CHAPTER 1

# Inventory

## 1.0 INTRODUCTION

The inventory element of an airport master plan identifies existing infrastructure at an airport and its surrounding community, and describes the framework within which airport facilities function. This chapter presents information on existing airport facilities at the Chippewa Valley Regional Airport (FAA identifier EAU), as well as information on historical aviation activity, environmental resources, and socioeconomic trends. Airport information is presented in the following sections:

- Airport Background
- Federal, State, and Local Airport-Related Planning Documents
- Existing Airport Facilities
- Near-In Obstruction Review
- Historical Aviation Activity
- Environmental Resources
- Demographic and Socioeconomic Trends
- Inventory Summary

# 1.1. AIRPORT BACKGROUND

## 1.1.1. Airport Location and History

The Chippewa Valley Regional Airport (Airport) is located in the City of Eau Claire and within Chippewa County, Wisconsin. It is located in the west-central part of Wisconsin approximately 90 miles east of Minneapolis-St. Paul, Minnesota. The Airport lies in the northeastern portion of the city of Eau Claire, roughly three miles northwest of downtown. The Airport is bounded by the Chippewa River and Airport Road to the west, North Lane to the south, 26th Avenue to the north, and Runway and Starr Avenues to the east. **Figure 1-1** presents the general location of the Eau Claire-Chippewa Falls Metropolitan Area within the state of Wisconsin, and **Figure 1-2** presents the Airport's general location within the metro area.

EAU is owned by Eau Claire County, and operated by the Chippewa Valley Regional Airport Commission, which includes representatives from both Chippewa and Eau Claire Counties. Administrative and daily operations rest with five full-time and one part-time Airport employees, including an Airport Manager, Office Associate, and maintenance and custodial staff. In 1940, EAU opened at its current location, replacing the earlier 1923 airfield located south of downtown Eau Claire. The Airport contained a single runway surrounded by farmland. The Airport was formally opened in 1945 with an afternoon air show. At this time, two 4,000 foot-long runways were still under construction.


*As shown in this photograph (dated 1938), land at the future airport site was primarily developed for agriculture.*
*Source: Wisconsin Historical Society (http://maps.sco.wisc.edu/WHA/Finder/)*

