

CHAPTER 6 AIRPORT ELEMENT

6.1 INTRODUCTION

Flying Cloud Airport is one of six metropolitan reliever airports owned and operated by the Metropolitan Airports Commission (MAC). It is located in south central Eden Prairie along the Minnesota River bluffs. The MAC acquired the airport in 1947 when it consisted of 134 acres. Today, the airport contains 780 acres, representing 3.45% of the City's total land area.

The airport is classified as a General Utility Airport by the Federal Aviation Administration (FAA) and a Minor airport by the Metropolitan Council. In 2000, the Minnesota Legislature passed a law prohibiting the MAC from expanding any metropolitan system airport from a Minor to an Intermediate classification without legislative approval. A Minor airport is defined as an airport with primary runway not exceeding 5,000 feet in length.

There are two parallel east/west hard-surfaced runways 3,600 feet and 3,900 feet in length, and one north/south hard-surfaced runway 2,700 feet in length. Runways are lighted for night use and use various approach lighting aids. The airport is tower controlled and uses a full instrument approach landing system. MAC reported 234,475 aircraft operations at the airport in 1999 by piston- and turbine-powered aircraft.

Services at the airport consist of aircraft charter, aircraft sales and rental, aircraft maintenance and storage, and flight training programs.

No municipal sanitary sewer or water

service is provided to the airport. Individual private septic systems and wells are currently in use.

In 1978, the MAC adopted a weight restriction for the airport known as Ordinance 51. It prohibits all turbojet aircraft operations except those with a 20,000 pound maximum take off weight (MTOW) or less that can meet noise emission levels of Federal Aviation Regulation Part 36. In 1999, the Federal Aviation Administration advised MAC that Ordinance 51 may violate MAC's contractual obligation to provide public access to the airport on reasonable terms and without unjust discrimination.

This Airport Element discusses the City's land use policies relating to the airport, including, in particular, currently proposed airport expansion. The City has entered into an agreement with MAC, described herein, that it believes will mitigate the potential adverse environmental consequences of the expansion and promote land use compatibility.

6.2 LAND USE COMPATIBILITY

The City intends that land uses surrounding the airport be compatible with the airport and vice versa. Airport impacts that would affect land use compatibility include noise and safety.

Land use to the north of the airport, along CSAH 1, is mainly Public Open Space and Low Density Residential, with some Medium Density Residential and Industrial use. To the south is the Minnesota River Valley, which is Public Open Space.

To the east of the airport, most of the land use is Low Density Residential, and Public Open Space, including Homeward Hills Park. The landfill adjacent to TH 212, guided Industrial, is permanently closed and now compatible with the airport.

Land use to the west is generally Low Density Residential, Church, and Public Open Space to accommodate runway approach zones. To the southwest, land use is Office, Medium Density Residential, Low Density Residential, and Public Open Space. The Office use serves as an important land use buffer between the airport and the residential uses.

The MAC proposes to acquire land to the east, west and southwest of the existing airport to accommodate a proposed runway expansion plan and to further land use compatibility. The City has revised the Land Use Guide Plan for 2000-2020 to show this area guided for Airport use.

In addition to the aviation functions and facilities at Flying Cloud Airport, seaplane activities are occurring on Lake Riley and Bryant Lake. To the City's knowledge, all seaplane operations are in conformance with the Minnesota Department of Transportation Rules and Regulations.

6.3 AIRCRAFT NOISE ZONES

The Metropolitan Council's *Land Use Compatibility Guidelines for Aircraft Noise* indicate that a Day-Night Sound Level (DNL) of 65 dBA represents the threshold of significant impact for noise-sensitive land uses. The Metropolitan Council also considers noise-sensitive land uses in the DNL 60-65 dBA contour as potentially incompatible with aircraft noise.

Four aircraft noise exposure zones (NEZ)

are defined within the noise exposure map for determining land use compatibility. The noise exposure map is based on MAC's Long-Term Comprehensive Plan approved by the Metropolitan Council in 1996.

- NEZ 1 contains the land within the DNL 75+ dBA noise contour. This zone does not apply to Flying Cloud Airport.
- NEZ 2 contains the land within the DNL 70-75 dBA noise contour. This zone is contained within airport property.
- NEZ 3 contains the land within the DNL 65-70 dBA noise contour. The noise in this zone can be categorized as significant.
- NEZ 4 contains the land within the DNL 60-65 dBA noise contour. The City finds that noise in this zone also can be considered significant.

