



Airport Master Plan

**Hutchinson Municipal Airport –
Butler Field (HCD)
Hutchinson, Minnesota**

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EXECUTIVE SUMMARY

The Airport Master Plan for the Hutchinson Municipal Airport – Butler Field (HCD) evaluates the needs of the existing and future users of the airport over the next 20 years. The Airport Master Plan was last updated in 1976. Numerous elements have changed at the airport since that time and require the Airport Master Plan and Airport Layout Plan (ALP) to be updated. The changes include a runway extension, fuel facility installation, construction of the Arrival/Departure (A/D) building and Fixed Base Operator (FBO), construction of a parallel taxiway, T-hangars, and a large hangar. The existing building area plan in the ALP needs to be updated to address recent hangar construction and evaluate future development possibilities.

The Airport Master Plan is a joint effort between the Hutchinson Airport Commission, City of Hutchinson, the Federal Aviation Administration (FAA), and Minnesota Department of Transportation (MnDOT) Office of Aeronautics. An Airport Master Plan includes discussion of the existing inventory at the airport, the results of the user survey submitted to the service area around the airport, the forecasts of aircraft activity including based aircraft and operations, the facility recommendations to meet the forecasted needs of the users of the airport, alternatives of the recommended facilities, and the implementation plan.

The City of Hutchinson is located in south-central Minnesota, 20 miles west of the seven county metro area. It is part of McLeod County, and is 10 miles north of Highway 212. Minnesota State Highways 7, 15, and 22 are the main routes into the City. The airport is a general aviation facility serving primarily business owners, agricultural sprayers, and recreational pilots that use single-engine and multi-engine propeller driven aircraft in addition to some small business jets.

There are currently 42 based aircraft at the airport. There is an A/D building which includes a hangar for the FBO, four public T-hangars for based aircraft storage, one public conventional hangar, six private hangars, and 15 tie-downs available for aircraft parking. There is an automobile parking lot located near the A/D building and 100LL and Jet A fuel are available for aircraft.

The airport has one runway. Runway 15/33, is a bituminous runway 4,000 feet long by 75 feet wide. There is a Global Positioning System (GPS) with vertical guidance (LPV) approach to both runway ends, and a parallel taxiway which connects the runway to the building area.

The aviation forecasts show growth in based aircraft over the next 20 years to 54 aircraft in 2033, which represents a growth of 12 aircraft. The annual operations are estimated to be 12,180 growing to 15,660 over the next 20 years.

Based on the 20 year forecasts, facility recommendations were developed. According to the FAA Advisory Circular (AC) titled *Runway Length Requirements for Airport Design*, the existing runway length of 4,000 feet is sufficient for the 20-year planning period. The airport, however, does not meet the 95% wind coverage requirement. Alternatives were analyzed to realign the runway or to add a crosswind runway. The selected alternative adds a 2,500-foot long, 60-foot wide, turf crosswind runway to the north of the existing building area, which achieves 98.66% wind coverage. Other airside facility requirements include looking at adding stopways to each runway end.

Additional needs identified in the user survey and activity forecasts included additional hangar space for private hangar development, additional T-hangar space for the increase in based aircraft, and an expanded apron area to accommodate additional tie-down spaces for aircraft parking.

The final chapter of the Airport Master Plan takes a look at the timing and funding necessary to develop the facilities recommended to accommodate the existing and future users of the airport. Further discussion of the facility requirements, project impacts, and details of the forecast analysis for the Hutchinson Municipal Airport – Butler Field can be found within the Airport Master Plan document.

1. INTRODUCTION

1.1. PURPOSE

An Airport Master Plan is a comprehensive study of an airport and describes the short (0-5 year), mid (5-10 year), and long-term (10-20 year) development plans to meet existing and future aviation demand based on identified airport safety, facility, and aviation system needs. The Airport Master Plan will provide direction and guidance to the airport owner, the City of Hutchinson, regarding future airport preservation and development priorities for the Hutchinson Municipal Airport (FAA identifier: HCD). It will become the City's realistic strategy for the development of the airport considering financial, environmental, and socioeconomic factors. The Federal Aviation Administration (FAA) outlines the requirements and process to prepare an Airport Master Plan through Advisory Circular (AC) 150/5070-6B, *Airport Master Plans*.

1.2. BACKGROUND

The City of Hutchinson last completed an update to the Airport Layout Plan (ALP) in June 2011. An Airport Master Plan was last completed in 1976. This Airport Master Plan will update operations and based aircraft projections so airport development plans can meet the needs of the public utilizing the airport while maintaining compatibility with community land use plans.

The existing ALP will need to be modified to depict the as-built airport development along with the future airport plans recommended in this Airport Master Plan update.

1.3. AREAS OF EMPHASIS

An Airport Master Plan process evaluates many aspects of an airport facility. The following areas of emphasis have been specifically identified by the City of Hutchinson and will be reviewed in greater detail for HCD.