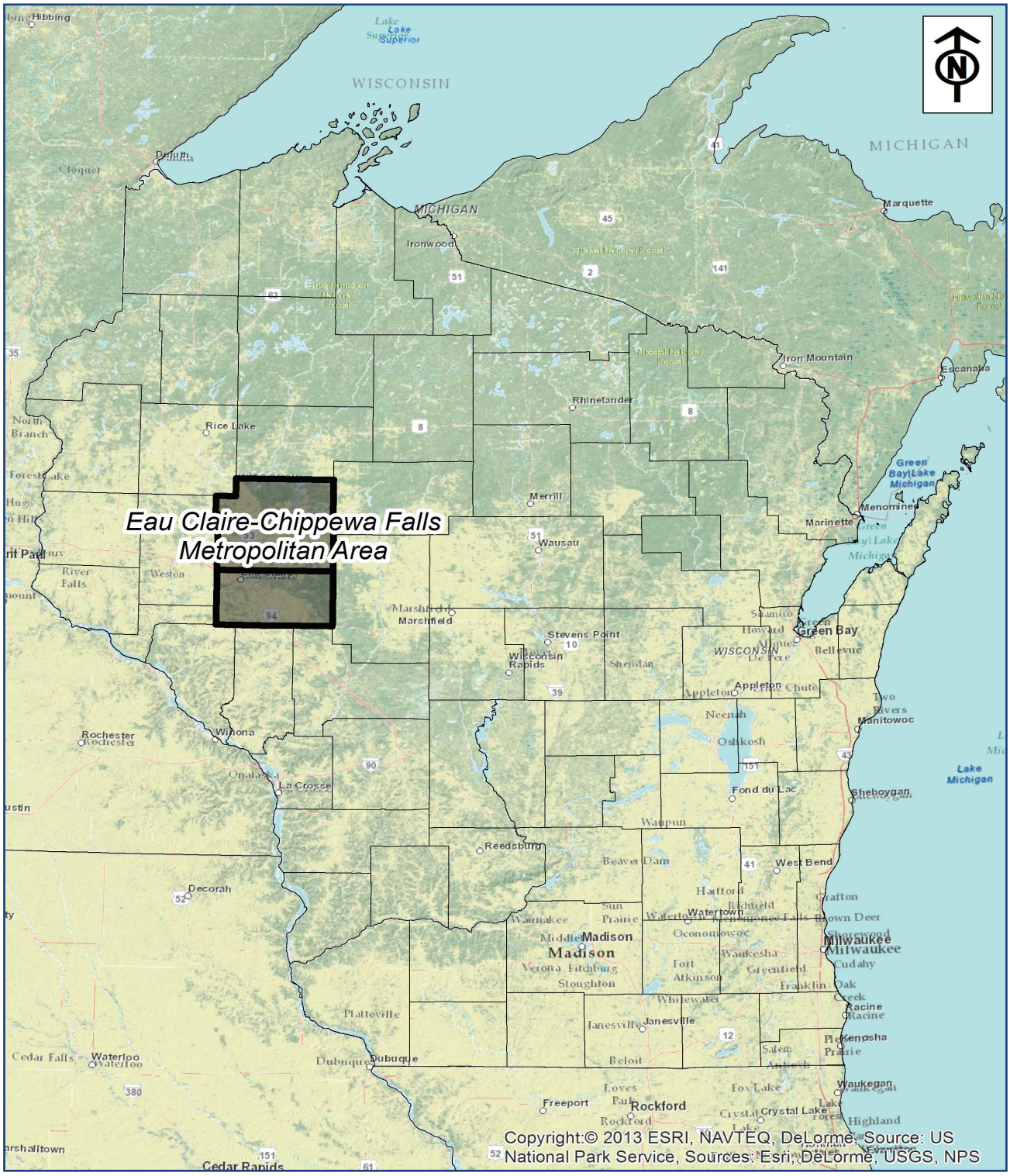


Figure 1-1 **Metropolitan Statistical Area**

*Source Information: Esri, DeLorme, NAVTEQ, TomTom, USGS, Intermap.*


Figure 1-2 **Airport Location**

By 1946, the main runway at the Airport (Runway 4/22) was 4,300 feet long and the crosswind runway (Runway 14/32) was 4,100 feet long. In 1967, Runway 4/22 was extended by 3,000 feet to total length of 7,300 feet. In 1972, an instrument landing system (ILS) was commissioned for Runway 22. In 1980, Runway 14/32 was extended by 900 feet to its current 5,000-foot length. In 2003, the Runway 4 threshold was displaced by 801 feet to provide a compliant Runway Safety Area (RSA) and Runway 22 was extended by 801 feet, resulting in the current 8,101-foot length.

Upon opening during the 1940s, the Airport's first terminal was a Quonset-style building. In 1967, corresponding to the rise of general and commercial aviation activities nation-wide, a new terminal was constructed to accommodate increasing passenger service from nearby communities. The Airport transferred ownership from the city to the county in 1979 and was renamed. Within two years, in 1981, the terminal was expanded. More recently, in 2006, the Airport's first Traffic Control Tower was opened. A two-phase project consisting of the remodel and expansion of the existing terminal began in 2008 and was completed in 2011.

EAU serves both scheduled and non-scheduled commercial passenger airlines, as well as private general aviation (GA) activities. The Airport is the largest in the 30-county northern Wisconsin region and serves the Chippewa Valley region, consisting of Eau Claire, Chippewa Falls, Altoona, Menomonie, and surrounding rural areas. As of September 2012, the Airport's sole commercial carrier providing daily passenger service, United Express, offers two daily departures to the Chicago O'Hare International Airport. Allegiant Airlines provides periodic service to Wendover, Nevada, and Sun Country Airlines provides periodic service to Laughlin, Nevada.

### 1.1.2 Climate, Topography, and Soils

Eau Claire County, much like the majority of the Upper Midwest, experiences a continental climate with warm, humid summers and cold, dry winters. Total annual precipitation is approximately 32 inches, with August being the wettest month of the year. Snowfall averages approximately 51 inches per year, with January being the snowiest month of the year.

Elevations on the Airport vary especially near the Chippewa River to the north and west of the airport. However, the airport terrain is generally flat on landing surfaces. The established Airport elevation, defined by the FAA as the highest point on an airport's paved landing surface, is 913 feet MSL. This elevation occurs near the northeastern end of Runway 4/22.

A soil survey conducted by the Natural Resource Conservation Service reveals that soils located on, and adjacent to, the Airport consist primarily of Menahga loamy sand, Burkhard Sandy loam, Richford loamy sand, Chetek-Mahtomedi complex, and traces of several other soil types. **Figure 1-3** shows the varying soil types located around the Airport.

