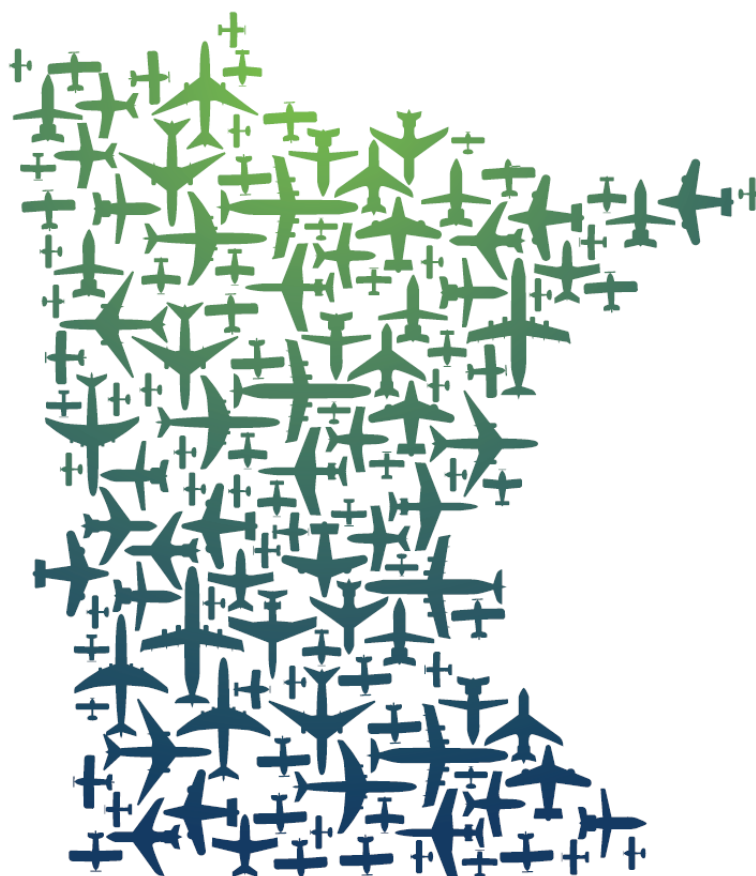


AIRPORT LAYOUT PLAN PREPARATION & SUBMISSION GUIDELINES



Prepared by:



September 2020



To: Airport Sponsors, Consulting Engineers and MnDOT personnel

From: Minnesota Department of Transportation (Mn/DOT), Office of Aeronautics

Date: September 2020

Subject: Airport Layout Plan (ALP) Preparation and Submission Guidelines

The following are the REVISED "*State ALP Preparation Guidelines*". These guidelines supersede any other policies or past practices used by MnDOT Aeronautics for preparation, submittal, and review of ALP's.

These guidelines are intended to inform airport sponsors and their consultants in the preparation and submittal of both State-only and National Plan of Integrated Airport Systems(NPIAS) ALP's. The guidelines at no time are intended to contradict or change any of the requirements of federal and/or state rules or guidelines. *The most current version of all Minnesota rules, Minnesota statutes, or other applicable rules or requirements shall be used in preparation of ALP's.*

These guidelines were developed to provide consistency in ALP's prepared by airport sponsors and their consultants throughout the state. It also provides guidance to ALP submittal requirements to non-NPIAS airports.

Please direct any questions or comments regarding these guidelines to:

A handwritten signature in black ink, appearing to read 'Kevin R. Carlson', written over a horizontal line.

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Introduction

An approved Airport Layout Plan (ALP) set of drawings is designed to show existing, near-term (0-5 yrs), long-term conditions (6-10 yrs), and possible future development (11-20 yrs). ALPs are required for all public airports that receive state or federal funding in the state of Minnesota.

Airports in the Federal Aviation Administration (FAA) Report, National Plan of Integrated Airport Systems (NPIAS), need to meet all state and federal rules and design criteria. The requirements for all **NPIAS Airport** ALP submittals are in the FAA ALP SOP 2.00 (effective date: October 1, 2013). The SOP can be found on the web at;

<http://www.faa.gov/airports/resources/sops/media/arp-SOP-200-ALP-Review.pdf>

Non-NPIAS airports in Minnesota must prepare ALPs according to state guidelines. ALPs may be prepared in conjunction with, and in support of; master plans, long term comprehensive plans (LTCPs), and zoning documents. Up-to-date airport planning documents allow the State to better address funding needs across the entire aviation system. These revised guidelines are intended to clarify the **Mn/DOT-specific requirements** for ALP preparation, submittal, and approval.