Runway Alternatives

The current ALP shows an existing and future primary runway (Runway 15/33) length of 4,000 feet, in addition to a turf crosswind runway (Runway 8/26) at a length of 2,800 feet. The Airport Master Plan will evaluate existing and foreseeable airport users and the primary runway length and crosswind runway requirements to meet the needs at HCD. Runway development options will be explored considering local zoning implications, compatibility with community plans, operational effects, airspace obstructions, environmental impacts, and cost. In addition, the primary runway will be evaluated for the potential to reduce impacts to surrounding land owners.

Land Use Planning

Runway development options will have an effect on surrounding local land use. The Airport Master Plan will evaluate runway options and coordinate with local planning staff to ensure that off-airport impacts are acceptable and follow community planning needs and airport zoning requirements.

Obstruction Analysis

The Airport Master Plan will complete a comprehensive airspace obstruction analysis for any future airport configuration chosen through the Airport Master Plan process.

Public Involvement

Engaging the community and stakeholders throughout the planning process is important for the airport to continue to gain support from the community and continue to serve their needs. A public involvement plan has been put in place to consider the broader interests of the general public.

1.4. STRUCTURE OF AN AIRPORT MASTER PLAN

- Existing airport inventory
- Environmental overview
- Aviation activity forecasts
- Capacity and demand analysis
- Facility requirements including alternative analysis
- Implementation plan

1.5. PUBLIC & AGENCY OUTREACH

Outreach is an important aspect of the Airport Master Plan process to solicit input and foster support for the vision of the airport over the next 20 years. The Airport Master Plan is to be used as a guide for decision makers when evaluating existing and future needs of the airport and implementing improvements. Although more detailed justification and funding of individual projects are key components before any development can occur, the Airport Master Plan recognizes the “big picture” potential of the airport and puts an overall plan in place for the future.

There were three primary forms of outreach throughout the Airport Master Plan process.

- Development of a Master Plan Advisory Group (MPAG) – this group met four times throughout the Airport Master Plan process to provide input on the issues, needs, and development for the airport over the next 20 years. The MPAG consisted of members from the Airport Commission, City of Hutchinson staff, McLeod County, Fixed Based Operator (FBO) staff, pilots at the airport, in addition to FAA and Minnesota Department of Transportation (MnDOT) Office of Aeronautics staff. Staff from the various organizations represented the interest of their areas of expertise.
- Airport User Survey – A user survey was distributed to current and potential HCD users. The survey asked respondents how often they use the airport, why they use the airport, and what facilities, services, or airport improvements were needed to increase their use of the airport. This information was used to assist in developing the forecasts and facility requirements.
- Public Open House – After the inventory, forecasts, and alternatives portions of the Airport Master Plan were developed in coordination with the MPAG, a public open house was held to inform the public of the Airport Master Plan process and the selected layout for the 20 year plan for the airport. Approximately five people from the public were in attendance. The open house included a forum for those in attendance to ask questions about the project or the airport in general.

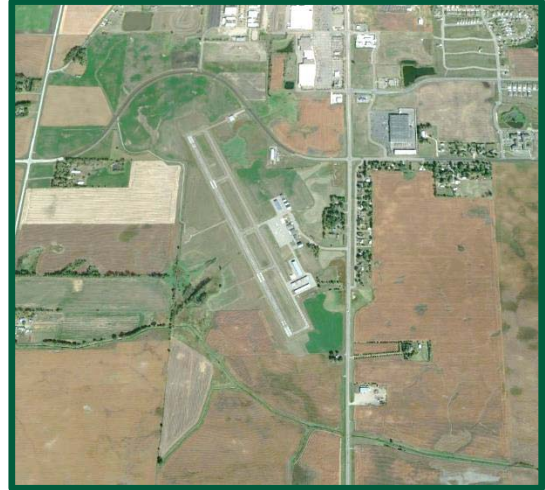
In addition to these activities, project meetings were held with FAA and MnDOT Office of Aeronautics throughout the master planning process to ensure participation in and support of the 20 year plan at the airport. Meeting design standards and setting the framework for justification of projects in the future will help the City in receiving funding participation from these agencies as the airport develops.

2. AIRPORT INVENTORY

The existing facilities and conditions at the airport provide the baseline for comparison to implement future safety and capacity airport improvements. Collection of both on-airport and off-airport background information is important so the development of future facilities can be accomplished in partnership with the surrounding community.

2.1. LOCATION

The City of Hutchinson is located in south-central Minnesota, 20 miles west of the seven county metro area. It is part of McLeod County, and is 10 miles north of Highway 212. The City is located along the South Fork Crow River. Minnesota State Highways 7, 15, and 22 are the main routes into the City. **Figure 2-1** at the end of this chapter, shows the regional location of Hutchinson.



Hutchinson Municipal Airport-Butler Field (FAA Identifier: HCD) is located two miles south of the Downtown Central Business District and is within City limits. The airport can be accessed via State Highway 15. **Figure 2-2**, at the end of this chapter, shows the local airport location.