Figure 6.1 shows the noise zones for the Flying Cloud airport and how they overlay land uses. Eden Prairie has adopted by reference the Metropolitan Council's *Land Use Compatibility Guidelines for Aircraft Noise* for new development. In addition, the City will notify MAC of any public hearing at which the City will consider amending the Eden Prairie Comprehensive Guide Plan to permit development of residences on any property that is shown in the then-current Comprehensive Guide Plan as being exposed to Airport noise in excess of DNL 60 dBA.

6.4 AIRSPACE AND LAND USE SAFETY ZONES

Formal safety zones for the airport to reflect State standards can be created only by creation of a zoning authority by MAC or a joint, zoning authority of MAC and Eden

Prairie. The MAC has not created the zoning authority permitted by state law to control development in these areas. Eden Prairie and MAC have been unable to reach an agreement on a joint zoning authority due to unresolved liability issues.

The MAC and Eden Prairie nevertheless use the safety zones for planning purposes. Figure 6.2 shows the boundaries of the safety zones for the existing airport.

- Safety zone A is a “no build” zone. It is two-thirds the length of the runway and is to be maintained free of structures.
- Safety zone B is a “limited development” zone. It is one-third the length of the runway and the minimum lot size is to be three acres.
- Safety zone C is a “height limitation” zone. It is based on the primary, horizontal, approach, transition, and conical zones as shown in the airport zoning height map.

The MAC and Eden Prairie have taken several steps to ensure the safe operation of the Airport consistent with these state standards. MAC is acquiring the property potentially impacted by safety zones A and B to maintain clear approach corridors to the airport. The City works with FAA and Minnesota Department of Transportation guidelines to protect safety zone C, including all primary, horizontal, conical approach, transitional, and general airspace from vertical intrusions by reviewing development proposals for consistency with FAA and MnDOT Office of Aeronautics airspace criteria. The City’s zoning ordinance contains height limits ranging between 30 and 45 feet, depending on the zoning district. Towers and antennas may be higher. All development proposals are

reviewed based on the airport zoning height map, as shown in Figure 6.3. Any height request that may potentially impact the airport height restrictions is submitted to the FAA, MnDOT Office of Aeronautics and MAC for their review.

6.5 PROPOSED EXPANSION OF FLYING CLOUD AIRPORT

The MAC is proposing to expand Flying Cloud Airport by extending the two parallel runways and constructing additional hangar space. Runway 9L/27R would be extended from 3,600 feet to 3,900 feet, and Runway 9R/27L would be extended from 3,900 feet to 5,000 feet. MAC proposes to acquire a total of 280 acres to protect the expanded runway approach safety zone area and to accommodate the additional hangar space. The MAC has already acquired much of this property. MAC predicted in August 2001 that 302,982 aircraft operations would occur in 2010 if the proposed improvements were made. Figure 6.4 shows the proposed expanded airport.

City policy supports only those changes in the airport that would retain the airport’s fundamental character. Without mitigation, extending the runways, building new hangars, and abandoning the weight limit for turbojet aircraft would be a fundamental change in the character of the airport.

The City and MAC have executed a Final Agreement Concerning Flying Cloud Airport And MAC Ordinance No. 51 (December 17, 2002). The City finds that the commitments contained in the Final Agreement will mitigate the potential adverse environmental consequences of the expansion and maintain the character of the airport. On this basis, the City withdrew its opposition to the proposed airport expansion.

The mandatory and voluntary restrictions set forth in the Final Agreement include:

1. Mandatory restrictions on nighttime maintenance run-ups, and operation by aircraft weighing more than 60,000 pounds certified maximum gross take off weight.
2. Commitments by MAC not to increase the pavement strength, increase the runway length, or seek a certificate to accommodate commercial passenger service at the airport.
3. Development of a sound insulation program to test, and insulate where appropriate, residences exposed to noise in excess of DNL 60 dBA.
4. Adoption by MAC of a voluntary restraint on nighttime operations and recommendations for reducing the noise of early morning departures.
5. Adoption by MAC of a voluntary restraint on operations by Stage 2 aircraft and a commitment to pursue a ban on all Stage 2 aircraft if operations exceed a specific limit.

