

# CHAPTER 5

## AIRPORT LAYOUT PLANS

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The airport layout plans for Mansfield Municipal Airport are presented in this chapter. The airport layout plan is a federally approved set of drawings that guides airport development over the planning horizon. This chapter will present a brief discussion on each of the seven sheets in the ALP set. A full size set of ALP drawings is available for public viewing at Town Hall. A reduced size of the ALP set is included in the chapter, however, it must be noted that the reduced drawings are not to scale.

### 5.1 SHEET 1: TITLE SHEET

The title sheet to the ALP drawings includes information such as the location of the airport in relation to Massachusetts and to the Town of Mansfield, date of the ALP set, index of drawings, FAA and MAC approval information, AIP grant information, and the consultant who prepared the ALP.

### 5.2 SHEET 2: EXISTING FACILITIES PLAN

The Existing Facilities Plan illustrates the airport as it was in 1999. The quantity and types of items shown on this plan are intentionally kept to a minimum in order to provide a clear graphic of the airport. Items shown on the plan include the runways and associated taxiways, the Runway Protection Zones (RPZs), the Runway Object Free Areas (ROFAs), the Taxiway Object Free Areas (TOFAs), the terminal area, the airport property line, and surface transportation routes to the airport, and ground contours.

### 5.3 SHEET 3: AIRPORT LAYOUT PLAN

The Airport Layout Plan (ALP) is the most important graphic prepared as part of this study. The ALP is used to illustrate three important items:

1. Factual information about the airport as it is today and as it is ultimately proposed;
2. Illustrate future improvements, and;
3. Identify facilities that are not in compliance with current FAA standards.

The FAA and MAC will use the information presented on the ALP to program future funding assistance and to monitor the airport's compliance with design standards and grant assurances. The ALP is the only document contained in this report that will be approved by the Mansfield Airport Commission, the MAC, and the FAA. A number of projects were identified for Phase 1 (2000-2005) and Phase 2 (2006-2010) development while other projects were identified for long term development (2011-2020). The ALP included in this report only depicts projects slated for development in either Phase 1 or Phase 2. Long term projects that may occur should long-term forecasts be realized are discussed in Appendix C.

*It is important for the Commission to keep the ALP up to date as best as possible. As projects are completed, the plan should be updated. If revisions are made to the plan due to changing conditions at the airport, or due to unforeseen*

*circumstances, the ALP should be marked accordingly and the revision recorded on all copies of the ALP with the Commission, the MAC, and the FAA.*

#### **5.4 SHEET 4: RUNWAY 14-32 APPROACH PLAN AND PROFILE**

In order to provide a complete illustration of the runways and the approaches to the runway, a Plan and Profile drawing is prepared for both Runway 14 and Runway 32. These drawings are intended to depict the areas surrounding each runway and to what degree these areas should be protected from potential obstructions that could create hazards to air navigation. The Plan view will depict the approach surfaces from a “bird’s eye view.” This will show what land is underneath the approach surface. The Profile sheet will show a side-view of the approach surface that will help in determining the elevation of the approach surface at any given point underneath the approach surface.

*These plans will change during the preparation of the airport’s Vegetation Management Plan and as trees and other obstruction are removed. These plans do not reflect the airport’s tree removal program that has taken place over the past few years. New survey information regarding recent clearing efforts was not available.*

#### **5.5 SHEET 5: RUNWAY 4-22 APPROACH PLAN AND PROFILE**

In order to provide a complete illustration of the runways and the approaches to the runway, a Plan and Profile drawing is prepared for both Runway 4 and Runway 22. These drawings are intended to depict the areas surrounding each runway and to what degree these areas should be protected from potential obstructions that could create hazards to air navigation. The Plan view will depict the approach surfaces from a “bird’s eye view.” This will show what land is underneath the approach surface. The Profile sheet will show a side-view of the approach surface that will help in determining the elevation of the approach surface at any given point underneath the approach surface.

*These plans will change during the preparation of the airport’s Vegetation Management Plan and as trees and other obstruction are removed. These plans do not reflect the airport’s tree removal program that has taken place over the past few years. New survey information regarding recent clearing efforts was not available.*

#### **5.6 SHEET 6: PART 77 SURFACE AND OBSTRUCTION PLAN**

Part 77 surfaces are imaginary surfaces surrounding all airports in the United States. The purpose of these imaginary surfaces is to protect the airspace surrounding an airport from any hazards to air navigation. A hazard to air navigation is defined as any obstruction, natural or man-made, that penetrates a Part 77 surface to a point that a “substantial adverse effect” on air navigation occurs. As the surfaces get closer to the airport, their respective elevations are lower.

The criteria used to prepare this plan, and which are used to regulate obstructions within the vicinity of an airport, are contained in 14 CFR Part 77. These regulations establish standards for determining obstructions to navigable airspace, sets forth the requirements for notice to the FAA Administrator of certain proposed construction or alterations, provides for aeronautical studies of obstructions to air

navigation, and to determine their effect on the safe and efficient use of airspace. Part 77 defines five imaginary surfaces: primary, approach, transitional, horizontal and conical.

This plan illustrates the five imaginary surfaces as they relate to Mansfield Municipal Airport. The Part 77 surfaces are overlaid onto a United States Geological Survey (USGS) Quadrangle map.

### **5.7 SHEET 7: TERMINAL AREA PLAN**

This plan provides a clearer version of the terminal area information presented on the ALP. The purpose of a terminal area plan is to illustrate potential development in the terminal area at a scale that is smaller than that presented on the ALP. This will help in identifying what development can occur in the terminal area and what restrictions need to be placed on the development so that the development does not limit the growth potential of the airport.