Airport property consists of 288.11 acres, owned and operated by the City of Hutchinson. The airport owns an additional 59.02 acres in easement. Field elevation for the airport is 1,062 feet above mean sea level (MSL). The airport's official location is defined by the Airport Reference Point (ARP), which marks the center area of the useable runways at the airport. The ARP for HCD is N 44°51'35.57" latitude and W 94°22'57.03" longitude.

2.2. HISTORY

The Hutchinson Municipal Airport is a public use airport that was constructed in 1965. The airport consists of one primary paved north-south runway (Runway 15/33). Throughout the years the airport has taken on many airport improvement projects.

HCD's early growth was aided by a few key people within the community. The first key person was Ken Butler, for whom the airport is named – Butler Field. Ken was instrumental in the development of Flying Farmers in the 1950s and promoted many farm airstrips. He was also vocal in the fight against the construction of tall towers that were hazardous to flight. In 2004 he was inducted into the Minnesota Aviation Hall of Fame.

The second prominent figure in the development and growth of the airport was Joe Dooley. Joe served on the Airport Commission for nearly three decades and was Commission Chair several times. Joe helped the airport grow and thrive, sometimes contributing his own money to help with airport expenses. The Arrival/Departure (A/D) building is named after him.

Some of the major milestones in the history of the airport's development are documented below:

- 1965: Acquisition of land and construction of a landing strip
- 1967: Construction of an apron and taxiway
- 1970: The runway was paved and runway lighting was installed

1989:	T-Hangar site prep; apron and taxiway improvements; land acquisition
1993:	Runway extension and fuel facility construction
1999:	A/D Building, Fixed Based Operator (FBO) facility, parallel taxiway, apron improvements, and entrance road were constructed
2001:	Rotating beacon replaced
2005:	Replaced REILs and installed jet fuel system
2007:	T-hangar construction
2009:	Large hangar constructed



2.3. SURROUNDING DEVELOPMENT

The City of Hutchinson is located in an agricultural area with rolling hills in central Minnesota. Numerous lakes and wetlands make up the landscape as well.

HCD is predominately surrounded by agricultural land uses. A few residential properties are located near the airport, and there are commercial retail uses to the northeast. HCD is surrounded by County Road 7 to the west, State Highway 15 to the east, County Road 115 (Airport Rd SW) to the north and McCuen Creek to the south. The City of Hutchinson Comprehensive Plan identifies the areas surrounding the airport to be guided for continued public/institutional, agricultural, industrial, and commercial land uses. These land uses are compatible with airport operations. The area surrounding the airport is identified in the comprehensive plan as a joint planning district. This district was created in a cooperative effort between the City of Hutchinson and the surrounding townships to work together to effectively plan for the growth of the City of Hutchinson in a way that is sensitive to the needs of rural areas.

2.4. SOCIOECONOMIC

Socioeconomic information provides background on area population, employment, and income. These measures indirectly identify trends in the airport service area which may contribute to changes in airport activity. Long-term, steady growth of population, employment, and personal income in the airport service area is generally an indication of a healthy local economy and increased aviation demands.

2.4.1. POPULATION

The City of Hutchinson has seen an increasing population growth of 1.43% since 1970. This is a higher level of growth than County, State, and National figures for the same time period. Good location and economic opportunity have been identified as a major reason for development and increasing population. McLeod County has also seen strong population growth since 1970 averaging 0.71% over the 40 year period (See **Table 2-1**). Increasing population trends are expected to continue.

Table 2-1
Local and Regional Existing and Forecasted Population

Year	City of Hutchinson	McLeod County
1970	8,031	27,662
1980	9,244	29,657
1990	11,523	32,030
2000	13,080	34,898
2010	14,178	36,651
2020	16,237	42,230
2030	17,325	44,660
Historical Trend (Yearly)	1.43%	0.71%
Forecast Trend (Yearly)	1.01%	0.99%

Source: U.S. Census Bureau, Minnesota State Demographic Center

2.4.2. EMPLOYMENT

Employment is another socioeconomic measure of the vitality of a regional economy and demand for aviation. Significant employment industries in McLeod County include manufacturing, retail sale, construction, service industry, and educational services. The unemployment rate in McLeod County at the time of the 2010 Census was 4.1%, which was lower than the Minnesota rate of 5.0% and the United States average of 7.8%.

According to the City of Hutchinson Economic Development Authority, major employers within the community include the following:

- Hutchinson Technology
- 3M Corporation
- Hutchinson Health
- Wal-Mart
- Hutchinson Schools ISD #423
- Cash Wise Foods
- Menards
- Goebel Fixture Co.
- Target
- Shopko
- City of Hutchinson
- Ag Systems, Inc.
- NU-Telecom
- JCPenny
- Hutchinson Manufacturing
- Hutchinson Utilities Commission
- Haugen Furniture Company
- Impressions, Inc.
- Customer Elation
- Ohly
- Crow River Press
- Hutchinson Leader
- Warrior Manufacturing
- Richard Larson Builders
- American Energy Systems
- CreekSide Soils
- Hillyard Floor Care – Supply
- 3-D CNC, Inc.