6.6 IMPLEMENTATION STRATEGIES

Land Use Compatibility: The City will promote land use compatibility for lands surrounding Flying Cloud Airport by reviewing all proposed development in areas surrounding the airport for consistency with the airport and by periodically reviewing its land use plans and policies. Eden Prairie shall notify MAC of any public hearing at which Eden Prairie will consider amending the Eden Prairie Comprehensive Guide Plan to permit development of residences on any property that is shown in the then-current Comprehensive Guide Plan as being

exposed to Airport noise in excess of DNL 60 dBA.

Aircraft Noise: The City supports the Metropolitan Council's *Land Use Compatibility Guidelines for Aircraft Noise* for new development. The City will work toward minimizing the impact of aircraft noise upon noise-sensitive land uses by encouraging and supporting noise abatement programs for the airport. As part of the Final Agreement, MAC will develop a methodology agreed upon by MAC and the City, to determine existing exterior to interior noise reduction level. In the event a residence has an exterior to interior noise attenuation of less than 20dBA, MAC shall provide sound insulation to achieve a noise reduction of at least 20dBA. No residence for which building permits were issued on or after December 4, 2001 shall be eligible to receive testing or sound insulation.

Safety Issues: The City will work within existing FAA and MAC guidelines to protect all primary, horizontal, conical approach, transitional, and general airspace from vertical intrusions by reviewing development proposals based on meeting FAA and MnDOT Office of Aeronautics airspace criteria. The City will notify the FAA, MnDOT Office of Aeronautics and MAC of any development proposals that may involve review of FAA and MnDOT Office of Aeronautics airspace criteria. Any sponsor who proposes any construction or alteration that would exceed a height of 200 feet above ground level at the site, or any construction or alteration of greater height than an imaginary surface extending upward and outward at a slope of 100:1 from the nearest point of the nearest runway of a public airport shall notify the Commissioner of MnDOT Office of Aeronautics.

Municipal Sanitary Sewer and Water Service: It is anticipated that municipal

sanitary sewer and water will be extended to the airport in 2003.

Heliports: No heliports exist in the City. It is anticipated that if any heliport planning or construction occurs in the City, it will take place at Flying Cloud Airport.

Design Issues: The City will seek to work with the MAC to establish and implement a Design Framework Manual for new development at Flying Cloud Airport. The

Framework would include guidelines for architectural continuity for new building and hangar construction, including guidelines for signs, lighting, and screening of trash areas. The City will support landscaping improvements on airport property to help mitigate noise and visual impacts to neighboring properties. The City will encourage the MAC to eliminate or replace deteriorating first generation hangar buildings.