*Source Information: USDA NRCS Web Soil Survey*

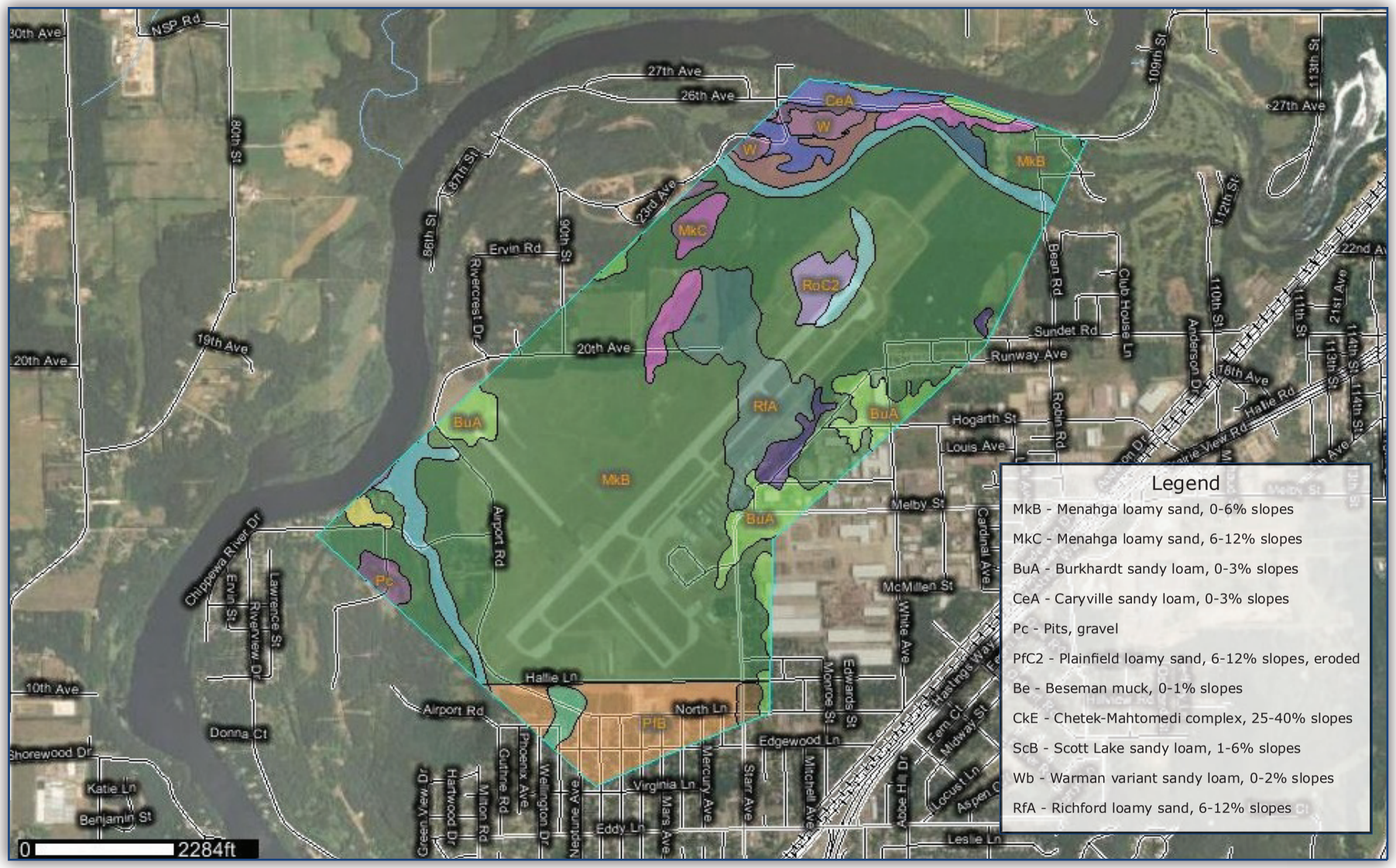


Figure 1-3 **Soil Survey**

# 1.2. FEDERAL, STATE, AND LOCAL AIRPORT-RELATED PLANNING DOCUMENTS

The following sections summarize recent Federal, State, and local planning documents and reports related to planning and development at EAU. Documents and reports considered include the following:

- 2011-2015 National Plan of Integrated Airport Systems
- Wisconsin State Airport System Plan
- 2001 Airport Master Plan Update
- 2003 Tier 2 Airports Study
- 2003 City of Eau Claire Comprehensive Plan
- 2010 Eau Claire County Comprehensive Plan
- 2010 Chippewa County Comprehensive Plan
- Chippewa-Eau Claire Metropolitan Planning Area Long Range Transportation Plan

## 1.2.1 2011-2015 National Plan of Integrated Airport Systems (NPIAS)

The NPIAS is updated every two years by the Federal Aviation Administration (FAA). The most recent update to the NPIAS, covering the years 2013 to 2017, was transmitted to Congress in September 2012. The NPIAS is used by the FAA in administering the Airport Improvement Program (AIP), and supports FAA safety and capacity goals by identifying airports and airport improvements that will help achieve those goals.