ALP / Master Plan Purpose and Frequency

To receive state or federal funding, *all proposed airport improvement projects must be shown on an approved ALP*. However, an approved ALP does not obligate the State or FAA to fund any project shown on the ALP. If significant changes in proposed airport expansion are not shown on the current ALP, or if the current ALP does not meet the existing standards required under these or FAA guidelines, the preparation of a master plan and new ALP may be required. Minor changes may only require sheet updates at the discretion of the FAA and/or MnDOT.

Minnesota's State Aviation System Plan (SASP) 2018 UPDATE identifies **Three main** classifications of airports with two sub groups in each; Key, (Commercial & General Aviation) Intermediate (Large & Small) and Landing strip (Turf & Seaplane). Each has different requirements for content and update frequency. Key airports should have the ALP/Master Plan/LTCP updated or revisited every 5-7 years, Intermediate airports at least every 7-9 years and Landing strips should have a current ALP on file.

ALP Content – State ONLY Airports

Non-NPIAS airports *may* need all of the same sheets required of a NPIAS airport for ALP preparation, however, it may be possible to omit or combine certain sheets depending on specific airport conditions with MnDOT approval. All Non-NPIAS ALPs will typically include a:

- Title Sheet

- Airport Data Sheet
- Airport Layout Plan Sheet
- Terminal/Building Area(s)
- Inner portion of approach surface – plan/profile
- Airspace Drawing(s)
- Zoning Sheet
- Airport Property Map/Exhibit A.

Combining data and information from multiple sheets may be appropriate when it can be done without losing ALP effectiveness.

For example, a separate Airport Data Sheet may not be needed provided there is space on the Title Sheet to include the data. If there is no existing or planned instrument approach and no obstructions, it may be possible to omit Approach and Departure Surface drawings. Also Facilities Layout and Utilities Drawings may be omitted, depending on the extent of the facilities, whether they will be visible on the Layout Drawing, and the potential for development. The Zoning Sheet may be combined with the Land Use Drawing provided the information is complete and will remain legible.

- *Contact Mn/DOT Aeronautics during project scoping to discuss possibly omitting sheets from a non-NPIAS ALP.*

Narrative Report

A narrative report, (Section I in the ALP Checklist) is intended to function as an abbreviated airport master plan and should accompany the Non-NPIAS initial ALP submittals and ALP revisions. The narrative report describes the rationale behind proposed airport improvements, and provides the information in a written format to support the modifications to the current ALP drawings. As an airport grows, elements of the narrative report may be useful for preparing a future ALP update. The items included in a narrative report should include the following, but may not be limited to:

- Basic aeronautical forecasts
- Reasoning for proposed airport development projects
- Rationale and request for modifications of any Mn/DOT or FAA design standards. If not included in a narrative report, these must be clearly explained on the ALP.
- Determinations of No Hazard for 14 Code of Federal Regulations (CFR), Part 77 surfaces that are being requested
- Summary for stages of airport development with costs estimates for
 - 0 to 5 years
 - 6 to 10 years
 - 11 to 20 years

As-Built Airport Layout Plans

After completion of any airport construction project shown on an ALP, “as-built” drawings must be completed and submitted to update the ALP on file. All applicable sheets should be updated to show the changes made, and only those sheets that need to be updated will be incorporated into the existing ALP plan set. No other changes, other than changing proposed development to existing conditions, should be made to an as-built ALP. This will be a **requirement** in the Scope of Services for design or construction projects and “As-built drawings” will need to be submitted PRIOR to any final payment or closeout.

Sheet Updates

In certain cases individual sheets may be prepared and submitted to update the ALP on file. This is possible only when updates to the sheets do not require changes to the Master Plan or Narrative ALP Content

Good quality, useful ALPs often have consistent preparation and drafting characteristics. Best practices for preparation of some of the ALP sheets are defined in this section. This is not a comprehensive guide to preparation of the sheets but is meant to reduce common omissions.

(Attachment “B” ALP Review Checklist for Non-NPIAS ALP preparation will be located at:

<http://www.dot.state.mn.us/aero/> when finalized.)

Every sheet should show the following:

- Applicable scale
- Signature and revision blocks completed with signature and date of latest revision
- Existing, future, and ultimate airport development elements (when applicable)
- Drawing legend depicting existing, future and ultimate drawing elements with different symbology (Note: Not required on title sheet or sheets with only data)
- Dimensions of the features/zones shown in plan views
- North Arrow (on layout sheets)
- Runway centerline(s) extended on all appropriate drawings
- Horizontal and Vertical Datum referenced
- Use current aerial photo for drawing background when one of adequate quality is available

Airport Data Sheet

The information on this drawing may be included on the Title Sheet as space allows. Include design aircraft category in the data table.