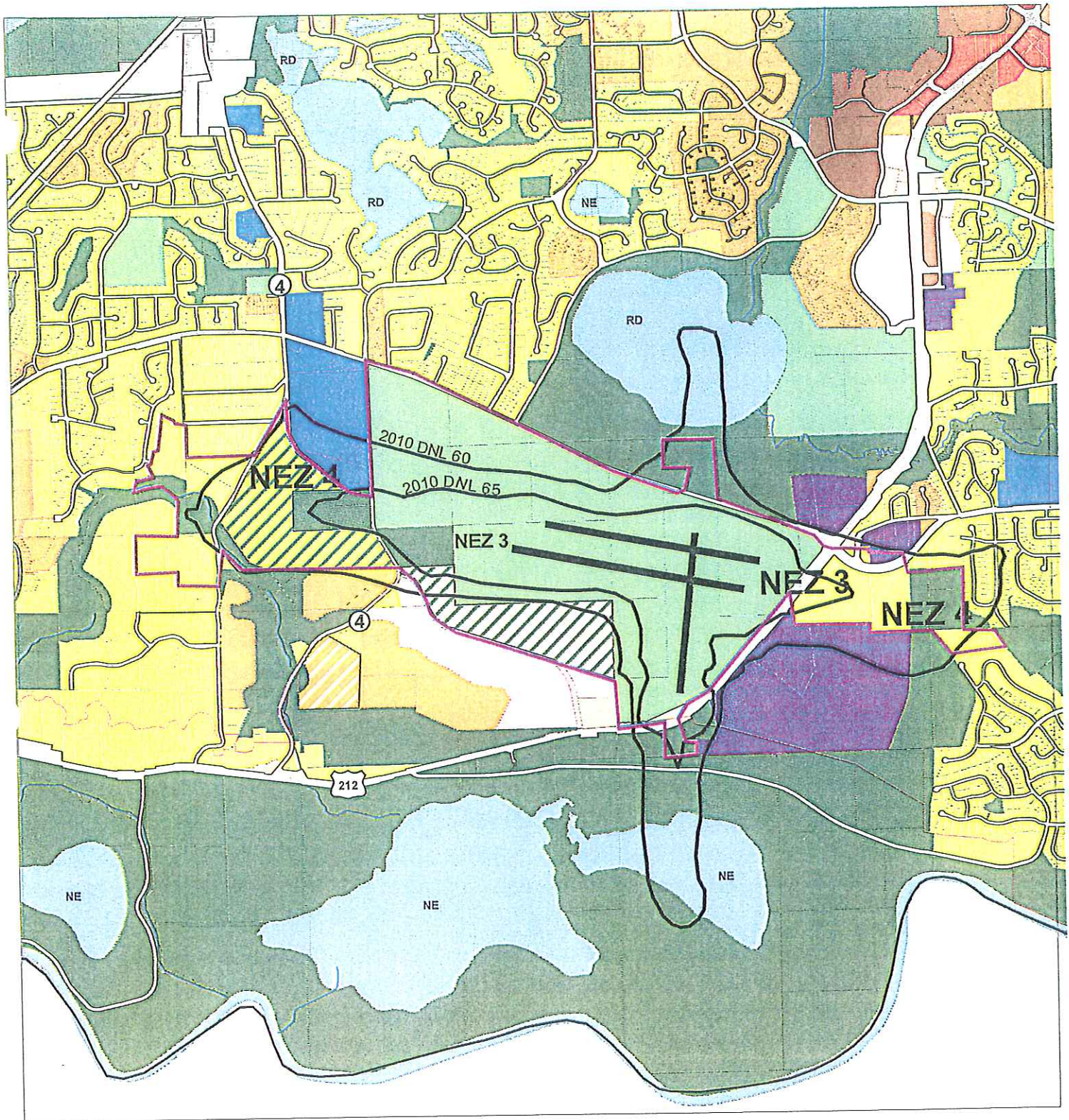
Source:

City of Eden Prairie, Draft Charlson AUAR.

Federal Aviation Administration and Metropolitan Airports Commission, Draft EIS for Expansion of Flying Cloud Airport (Dec. 1999).

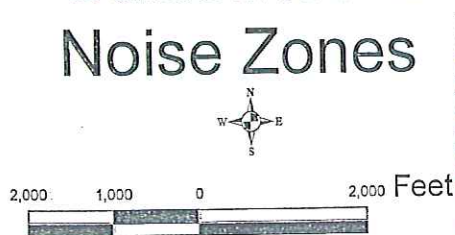
FAA and MAC, Supplement to the Draft EIS (Aug. 2001).

Final Agreement Concerning Flying Cloud Airport and MAC Ordinance No. 51 Between the City of Eden Prairie, Minnesota and the Metropolitan Airports Commission (December 2002).



Metropolitan Council's Land Use Compatibility Guidelines for Aircraft Noise Noise Zones