2.4.3. INCOME

Income is another socioeconomic measurement tool which can provide assumptions about new businesses and development. Generally, the higher the income the more likely demand for aviation activities will increase.

Median household income for McLeod County, according to the 2010 U.S. Census Bureau is \$55,275 which is lower than the state average of \$58,476, and higher than the United States figure of \$52,763. Minnesota has a per capita personal income of \$30,310 compared to \$27,915 in the United States. McLeod County, defined as the airport service area, has a per capita personal income of \$27,644.

2.5. AIRPORT ROLE

2.5.1. FEDERAL NPIAS

The National Plan of Integrated Airport Systems (NPIAS) is made up of 3,330 airports that are open for public use. These airports are considered significant to the national air transportation system and are eligible for Federal funding. Airports within the NPIAS are classified as commercial service (primary or non-primary), cargo service, reliever airports, or other general aviation airports.

HCD is classified by Federal Aviation Administration (FAA) as a general aviation airport. Over 2,900 airports are classified as general aviation airports nationwide. General aviation airports economically support local businesses, provide critical community access, allow for emergency response, and provide other specific aviation functions. In 2012, a study was completed by FAA in an effort to classify general aviation facilities titled General Aviation Airports: A National Asset. These airports have been broken down further by FAA as national, regional, local, basic or unclassified facilities within the NPIAS system. HCD is classified as a local general aviation airport. There are 1,236 local general aviation airports in the national system.

Local Airports are the backbone of our general aviation system with at least one local airport in virtually every state. They are typically located near larger population centers, but not necessarily in metropolitan or micropolitan areas. Local airports account for 42% of the general aviation airports eligible for Federal funding. They also account for approximately 38% of the total flying at the studied general aviation airports and 17% of flying with flight plans. Most of the flying is by piston aircraft in support of business and personal needs. In addition, these airports typically accommodate flight training, emergency services, and charter passenger service. The flying tends to be within a state or immediate region. There are no heliports, but there are four seaplane bases in this category.

2.5.2. STATE SYSTEM PLAN

Each state is responsible for developing a more detailed system plan with development objectives. Minnesota Department of Transportation (MnDOT) Office of Aeronautics classifies airports as key airports, intermediate airports or landing strips. HCD is classified as an intermediate airport in the 2012 Minnesota State Aviation System Plan (SASP).

Intermediate Airport – These airports have paved and lighted primary runways that are less than 5,000 feet long. Intermediate airports can accommodate all single engine aircraft, some multi-engine aircraft, and some corporate jets. There are 83 intermediate airports in Minnesota.

The SASP identifies projected airport development facility needs for each airport based on its classification. The SASP has identified the following anticipated needs for HCD: an expanded apron, additional tie-downs, additional T-hangars, automobile parking, and perimeter fence construction. Facility requirements will be discussed in further detail in **Chapter 4.0, Facility Requirements**.

2.6. AIRPORT MANAGEMENT

The Hutchinson Municipal Airport is owned and operated by the City of Hutchinson, the airport sponsor. The Public Works Manager is in charge of managing the airport. The City of Hutchinson provides airport maintenance and upkeep. The Hutchinson City Council, in consultation with the Airport Commission, makes decisions on the management, budgeting, operations, maintenance, and development needs at HCD. The Airport Commission consists of five members appointed by the Mayor/City Council who are residents of the City and one additional member who serves on the City Council.

2.7. AVIATION ACTIVITY

Aviation activity provides a measurement of the number and type of based aircraft and operations at an airport facility. Existing airport operational data is important to provide baseline information to project future activity, which in turn identifies airport facility needs.

Data for non-towered general aviation airports tends to vary. The Airport Master Plan will attempt to provide realistic airport operational figures using an airport user survey and observations from the airport manager. The data below provides a general overview of airport activity at HCD based on existing published data.

2.7.1. BASED AIRCRAFT

Based aircraft are aircraft that are stored at an airport for the majority of the year. They are typically classified by type of aircraft, including single and multi-engine piston aircraft, jet, and ultralight aircraft. Sources of historical and current based aircraft data include the FAA Terminal Area Forecast (TAF), Airport 5010 Master Record, SASP, as well as local verified records and counts. The FAA TAF does not break down the total number of based aircraft by aircraft type.

Table 2-2 shows current based aircraft estimates from existing sources. The number of based aircraft ranges from 35 to 46.