The NPIAS currently lists EAU as a Primary Commercial Service airport. Primary Commercial Service airports are defined as receiving scheduled passenger service and having 10,000 or more enplaned passengers per year. There are 378 airports nationwide that are considered Primary Commercial Service airports by the NPIAS, including eight airports in the State of Wisconsin (Appleton, Eau Claire, Green Bay, La Crosse, Madison, Milwaukee, Mosinee, and Rhinelander).

Of the 378 nationwide Primary airports, 240 are considered Nonhub airports. Together, these 240 Nonhub airports account for 3% of nationwide passenger enplanements. The determination of whether an airport is a Hub or Nonhub airport is made by dividing the number of annual enplanements at the airport by the number of annual enplanements nationwide. Based on this percentage, the specific airport in question is categorized as a Large Hub, Medium Hub, Small Hub, or Nonhub. The Chippewa Valley Regional Airport is classified as a Nonhub airport because its annual passenger enplanements are less than 0.05 percent of all U.S. passenger enplanements. The NPIAS indicates that Primary Nonhub Commercial Service Airports are also heavily used by general aviation aircraft, together comprising approximately 11% of nationwide based aircraft with an average of 92 based aircraft per airport.

The NPIAS provides estimated 5-year costs for airport improvements that are eligible for Federal development grants under the Airport Improvement Program, and lists an estimated five-year total development cost of approximately $2.1 million for EAU.

## 1.2.2 Wisconsin State Airport System Plan

The Wisconsin State Aviation System Plan (SASP) 2020 is the current long-range aviation system plan published by the Wisconsin Department of Transportation (WisDOT) Bureau of Aeronautics (BOA). The

Wisconsin SASP 2020 was published in 2000. As of May 2013, a new update to the SASP is underway. The SASP provides input to the NPIAS, individual airport master plans, and the State's Long-Range Multi-Modal Transportation System Plan.

There are 98 airports in the Wisconsin state aviation system. The Wisconsin SASP 2020 designated EAU as one of ten air carrier/air cargo (AC/C) airports in the state. AC/C airports are "designed to accommodate virtually all aircraft up to and, in some cases, including, wide-body jets and large military transports." These airports have runway lengths between 6,500 and 9,800 feet, are capable of serving airport reference code (ARC) C and D aircraft, and have a service area radius of approximately 60 miles.

In 2010, the BOA conducted a review and update of statewide airport classifications. This review took into account state demographic trends, national commercial service trends, and national general aviation trends in updating the classification system, and assessed each airport in the system based on the following four performance categories: activity, economics, accessibility, and facilities. The 2010 classification update designates EAU as one of eight commercial service airports in the state. The update defines commercial service airports as those that "support regularly scheduled year-round commercial airline service and support the full range of general aviation activity to domestic and international destinations." The typical facility and service attributes of commercial service airports, as defined by the 2010 update, are summarized in **Table 1-1**.

**Table 1-1: SASP Commercial Service Airport Typical Facility and Service Attributes**

| Facility/Service | Typical Attribute |
|---|---|
| ARC | C or greater |
| Runway Length (primary) | 6,700 feet or greater (actual runway dimension determined by each airport's critical aircraft) |
| Runway Width (primary) | 150 feet |
| Taxiway Type | Full Parallel |
| Approach Capability | Visibility minimum of 0.5 mile or less |
| Runway/Taxiway Lighting | HIRL and MITL |
| Visual Aids | Rotating Beacon, Wind Cone, MALSR or better, REILS, VGSI (VASI/PAPI) |
| Weather Reporting | AWOS or ASOS |
| Pavement Condition | 70 PCI or greater |
| Hangar Space | Per Master Plan |
| Ramp Space | Per Master Plan |
| General Aviation Terminal/Admin Bldg | Per Master Plan |
| Operations/Maintenance Hangar | Per Master Plan |
| Auto Parking | Per Master Plan |
| FBO | Full Service |
| Maintenance | Full Service |
| Fuel | 100LL & Jet A |
| Terminal/Pilot's Lounge | Phone, Restrooms, Flight Planning/Lounge |
| Ground Transportation | On-Site Rental Car |
| Security | Full Perimeter Fencing, Controlled Access, Night Guard, Signage |
| Other | Snow Removal and Aircraft De-Icing |

*Source: Wisconsin SASP 2010*

### 1.2.3 2001 Airport Master Plan Update

In 2001, an airport master plan update was completed for EAU by Coffman Associates. The master plan update consisted of an airport inventory, aviation demand forecasts, aviation facility requirements, airport development, alternatives analysis, recommended development plan, and a financial plan.