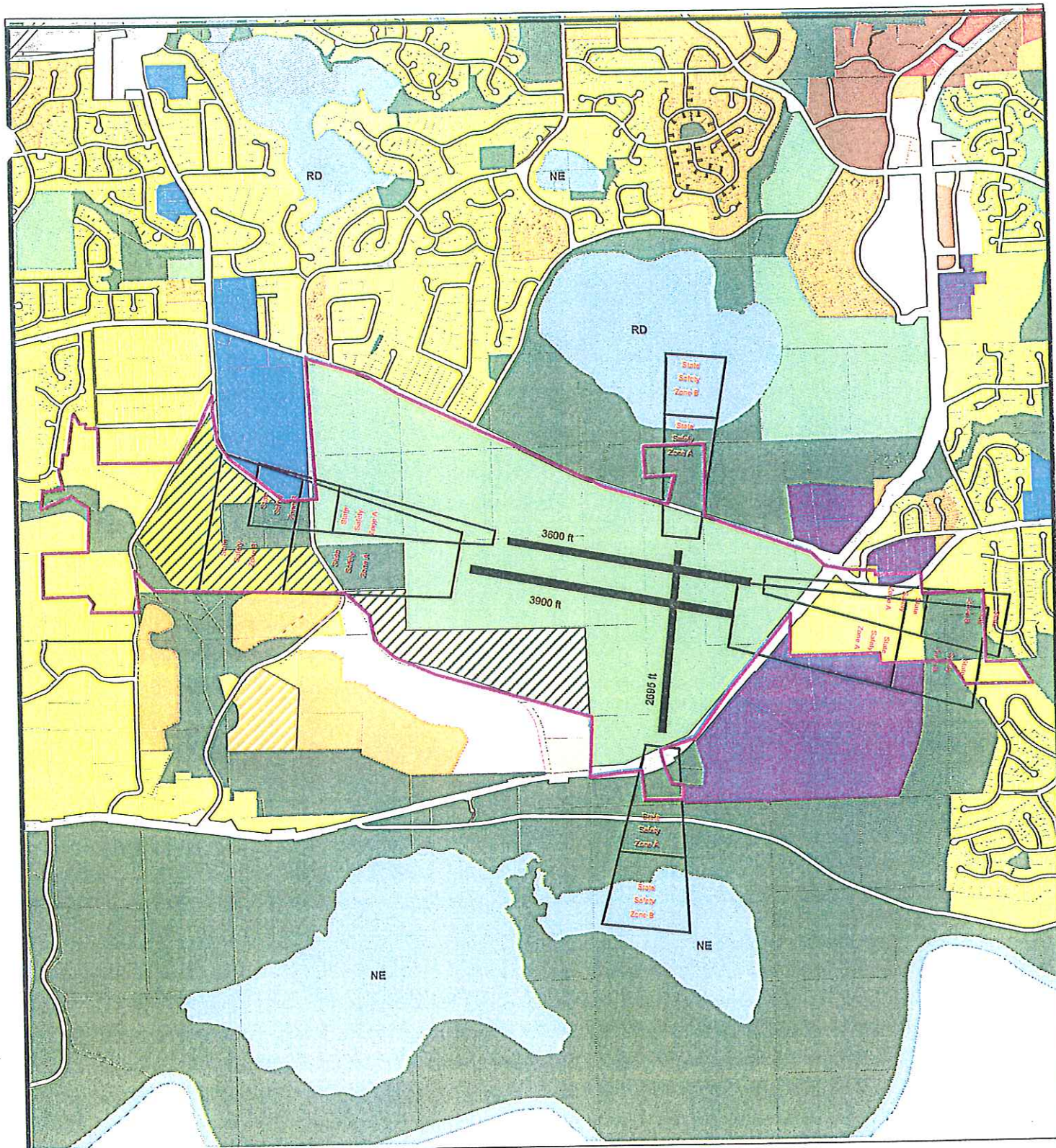
Figure 6.1



- NEZ - Noise Exposure Zone**
Land Use Categories:
- Low Density Residential 0-2.5 Units/Acre
 - Medium Density Residential 2.5-10 Units/Acre
 - Medium Density Residential/Office/Industrial
 - High Density Residential 10-40 Units/Acre
 - Industrial/High Density Residential
 - Office
 - Office/Industrial
 - Industrial
 - Neighborhood Commercial
 - Community Commercial

- Regional Commercial
 - Park/Open Space
 - Public/Quasi-Public
 - Church/Cemetery
 - Open Water
 - Right-of-Way
 - City Boundary
 - MUSA Boundary
 - Creek
 - Airport Boundary
- Shoreland Management Classifications:**
- NE Natural Environment Waters
 - RD Recreational Development Waters
 - GD General Development Waters (Creeks Only)





Land Use Safety Zones - Existing Airport

Figure 6.2

Land Use Categories:

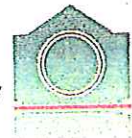
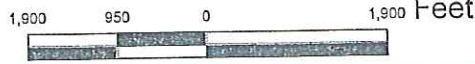
- Low Density Residential 0-2.5 Units/Acre
- Medium Density Residential 2.5-10 Units/Acre
- Medium Density Residential/Office/Industrial
- High Density Residential 10-40 Units/Acre
- Industrial/High Density Residential
- Office
- Office/Industrial
- Industrial
- Neighborhood Commercial
- Community Commercial

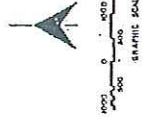
- Regional Commercial
- Park/Open Space
- Public/Quasi-Public
- Church/ Cemetery
- Open Water
- Right-of-Way

- City Boundary
- MUSA Boundary
- Creek
- Airport Boundary

Shoreland Management Classifications:

- NE Natural Environment Waters
- RD Recreational Development Waters
- GD General Development Waters (Creeks Only)