Airport Layout Drawing

This sheet is a detailed, scaled representation of existing and ultimate airport facilities. It provides pertinent dimensions and clearance information pursuant to applicable standards. This sheet should be scaled to show the entire airport facilities. Mn/DOT zoning and part 77 surfaces may not be required to be shown on this sheet, check with your regional planner.

Terminal/Building Area Drawing

The purpose of this sheet is to depict all buildings and related landside infrastructure at airports in order to review safety, security, and funding eligibility. The building area drawing shall show all buildings existing and planned, aprons with tie down locations depicted, access roads and parking areas, fueling facilities, and the building restriction line with elevations/heights. A table shall also be included listing each building's coordinates, function, and elevation (height).

Airspace Drawing

The airport airspace drawing sheet(s) shall include all 14 CFR, Part 77 surfaces plus a drawing of the approach surfaces to the full length of the approach surface. The surfaces shown should be for the ULTIMATE runway lengths. The drawing is intended to show the relationship between the imaginary surfaces and the topographical features. Emphasis is on defining significant objects and elevations that are critical to airport operations. All obstructions, natural and constructed, within any imaginary surface must be shown in a schedule of obstructions with the proposed disposition. The schedule should show a reference number for all obstructions shown on the plan and profile drawings. The disposition of the obstruction must be shown along with the effective date of the disposition.

Inner portion of Approach surface – plan/profile(s) Drawing

This drawing is an easily-readable, scaled detail of the approach surfaces. A separate sheet for the inner portion of the approach surface drawing will be required for each end of each runway. It should be drawn at a scale to show the approach surface from the ground to at least a height 150 feet above the elevation of the end of the runway. There shall be a plan and profile drawing on each sheet. The approach surface drawing sheets may show other zones, i.e. runway protection zone, clear zone, Zone A, etc., as long as they are distinctly labeled and do not impede the clarity of the drawing.

A separate schedule of obstructions shall be included on each sheet for each approach surface showing the extent of the penetration and the proposed disposition of the obstruction. Each disposition must have a date associated with it. The schedule of obstructions shall give coordinates for each obstruction listed. Obstructions shall also be depicted on both the plan and profile drawings.

Land Use Drawing

The land use drawing contains a map showing existing land uses, as well as the communities' comprehensive plan land uses for all properties within the ultimate airport boundary and in the surrounding areas. It also serves as a planning tool for communities/counties to insure that growth in the area around the airport will be compatible and not impede future aeronautical expansion. As the sheet complexity allows, this sheet may be combined with the Local Authority Zoning Sheet, it will then simultaneously show the information required for both. Property use and zoning (if shown) should be identified as residential, commercial, industrial, park, etc. Cite the source(s) of the land use data and comprehensive plan data.

Local Authority Zoning Sheet

The purpose of the zoning sheet is to provide a comparison of current zoning with changes that would result from airport development. The zoning map shall be prepared at a scale that allows for the depiction of the airport runway(s) and Minnesota Rules, Chapter 8800, Zones A, B, and C. The zoning sheet shall show the following information:

- The existing property zoning ordinance(s) mapped in the airport area (agricultural, residential, commercial, etc.), and cite the ordinance date and title.
- Minimum standard for existing infrastructure
- Minimum standard for proposed infrastructure at each planned stage
- Ultimate planned zoning

Zoning stages should be shown with different color schemes provided the information will remain legible, otherwise create additional sheets for separate stages. All appurtenant topographical data, including waterways, manmade structures, and significant contours shall be shown. Cite the source of the data used to create the drawing. Aerial imagery is recommended as the background for this mapping. Current airport zoning information can be found on the "*Airport Zoning Information Warehouse*" on our website with GIS Shape files with ordinance text/matching map at: <http://www.dot.state.mn.us/aero/planning/zoning-warehouse.html>. Contact your Aeronautics Regional Planner with any questions.

Airport Property Map / Exhibit A

This sheet serves as an inventory of existing and future land/property owned or held in easement by the airport. The airport property map must show all separate parcels comprising the airport property as well as any future parcels to be purchased. Identify any parcels with liens, easements, separate mineral rights, etc. Parcels must be clearly defined with parcel numbers and parcel flagging. Existing and ultimate property lines must be clearly defined. Property table(s) shall be included which indicates

parcel owners, size, date of purchase, cost, and any federal or state funding received with applicable project number.(same table data as FAA Exhibit A) IF land is identified to be acquired, a timeline for acquisition needs to be given and shown in the CIP.

ALP REVIEW AND APPROVAL

ALP - Initial Review “Preliminary”

Airport sponsors can request and submit a 80-90% ALP Review Set via the ALP Coordinator for preliminary comments prior to the DRAFT submittal. This first step may help expedite MnDOT review timeline. Depending on the file size PDF versions can be sent during the draft review.