Table 2-2
Based Aircraft – Existing Sources

Source	Single Engine	Multi-Engine	Jets	Other	Total
FAA TAF (2011)*	N/A	N/A	N/A	N/A	39
FAA 5010 Report (2013)	34	1	0	0	35
SASP (2010)	38	3	0	5	46
MnDOT Registration Report (2013)	38	1	0	5	44
Local Count (2014)	39	1	0	2	42

Source: FAA, MnDOT Office of Aeronautics, City of Hutchinson; N/A = Not Available

* FAA TAF is updated in 2013, however 2011 is the most recent non-projected data in the TAF

Based on field inventory conducted by the City of Hutchinson in 2014, the confirmed number of based aircraft at HCD is 42. Four of the 42 aircraft are currently classified as part-time aircraft. These aircraft base their aircraft at HCD, however at some point during the year, mostly during winter, the aircraft is based elsewhere. Two aircraft owners are on a waiting list to base their aircraft at HCD. According to the Airport Manager, the list could have as many as four to ten additional aircraft owners waiting to base aircraft at HCD if enclosed storage spaces were available. These numbers are based on phone calls asking

about hangar availability. The waiting list numbers will be used for determining the needs of the based aircraft users.

2.7.2. AIRCRAFT OPERATIONS

An operation is classified as either a takeoff or a landing. Touch and go training operations count as two operations. Airport operations are typically split into local and itinerant operations. Local operations are defined in FAA's *Forecasting Activity by Airport* as "aircraft operating in the traffic pattern or aircraft known to be departing or arriving from flight in local practice areas, or aircraft executing practice instrument approaches at the airport." Itinerant operations are "aircraft operations other than local operations." Aircraft operations are also categorized by the use of the aircraft operating at the airport. Examples of this include commercial, general aviation, and military operations. Sources of historical and current airport operational data include the FAA TAF, Airport 5010 Master Record, and the SASP.

Table 2-3 lists the current airport operations estimates from existing sources.

Table 2-3
Annual Operations – Existing Sources

Source	Itinerant Operations				Local Operations		Total
	Air Carrier	Air Taxi	General Aviation	Military	General Aviation	Military	
FAA TAF (2011)*	0	0	5,645	0	6,750	0	12,395
FAA 5010 Report (2013)	0	200	5,400	45	6,750	0	12,395
SASP (2010)	N/A	N/A	5,466	N/A	6,683	0	12,149

Source: FAA, MnDOT Office of Aeronautics; N/A = Not Applicable

* FAA TAF is updated in 2013, however 2011 is the most recent non-projected data in the TAF

The FAA TAF projects annual operations will stay stagnant through 2040 and the SASP forecasts a 1.6% annual growth rate through 2030.

2.8. AIRPORT DESIGN STANDARDS

FAA airport design standards are based on two key components. The first component is the critical aircraft family currently using the airport or proposed to use the airport at least 250 times per year within the next five years. The second component is based on the type of approach developed for each runway end. Both the critical aircraft and the approach type are discussed in the next two sections to determine the design standards to be followed when planning future development at HCD.

2.8.1. CRITICAL DESIGN AIRCRAFT

Airport Reference Code (ARC)

Development of the existing and future facilities at an airport relies upon the identification of the most demanding aircraft type currently utilizing or projected to utilize the airport. FAA defines the critical aircraft as an aircraft or a family of aircraft that are expected to conduct at least 500 annual itinerant operations at the airport (one takeoff and one landing is considered two operations).

The Airport Reference Code (ARC) translates the operational and physical characteristics of the aircraft intended to operate at the airport to FAA airport design criteria used at the airport. The ARC is based on

three components. The first ARC component, depicted by a letter, is the *Aircraft Approach Category (AAC)* which correlates to aircraft approach speed (operational characteristics). The breakdown of each category can be seen in **Table 2-4**. The second and third components, depicted by a Roman numeral, are the *Airplane Design Group (ADG)* which relates to aircraft wingspan and tail height (physical characteristics). The physical characteristics for each group can be seen in **Table 2-5**.

Table 2-4
FAA Aircraft Approach Category (AAC)

Category	Approach Speed (knots)	Example Aircraft Type
A	< 91	Cessna 172, Piper Warrior
B	91 - < 121	Beech King Air, Cessna Citation I & II
C	121 - < 141	Learjet 35, Gulfstream 550, B-737
D	141 - < 166	B-757, B-747, B-777

Source: FAA AC 150/5300-13A *Airport Design*

Table 2-5
FAA Airplane Design Group (ADG)

Group	Wingspan (feet)	Tail Height (feet)	Example Aircraft Type
I	< 49	< 20	Beech Baron 58, Cessna 172
II	49 - < 79	20 - < 30	Beech King Air, Cessna Citation Series
III	79 - < 118	30 - < 45	B-737, DC-9, CRJ-900
IV	118 - < 171	45 - < 60	A-300, B-757, B-767
V	171 - < 197	60 - < 66	B-747, B-777
VI	197 - < 262	66 - < 80	Lockheed C-5A, A-380

Source: FAA AC 150/5300-13A *Airport Design*

According to FAA AC 150/5300-13A, *Airport Design*, the ARC does not restrict the type of aircraft that can safely use the airport; the ARC is for planning and design purposes only. The existing design standards at HCD follow ARC B-II standards.