LEGEND

- APPROACH BOUNDARY
- EDGE BOUNDARY
- EXISTING PAVED RUNWAY
- ULTIMATE PAVED RUNWAY
- CONIC BOUNDARY
- OUTER LIMITS HEIGHT ZONING
- ACTUAL CONTOUR

APPROACH SURFACE DIMENSIONS

PROJECT	LENGTH	WIDTH AT	WIDTH AT
		10000'	20000'
1	10000'	1000'	1000'
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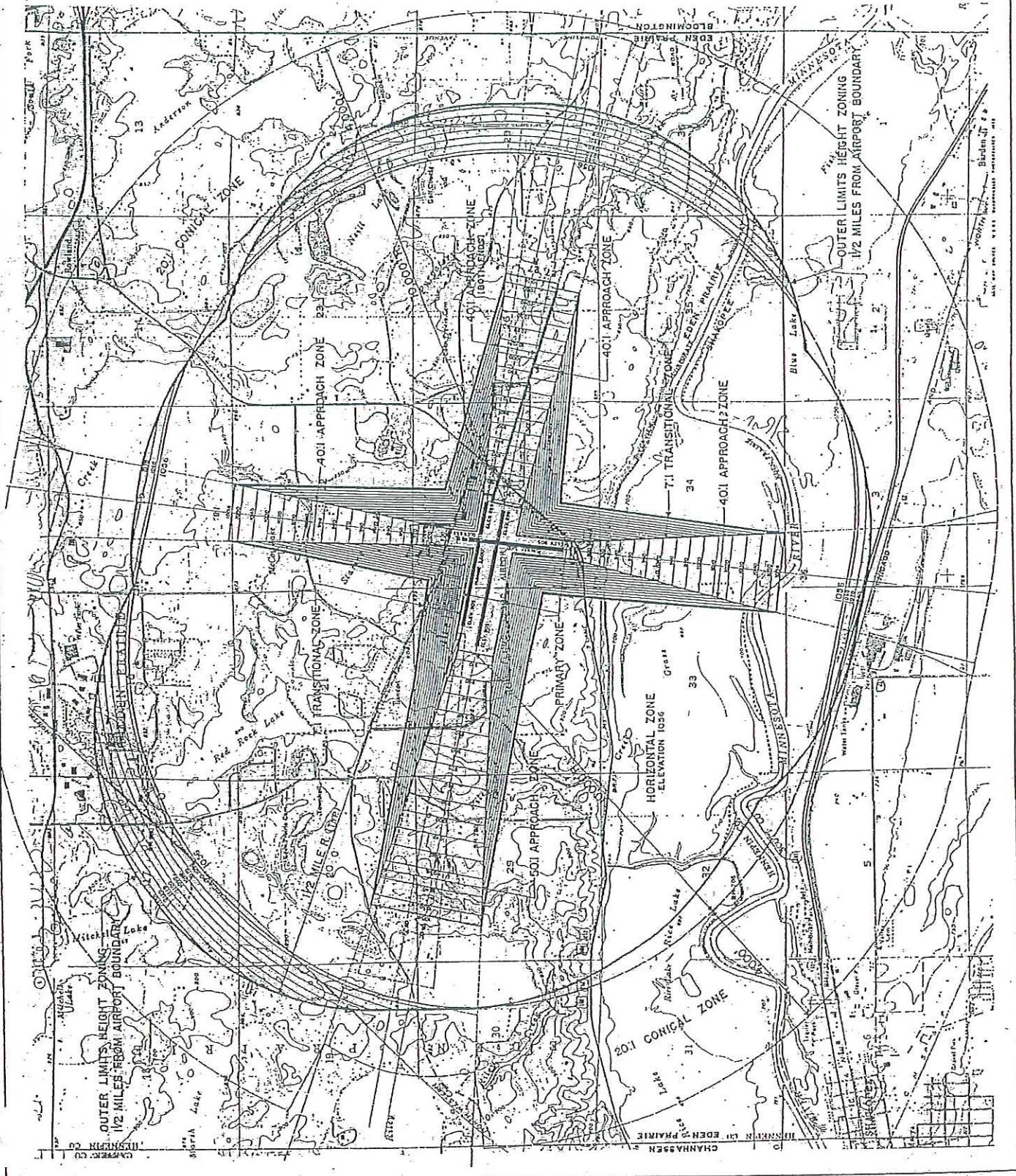
