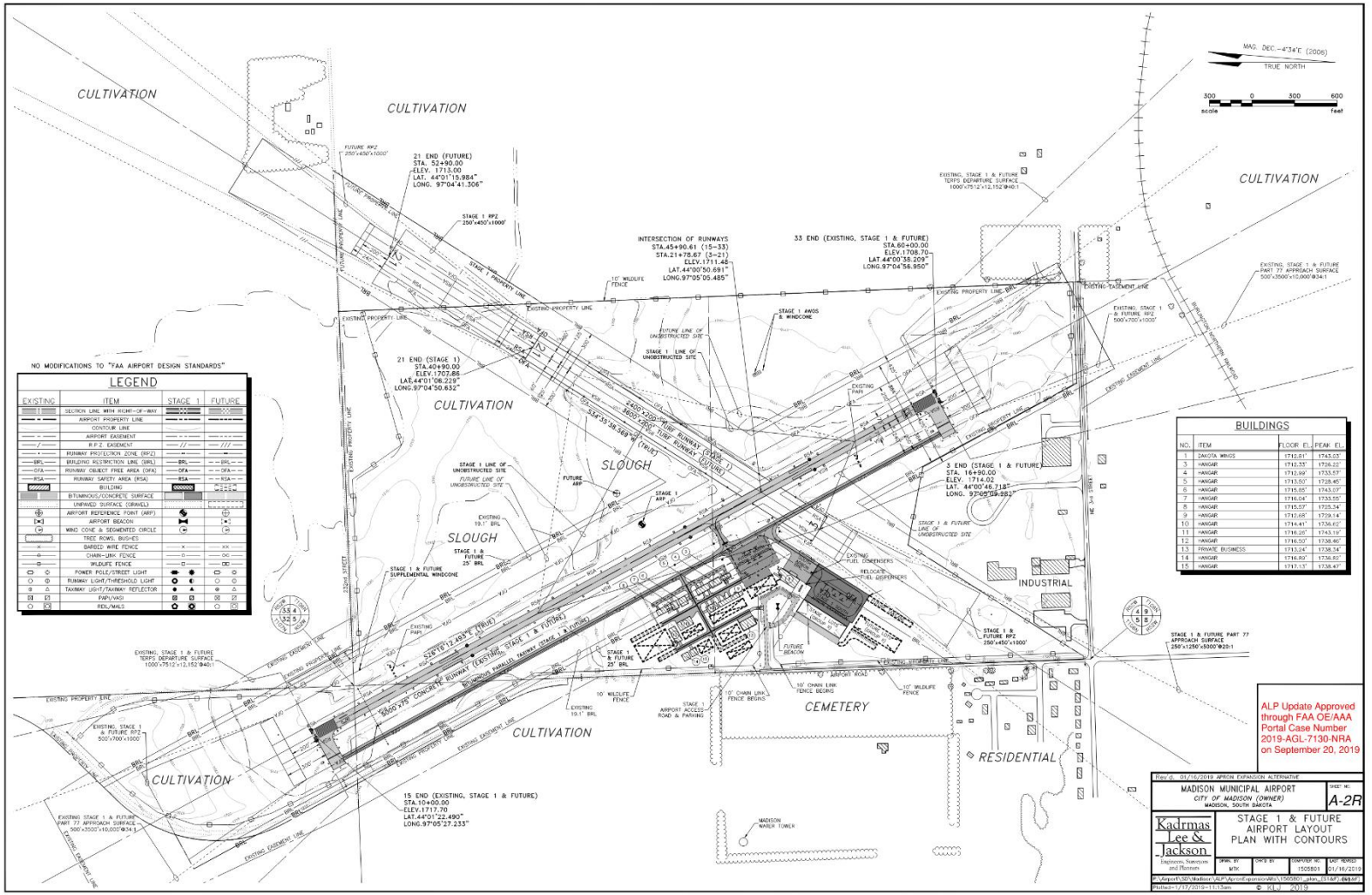
Public Involvement

FAA Approval Point | ADIP Components | Exhibit A Components

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Current MDS Airport Layout Plan (ALP) - 2008



- Needs to be brought to current design standards
- Additional apron and aircraft parking are needed
- Additional run up areas not depicted
- Additional hangar development needed
- Pen and Ink change in 2019 for South Apron

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Aircraft Design Characteristics

Aircraft Approach Category – A through D

- Represents speed that aircraft approaches runway

Airplane Design Group– I through VI

- Represents wingspan and height of aircraft

Taxiway Design Group– 1 through 6

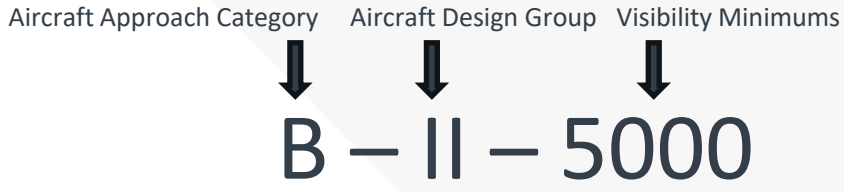
- Represents pavement width and turning clearance needed by aircraft (Main Gear Width and Cockpit to Main Gear Width)

Weight Class

- Small < Less than 12,500 lbs
- Large > Greater than 12,500 lbs

Runway Design Code (RDC)

Coding system used to describe the aircraft design characteristics the runway is designed to accommodate.



Critical Design Aircraft

Most demanding aircraft that utilizes the airport with 500 or more annual operations. Can be a specific aircraft or a group of design characteristics.