Approach Reference Code (APRC) & Departure Reference Code (DPRC)

An Approach Reference Code (APRC) system is used to determine the current operational capabilities of a runway and associated parallel taxiway with regard to landing operations. An APRC identifies the operational capabilities of a runway using the ARC (AAC and ADG) with planned runway approach visibility minimums to establish design standards. Visibility minimums are expressed in Runway Visual Range (RVR) values, in feet, as defined in **Table 2-6**.

The Departure Reference Code (DPRC) describes the current operational capabilities of a runway and associated parallel taxiway with regard to takeoff operations. It is similar to the APRC and is composed of the ARC, but does not include visibility minimums. In addition, a runway may have more than one DPRC designation.

Table 2-6
Runway Visual Range (RVR) values

RVR (feet)	Approach Type	Visibility Minimums
VIS	Visual – no instrument approach	Not applicable
5000	Non-Precision Approach or Approach with Vertical Guidance	No lower than 1 mile
4000	Approach with Vertical Guidance	Lower than 1 mile but not lower than $\frac{3}{4}$ mile
2400	Precision Approach (Category I)	Lower than $\frac{3}{4}$ mile but not lower than $\frac{1}{2}$ mile
1600	Precision Approach (Category II)	Lower than $\frac{1}{2}$ mile but not lower than $\frac{1}{4}$ mile
1200	Precision Approach (Category III)	Lower than $\frac{1}{4}$ mile

Source: FAA AC 150/5300-13A *Airport Design*

The existing APRC for the Runway 15 end is B-II-4000, and B-II-5000 for the Runway 33 end. The DPRC for both runway ends is B-II. The design requirement categories for each runway end may change over time as design aircraft and approach types change at the airport.

Runway Design Code (RDC)

The Runway Design Code (RDC) signifies the design standards to which the runway is to be built. The RDC is composed of the same three components as the APRC. However, the RDC is based on planned development for each runway and does not have any operational application for the current runway configuration. The RDC will be discussed in greater detail at the end of **Chapter 3.0, Aviation Forecasts**, to determine the runway design standards to be used for the critical aircraft proposed to use the airport over the next 20 years.

2.8.2. APPROACH TYPES

Instrument approach procedures provide arriving pilots with guidance to the airport runway during periods of low visibility. FAA publishes instrument approach procedures defining the horizontal and vertical flight path to land at an airport. Flight visibility and cloud ceiling height minimums are established for each instrument approach procedure based on available navigational aids, airspace obstructions, aircraft equipment, and pilot certification. Visual approaches to a runway have no instrument approach procedure nor do they require additional aircraft or ground equipment. There are three types of instrument approaches:

- **Non-Precision Approach** – A standard instrument approach procedure with horizontal guidance but no vertical descent guidance. Types of non-precision approaches include localizer, RNAV/GPS (area navigation/global positioning system), RNAV/RNP (area navigation/required navigation), NDB (non-directional beacon), and VOR/TVOR (very high frequency omni-directional range/terminal very high frequency omni-directional range). These type of approaches require additional equipment in the aircraft, but no additional ground-based equipment is needed.
- **Approach with Vertical Guidance** – An instrument approach procedure providing electronic course and vertical descent guidance. Additional aircraft equipment is typically required. These approaches can utilize ground-based navigational aids such as a glide slope or can be accomplished with only a satellite based navigational aid such as a Localizer Performance with Vertical Guidance (LPV).
- **Precision Approach** – An instrument approach procedure with both vertical descent guidance and horizontal guidance to the runway. These type of approaches utilize ground based equipment such as an Instrument Landing System (ILS).

Currently, Runway 15/33 has an RNAV (GPS)/LPV approach procedure to both runway ends. The Runway 15 approach has a visibility of $\frac{7}{8}$ mile and the Runway 33 end has a visibility of one mile. In addition there is a VOR approach to the airport with 1 mile visibility minimums.

The nearest precision approach is available at the Wilmar Municipal Airport (BDH) located 35 miles northwest of HCD. The approach minimums are 200 foot cloud ceiling and $\frac{3}{4}$ mile visibility. This approach is a good alternative if weather conditions are below instrument approach minimums at HCD. According to weather data, this occurs 4.52% of the time.

2.9. CLIMATE

Climate considerations for airport planning include wind, temperature, precipitation, cloud cover, and visibility. Minnesota experiences a humid continental climate characterized by large seasonal temperature differences. This climate experiences frigid winters and warm summers. Precipitation is generally distributed year-round.

Wind data is important as it helps define runway orientation at an airport. Aircraft are designed to take off and land into the wind. Crosswinds and tailwinds can create a hazardous situation for pilots, particularly those flying smaller aircraft.

The National Climatic Data Center in Ashville, North Carolina collects wind data through an Automated Weather Observation System (AWOS) at the airport. FAA recommends ten years of wind data be collected at the airport site or the closest airport site where data is available. HCD has an AWOS on site that collects wind data, see the photo on the right side of the page. The analysis below includes hourly wind direction and speed observations for the period from January 1, 2003 through December 31, 2012.