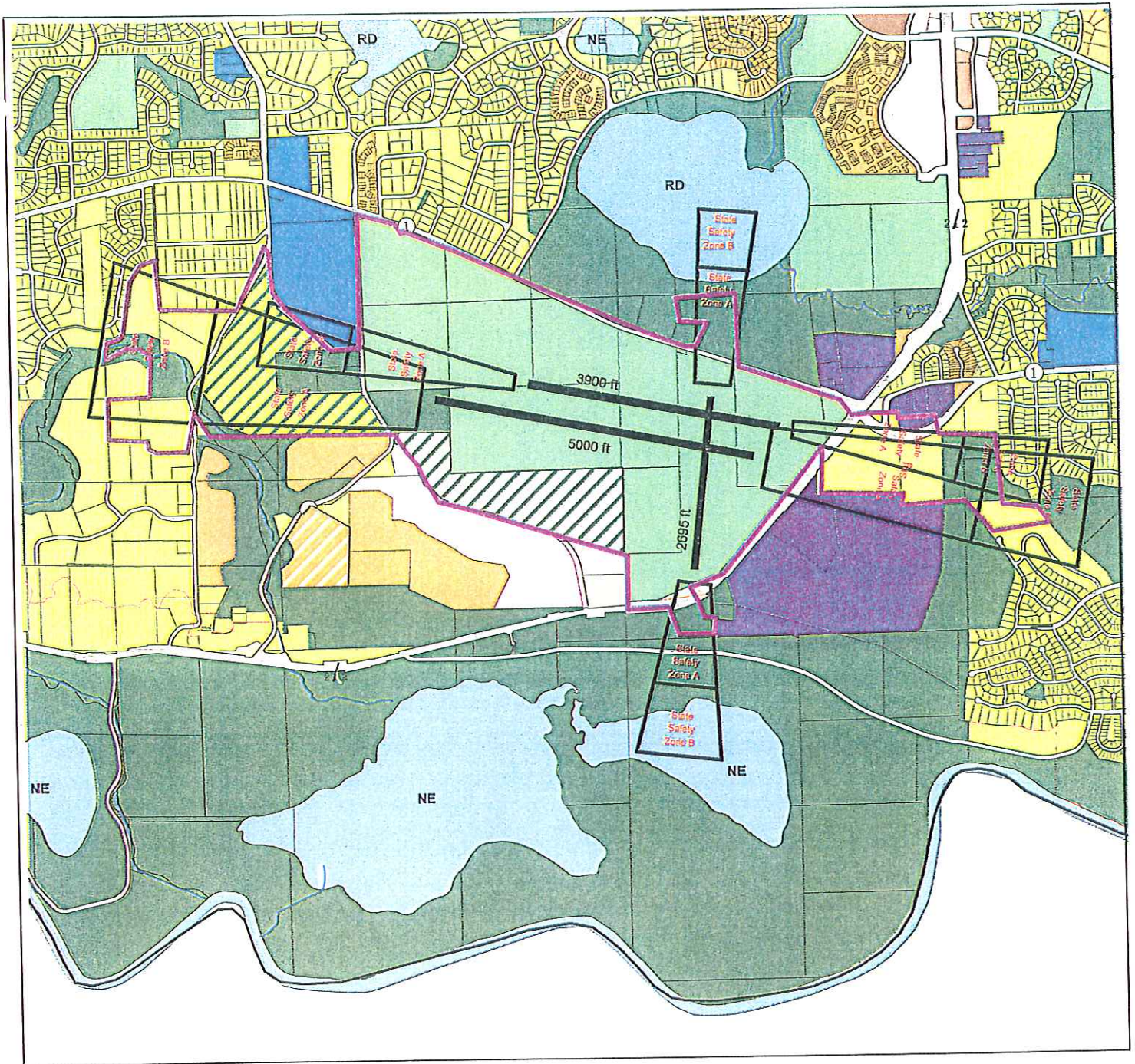


FIGURE 6.3
AIRPORT ZONING - HEIGHT
FLYING CLOUD AIRPORT
 FEB. 1985



Land Use Safety Zones - Proposed Airport Expansion

Land Use Categories:

- Low Density Residential 0-2.5 Units/Acre
- Medium Density Residential 2.5-10 Units/Acre
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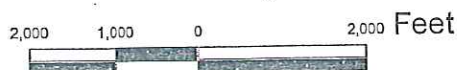


Figure 6.4