The 2001 master plan update recommended a wide range of short-, intermediate-, and long-term development projects. Projects that have been completed since the 2001 master plan update include runway safety area (RSA) improvements, an 800-foot extension to Runway 4/22, construction of the air traffic control tower, renovation of the passenger terminal building, installation of a passenger boarding bridge, and development of new GA facilities on the south side of the airfield. These improvements are shown in **Figure 1-4**.

### 1.2.4 Airport Zoning

The Airport is officially zoned "P" for "public properties district" by the City of Eau Claire. The public properties district "allows for public use of certain areas, such as parks, playgrounds, schools, governmental uses, or other public areas." The following uses are permitted in the public properties district:

- Municipal uses, city owned and operated;
- Public parks, playgrounds;
- Public utility and public service uses;
- Non-commercial parking;
- Boat landings and boat docks for public use;
- Signs for municipal and public utility use;
- Public schools, athletic fields and golf courses, and related educational or recreational facilities;
- Other public buildings, lands, grounds, and uses, including public housing facilities.

One-family, two-family, and non-sewered one-family residential development (R1, R2, R1A) is located adjacent to Airport property to the west, southwest, south, and southeast. Heavy and Light Industrial development (I1 and I2) is located to the east of the Airport. **Figure 1-5** shows the current zoning designations surrounding the airport. While the Airport is located within City of Eau Claire city limits, the Airport is also under the jurisdiction of Eau Claire County's zoning ordinance (Chapter 18.60 Airport Zoning).

In 1980, Eau Claire and Chippewa Counties adopted an airport zoning ordinance that regulates structure heights in the vicinity of the Airport. In 2002, the airport zoning ordinance was revised to also regulate land uses in the vicinity of the Airport, and in 2007 the ordinance was further revised to reflect recent changes in the runway end locations. The purpose of the airport zoning ordinance is to protect neighboring land uses from noise and other aviation hazards. The Airport is divided into four zoning districts – Zone A, Zone 1, Zone 2, and Zone 3 – with specific land use restrictions and setbacks applied to each defined zone. **Figure 1-6** shows the four zoning districts and Table 1-2 shows the permitted land uses and setback regulations for each of the four zoning districts as defined by the County. Zone 1 is the most restrictive and Zone 3 is the least restrictive. Areas regulated under height restrictions are indicated in **Figure 1-7**. **Table 1-2** details the Eau Claire County Airport zoning districts.

| **Table 1-2: Eau Claire County Airport Zoning Districts** | |
|---|---|
| **Zone A – Airport District** | |
| **Permitted Land Uses** | **Setback Regulations** |
| Air Terminals<br>Aircraft Hangars<br>Aircraft runways, taxiways, aprons, and related lighting and air support apparatus<br>Airport administration buildings<br>Aircraft repair and maintenance buildings and facilities<br>Fuel storage and pumps<br>Commercial uses directly related to the airport operations<br>Public gatherings in conjunctions with an airport related activity sponsored or approved by the airport<br>Air Cargo facilities<br>Intermodal facilities<br>Other related airport uses and structures | 30' for all structures |
| **Zone 1 – Runway Approach and Departure District** | |
| **Permitted Land Uses** | **Setback Regulations** |
| Agriculture, including essential non-residential facilities<br>Floriculture, horticulture, silvaculture, orchards, hatcheries, game farms, wildlife sanctuaries and game preserves, except aviaries<br>Mining and excavation<br>Open space<br>Transportation routes including roads and rail lines<br>Parking lots and parking facilities<br>Light recreational (non-spectator)<br>Other related airport uses and structures | Requirements shall meet municipal setback requirements for the applicable zoning code |
| **Zone 2 – Noise Control/Over-flight District** | |
| **Permitted Land Uses** | **Setback Regulations** |
| All uses allowed by the underlying zoning of the affected municipality | Requirements shall meet municipal setback requirements for the applicable zoning code |
| **Zone 3 – Height Limitation District** | |
| **Permitted Land Uses** | **Setback Regulations** |
| All uses allowed by the underlying zoning of the affected municipality | Requirements shall meet municipal setback requirements for the applicable zoning code |