The existing wind coverage for the primary runway at HCD is summarized in **Table 2-7**. FAA recommends a primary runway orientation provide 95% wind coverage. When this is not achieved, a crosswind runway may be needed. The allowable crosswind component per RDC is 10.5 knots for RDC A-I; 13 knots for RDC A-II and B-II; 16 knots for RDC A-III, B-III, C-I through C-III, and D-I through D-III; and 20 knots for RDC A-IV and B-IV, C-IV through C-VI, D-IV through D-VI and E-I through E-VI. The allowable crosswind component at HCD is 13 knots for RDC B-II.

Table 2-7
All-Weather Wind Coverage

Runway	Crosswind Component	
	10.5 knots	13.0 knots
15/33	91.19%	95.48%

Source: National Climatic Data Center for Hutchinson, MN (2003-2012)

The 95% wind coverage is achieved with B-II and A-II aircraft, but not for A-I/B-I or smaller aircraft that may use HCD. Since 95% wind coverage is not achieved for the 10.5 knot crosswind component, a crosswind runway may be needed at HCD. This will be further evaluated in **Chapter 4.0, Facility Requirements**.

Temperature is important in determining required runway length. Warm temperatures cause the air to become less dense, thus requiring aircraft to use more runway length for takeoff. Precipitation also causes

contamination of the runway leading to longer runway lengths being required. Cloud cover and visibility influence the need for navigational aids and approach procedures to runways.

The mean maximum temperature in the hottest month (July) from 1896 to 2012 is 83 degrees Fahrenheit. Average total annual precipitation is 29.3 inches, with a maximum of 4.7 inches in June. Average annual snowfall is 41.86 inches.

2.10. AIRSIDE FACILITIES

The existing airside facilities are defined as the airport features that support aircraft operations. These include runways, taxiways, aprons, navigational aids, and visual aids. **Figure 2-3**, at the end of this chapter, depicts existing facilities at the airport.

2.10.1. RUNWAYS

The primary runway at the airport, Runway 15/33, is 4,000 feet in length, 75 feet in width, and has a paved bituminous surface. Runway 15/33 is marked with non-precision runway markings delineating the centerline and each threshold. The runway is lit with Medium Intensity Runway Lights (MIRLs) for better visibility of the pavement edge during night operations or times of inclement weather. The runway is relatively flat with an effective gradient, (a measure of elevation change), of 0.2%. The published pavement strength is 12,500 pounds or less in a single-wheel landing gear configuration. A runway with this pavement strength is considered a utility runway. The runway is designed to B-II-4000 standards. This signifies the current operation capability of accommodating aircraft with approach speeds up to 121 knots, wingspans up to 79 feet, and runway approaches lower than one mile but not lower than $\frac{3}{4}$ mile. A picture of Runway 15/33 can be seen on the right side of this page.



Currently, the transverse grades between the runway and taxiway are too steep and have caused damage to aircraft that have veered off the runway. These issues will be addressed in **Chapter 4.0, Facility Requirements**.

2.10.2. AIRPORT VISUAL AIDS

Airport visual aids are important features that provide airport visual references to pilots, especially during low visibility or night operations. The various visual aids available at HCD are summarized below:

Rotating Beacon: A rotating beacon identifies the location of an airport facility to pilots in the air. Most civilian general aviation airports alternate white and green lights from dusk until dawn, and during instrument flight rules (IFR) conditions. The rotating beacon is located west of Runway 15/33 near the wind cone (see **Figure 2-3** at the end of the chapter). A picture of the rotating beacon is located on the right side of this page.



Runway Edge and Threshold Lighting: Runway edge and threshold lights are installed to outline the edges of runways in low-light and restricted visibility conditions. White/amber lights identify the runway edge, while red/green lights identify the runway threshold at each end. Runway lighting systems have three different intensity levels; low, medium, and high depending on the classification of the runway. HCD has medium intensity runway lighting (MIRL) installed along Runway 15/33. The lights are stake-mounted and are currently in fair condition.

Taxiway Edge Lighting/Marking:

Taxiway edge lights or markers outline the edges of taxiways. Taxiway lights are blue and have low and medium intensity systems available. Retro-reflective markers, using reflective blue tape mounted on a pole, may be used in lieu of



taxiway lighting as a low cost alternative. HCD has taxiway edge lighting installed along each of the five connecting taxiways. Retro-reflective markers are installed along parallel Taxiway A and can be seen in the picture on the right side of this page.

Runway Markings: Runway markings are installed for visual identification of a paved runway during all weather conditions. Markings vary in complexity based on the type of approach for a runway; visual, non-precision instrument, and precision instrument. Runway 15/33 has non-precision runway markings delineating the runway centerline and threshold. The runway markings are currently in good condition.

Guidance Signs: Guidance signs provide location, direction, and guidance information to pilots. Mandatory signs are to be placed at intersections with runways to indicate critical holding areas. Guidance signs have been installed at HCD. The signs are in excellent condition, however the numbering convention and the setback from the runway need to be corrected. This will be done with the next runway improvement project. A picture of a guidance sign is located on the right side of this page.



