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WILLMAR MUNICIPAL AIRPORT AIRPORT MASTER PLAN FACILITY REQUIREMENTS SUMMARY

Airside Needs

- Airport Role – Proposed to remain the same over the 20 year planning period
 - a. Existing & Future NPIAS: Non-primary general aviation regional
 - b. Existing & Future State Aviation System Plan: Key airport

- Critical Design Aircraft
 - a. Existing Runway 13/31: B-II
 - i. Airport Designed to D-II standards, > 12,500 pounds
 - b. Future Runway 13/31: B-II
 - i. Keep airport design standards C-II, >12,500 pounds which is equal to D-II, >12,500 pounds
 - c. Existing and Future Runway 3/21: A-I, < 12,500 pounds
 - i. Keep airport design standards A-I; < 12,500 pounds

- Runway Design Standards
 - a. Existing & Future Runway 13/31:
 - i. ARC D-II, >12,500 pounds
 - ii. Rwy 13 precision approach $\frac{3}{4}$ mile visibility minimums
 - iii. Rwy 31 non-precision approach with vertical guidance $\frac{3}{4}$ mile visibility minimums
 - b. Existing & Future Runway 3/21:
 - i. ARC A-I, <12,500 pounds
 - ii. Both ends have a visual approach
 - c. Both runways meet current FAA design standards

- Runway 13/31
 - a. Wind coverage = 99.01% with 16 knot crosswind
 - b. Length: Remain 5,500 feet (to be discussed)
 - c. Width: Remain 100 feet
 - d. Pavement Strength: Remain 75,000 lbs SWG, 90,000 lbs DWG, 160,000 lbs DT

- Runway 3/21
 - a. Wind coverage = 80.68% with 10.5 knot crosswind
 - b. Combined wind coverage with 13/31 = 99.79%
 - c. Length: Remain 2,980 feet
 - d. Width: Remain 250 feet
 - e. Turf runway (pavement option to be discussed)

- Taxiways
 - a. Full parallel taxiway to Runway 13/31
 - b. Taxiway Width = 50 feet (TDG 2 standards = 35 feet)
 - c. North building area
 - i. Critical Taxiway Design Group = TDG 1
 - ii. Taxilane Width = 20 feet (TDG 1 standards = 25 feet)
 - iii. Taxilane Object Free Area Width = 115 feet (TDG 1 standards = 79 feet)
 - d. South building area
 - i. Critical Taxiway Design Group = TDG 2
 - ii. Taxilane Width = 30 feet (TDG 2 standards = 35 feet)
 - iii. South taxilane project keeping taxilanes 30 feet wide (FAA approved)
 - iv. Taxilane Object Free Area Width = 115
 - v. Taxilane C only 111 feet of separation. A Modification to Design Standards was requested with the previous ALP submittal.

- Apron
 - a. Existing apron = 15,278 sq yards, 9 tie-downs
 - b. Existing tie-down need = 7 tie-downs
 - c. Future tie-down need = 10 tie-downs
 - d. One additional tie-down needed in 20 year planning period.
 - e. Future apron space needed = 13,850 sq yards
 - f. Adequate apron space for 20 year planning period.

- Navigational Aids
 - a. Existing & Future Runway 13 = Precision approach with glideslope antenna and approach lighting system. Localizer antenna on Runway 31 end.
 - b. Existing & Future Runway 31 = Non-precision approach with vertical guidance – no equipment needed on the ground.
 - c. Existing and Future Runway 3/21 = Visual approaches – no equipment needed on the ground.
 - d. VOR and DME equipment at BDH. MnDOT owned equipment. Proposed to remain.
 - e. Wind cone and AWOS – proposed to remain.
 - f. PAPIs and REILs to Runway 13/31 proposed to remain.
 - g. Airfield guidance signs proposed to remain.
 - h. No additional Navigational Aids are expected to be proposed.

- Airspace
 - a. FAR Part 77
 - i. Runway 13/31 Existing & Future
 - 1,000-foot wide primary surface
 - 50:1 approach slope Runway 13
 - 34:1 approach slope Runway 31
 - ii. Runway 3/21 Existing & Future
 - 250-foot wide primary surface
 - 20:1 approach slope Runway 3/21
 - iii. All four runway ends have clear approach airspace surfaces

- b. Approach/Departure Surfaces
 - i. Runway 13/31 Existing & Future
 - Row 3, 5 and 6
 - ii. Runway 3/21 Existing & Future
 - Row 2

Landside Needs

- Land Use
 - a. FAA Runway Protection Zone (RPZ)
 - i. Runway 13 Existing & Future = 1,000' inner width x 2,500' length x 1,750' outer width
 - ii. Runway 31 Existing & Future = 1,000' inner width x 2,500' length x 1,510' outer width
 - iii. Runway 3/21 Existing & Future = 250' inner width x 1,000' length x 450' outer width
 - iv. City owns appropriate portions of the RPZ through fee acquisition or easement.
 - b. MnDOT Clear Zone
 - i. Runway 13 Existing & Future = 1,000' inner width x 2,500' length x 1,750' outer width
 - ii. Runway 31 Existing & Future = 1,000' inner width x 2,500' length x 1,510' outer width
 - iii. Runway 3/21 Existing & Future = 250' inner width x 1,000' length x 490' outer width
 - iv. City owns appropriate portions of the Clear Zone through fee acquisition or easement.
 - c. Airport Zoning
 - i. Zoned for 6,500-foot primary runway, precision approach to both runway ends, and a paved 3,200-foot crosswind runway. Crosswind runway is zoned for a 40:1 approach slope.
- Building Area
 - a. Hangar Storage
 - i. Existing storage = 18 T-hangar spaces, 22 private hangars
 - ii. Total storage = 40 hangar spaces
 - iii. Two larger FBO hangars on the apron for multiple a/c storage
 - iv. Total existing based aircraft = 47
 - v. Total future based aircraft = 63
 - vi. Needed storage = 23 (63 future based a/c – 40 storage spaces)
 - vii. Discuss transient hangar needs
 - b. A/D Building
 - i. Existing building = 4,955 square feet – adequate for 20 year planning period.

- Support Facilities
 - a. Fuel Storage
 - i. Existing 12,000 gallon 100LL and Jet A tanks adequate
 - ii. Fuel truck potential
 - b. Snow Removal Equipment/Maintenance
 - i. Existing maintenance building located along access road
 - c. Automobile Parking
 - i. 54 existing vehicle parking spaces
 - ii. 79 needed for future condition (63 based aircraft + 25%)
- Fencing/Security
 - a. Plan for ultimate wildlife perimeter fence (10 – 12 feet high)