ALP - Review “Draft”

Airport sponsors shall submit **6 complete sets/copies** (ALP's must be submitted on 22" by 34" sized paper plan sheets.) along with the completed checklists. ALL documents planning to be reviewed must be signed by the sponsor's consultant. The ALP should be complete and incorporate all the requirements described in this document.

Copies of ALPs for initial review should be sent to the following:

- 4 for Mn/DOT Aeronautics; For Operations, Planning, Development and NAVAIDS
- 1 for the FAA; To Flight Standards for airspace analysis
- 1 for the Sponsor

Mn/DOT, Office of Aeronautics will not accept incomplete ALP submittals. After initial review by all Mn/DOT sections, comments will be forwarded to the ALP Coordinator and incorporated into a letter/response and sent to the sponsor/consultant for completion. If a Master Plan or Narrative Report is prepared in conjunction with the ALP, copies should accompany the ALP submittals.

ALP Submittal for FINAL Approval

After Mn/DOT Office of Aeronautics comments have been incorporated, airports will then submit a minimum of five signed final copies of the ALP to Mn/DOT, Office of Aeronautics for approval. ALP's should be signed by the consultant that prepared the plans and the airport sponsor. For all airports a list of changes made to the ALP from the last approved ALP must be included with the submittal. One copy of the ALP highlighting the changes is recommended to be submitted but is not required. A list of any “Determinations of no hazard (FAR Part 77)” must be included in the ALP submittal along with justification for each.

ALP's must be submitted on 22" by 34" sized paper plan sheets. Two electronic versions of the approved ALP must be emailed to the ALP Coordinator.. The electronic copies must be a computer

aided design (CAD) file-(verify AutoCAD or Microstation before submitting) with all applicable reference files needed to reproduce the hard copy sheets as submitted and the second shall be in ArcGIS format. If an ALP is being updated that has been previously hand created/scribed, the airport should create the ALP sheets into a CAD-based drawing. Additional information will be included here for the proper use of our Website to upload/download all types of formats.

Approval

Once the final ALP is determined to be complete and correct, the Mn/DOT Office of Aeronautics Regional Airport Engineer or ALP Coordinator will conditionally approve and sign all required copies submitted along with the MnDOT Approval letter. At this point MnDOT can release the final grant retainage. The ALP documents will then be forwarded to the FAA for their airspace review.

Conditional approval of an ALP does not constitute a commitment of any state or federal funds for projects/development shown on the drawing document. Justification approval will be needed from Mn/DOT prior to any commitments made to the Sponsor for funding any project costs, including engineering. Mn/DOT Office of Aeronautics can be contacted for justification requirements. ALP approval also does not constitute any environmental approval. The airport sponsor is responsible for determining if and when an environmental determination will be required for projects/development, and for preparing the determination if needed.

General Notes:

1. Our goal is to assist the sponsor/community with an easy to understand document that provides detail that outlines their vision/goals. We need remember that the general public will be reaching out to their city officials asking questions, sponsors may be “scaling” on the drawings to help/understanding the items shown on an Approach Sheet or Zoning for example...
2. The ALP should consider matters such as the effects of existing or planned traffic patterns of neighboring airports, the effects it would have on the existing airspace structure and projected agency programs and the effects it would have on the safety of persons and property on the ground, and the effects that existing or proposed manmade objects (on file with the FAA), and known natural objects within the affected area would have on the airport.
3. We have limited means to prevent the construction of structures near an airport. The airport sponsor has the primary responsibility to protect the airport environs through such means as local zoning ordinances, property acquisition, aviation easements, letters of agreement or other means.

Additional Items for Consideration

1. MnDOT shall require the sponsor/consultant to submit the MP/ALP Scope for review prior to starting any contract and the update process. This will focus the efforts on what exactly needs to be completed/included into the ALP.
2. For non-NPIAS “State ONLY” airports this will determine what sheets are required.
3. For complex updates additional draft reviews and or meetings may be necessary, “possibly” 30/60/90 and should be discussed in the Scope of Services.
4. “IF” there has been a “Waiver” issued, it needs to be shown and discussed in the narrative. Is it proposed to be eliminated/corrected or extended?
5. Property Map/Exhibit “A” efforts can be very costly and time consuming with the updated FAA requirements. Contact your regional planner about the possibility of “mineral rights” on or near the airport.
6. As part of the Scope of Services for ANY UPDATE, the sponsor will be required to verify current zoning status. If NOT in compliance or plans are to expand, a Zoning Update will be required to be completed as part of the MP/ALP efforts at the end of the planning effort.
7. FAA eALP requirements have not been required by the DAKMN ADO due to the high cost to complete. Data collection is still required to meet 5300-16, 17 & 18 guidelines as of the date of these guidelines. Verify current FAA requirements.