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Based Aircraft & Operations

- Based Aircraft (55 Validated)
  - 48 Single-engine
  - 5 Multi-engine
  - 2 Helicopters
- Aircraft Operations
  - 409 Annual Flight Plans (TFMSC)
  - 14,960 (2025 TAF)





Weather Analysis

ALL-WEATHER WIND COVERAGE				
CONFIGURATION	CROSSWIND COMPONENT			
	10.5 KNOTS	13 KNOTS	16 KNOTS	20 KNOTS
RUNWAY 15-33	89.29%	95.08%	98.04%	99.52%
RUNWAY 3-21	78.49%	-	-	-
	-	-	-	-
COMBINED	96.95%	95.08%	98.04%	99.52%
SOURCE: KMDS AWOS (2015-2024, HOURLY) FROM NATIONAL CLIMATIC DATA CENTER				
79,605 TOTAL OBSERVATIONS				

INSTRUMENT FLIGHT RULES (IFR) WIND COVERAGE				
CONFIGURATION	CROSSWIND COMPONENT			
	10.5 KNOTS	13 KNOTS	16 KNOTS	20 KNOTS
RUNWAY 15-33	81.38%	89.54%	94.81%	98.51%
RUNWAY 3-21	-	-	-	-
	-	-	-	-
COMBINED	81.38%	89.54%	94.81%	98.51%
SOURCE: KMDS AWOS (2015-2024, HOURLY) FROM NATIONAL CLIMATIC DATA CENTER				
7,972 TOTAL OBSERVATIONS				
IFR = VISIBILITY LOWER THAN 3 MILES OR CEILING LOWER THAN 1,000 FEET				

Weather Condition	Percentage	Days Per Year	Hours Per Year
VMC	89.99%	328.4	7,883
Usable IMC	4.94%	18.0	433
Usability	**94.93%**	**346.5**	**8,316**
Below Weather Minimums	5.07%	18.5	444
Total	**100.00%**	**365.0**	**8,760**

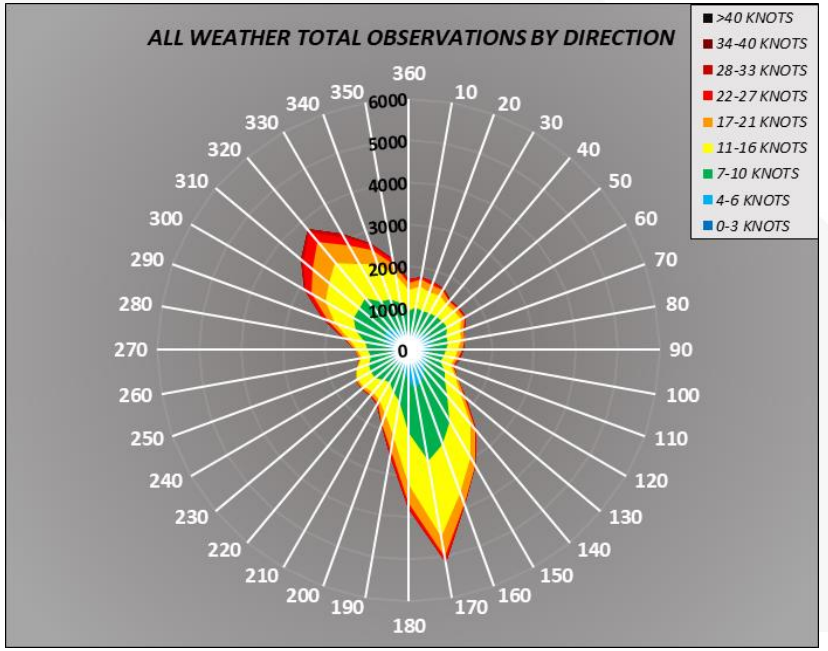


Table B-1. Allowable Crosswind Component per Runway Design Code (RDC)

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.

Existing Airfield

- Current ADG: Design Group A/B-II
- Primary Runway 15/33 (5,000’ x 75’)
  - Concrete / In “Good” Condition
  - RNAV / GPS Approach both ends
  - Runway Marking – Non-Precision
    - REILs and PAPIs on both ends
    - Runway Edge Lights
- Crosswind Runway 3/21 (2,380’ x 200’)
  - Turf
  - Runway Markings – Black and White Cones
- AWOS



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Terminal & Apron Area

- South Apron
  - ADG-II Taxilanes
  - 15 Turf and 7 Paved Tiedowns
- North Apron
  - ADG-I taxilanes
- Terminal Building/FBO
- Fuel – Underground
  - Jet A
  - AvGas



Hangars

- 20 private aircraft storage hangars
- 5 potential vacant hangar lots
- Current ADG-I access
- No vehicle parking



Flight School Operations

- Activity level
- Aircraft mix
- Aircraft run-up operations
- Soft-field landing / crosswind landing
- Instrument procedures use



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Aerial Applicators

- Activity level
- Existing and future aircraft types
- Base of operations
- Chemical and water storage



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Open Discussion / Talking Points

- Other Airport Users / Airport Events
- Accessibility and Operational Challenges
- Terminal / Hangar / Equipment Needs
- Any over-the-horizon challenges?
- What's working well?



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Next Steps

- Complete Airport Inventory
- Outreach to Stakeholders
- Draft Aviation Forecasting and Critical Design Aircraft
- Draft Facility Requirements

- Next Meeting: Critical Design Aircraft & Facility Requirements

- **Website:** https://inputcentral.com/mds-airportplan

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Thanks for participating!

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