Runway End Identifier Lights (REILs): REILs are installed to provide rapid and positive identification of the approach end of a runway during night and low visibility conditions. The REILs system consists of two synchronized flashing white strobe lights, located laterally on each side of the runway facing the approach path. HCD has REILs installed at both ends of Runway 15/33.

Visual Glide Slope Indicators (VGSI): VGSI provide vertical guidance to the runway to ensure the proper glide path is maintained for landing. Short Approach Visual Approach Slope Indicator (SVASI), Visual Approach Slope Indicator (VASI), and Precision Approach Path Indicator (PAPI) lights are types of visual aids installed to provide guidance information. HCD has a four-box PAPI system installed on each end of the runway (see **Figure 2-3**).

2.10.3. NAVIGATIONAL AIDS

Instrument navigation aids are satellite or ground based equipment established to provide pilots with critical guidance information to the airport environment. With the proper equipment and procedures developed, pilots can use the instrument navigational aids for horizontal and/or vertical guidance to a waypoint or a runway. Navigational aids include:

Very-high frequency Omni-directional Range (VOR): Ground-based facilities that provide distance and radial information used for non-precision en-route and terminal navigation. A VOR station is located near HCD in Darwin, Minnesota. This facility also has Distance Measuring Equipment (DME) to provide distance information to pilots. An approach procedure to HCD has been developed from this VOR/DME facility.

Instrument Landing System (ILS): Ground-based facilities (Localizer Antenna, Glide Slope Antenna, Approach Lighting System) that provide distance, horizontal, and vertical guidance information to runway ends where installed. The closest runway with an ILS is located at Willmar Municipal Airport (BDH), 35 nautical miles northwest of HCD.

Global Positioning System (GPS): Equipment and satellites that enable pilots to navigate to a waypoint without the need for primary ground-based equipment. GPS provides horizontal guidance, but can also provide vertical guidance for instrument approaches with published procedures. GPS with vertical guidance is called Localizer Performance with Vertical Guidance (LPV) procedures. There are straight-in GPS approach procedures to both runway ends at HCD.

Non-Directional Beacon (NDB): Ground-based facilities that provide horizontal directional guidance. The closest non-directional beacon (NDB) for pilot navigation is located in Glencoe, approximately 14 miles southeast of Hutchinson. NDBs are currently being decommissioned by FAA in lieu of GPS navigation.

2.10.4. METEOROLOGICAL FACILITIES

Timely weather information is important to the safety of aircraft operations. Pilots can locally obtain weather information from the following sources:

Wind Cone: The wind cone is used to indicate wind direction at HCD. The wind cone is located west of Runway 15/33 towards the middle of the runway. The wind cone is visible to pilots from either runway end (see **Figure 2-3**). A picture of the wind cone can be seen on the right side of the page.

Automated Weather Observation System (AWOS): An AWOS measures critical meteorological data on-site at airports including wind speed, wind direction, temperature, dew point, cloud coverage and ceiling, visibility, precipitation, and barometric pressure. HCD has an AWOS facility west of Runway 15/33 (see **Figure 2-3**).



2.10.5. TAXIWAYS AND TAXILANES

A taxiway system at an airport provides access to and from the runways, aircraft apron, and hangar facilities. Taxiways are constructed for safety purposes to expedite the flow of departing and arriving aircraft from the runway. A taxiway system consists of parallel taxiways and/or connecting taxiways.

Runway 15/33 has a full parallel taxiway (Taxiway A) with five (5) connector taxiways providing access to the main runway (see **Figure 2-3**). The existing parallel taxiway is 40 feet wide. The separation distance between the taxiway centerline and the runway centerline is 300 feet. There are Medium Intensity Taxiway Lights (MITL) located at the intersections of the taxiways and runway, with reflectors located along the remaining portions of the taxiway.

Taxilanes are used within the building area to provide access from the apron to the hangars. There are taxilanes on the north and south ends of the building area. They provide access to the T-hangars at HCD.

2.10.6. APRON

The aircraft apron provides an area for aircraft parking, aircraft storage, aircraft movements, fueling operations, and access to the A/D building and other hangars. The existing apron is approximately 14,200 square yards and is located to the east of the primary runway (see **Figure 2-5**). The apron was reconstructed in 2000. There are 15 in-pavement tie-downs available for aircraft parking. A picture of the apron can be seen on the right side of the page.



2.10.7. PAVEMENT CONDITION

In order to continue to receive federal funding, all airports must implement a pavement maintenance program for any pavement constructed or repaired with federal money. MnDOT helps airports with this grant assurance by having a research company prepare pavement evaluation reports. All airports within the state are evaluated on a three year cycle. An evaluation update was completed for HCD in 2013. The evaluation report identifies the Pavement Condition Index (PCI) for each pavement section at the airport. The rating is used to identify pavement improvement needs based on FAA AC 150/5380, *Guidelines and Procedures for Maintenance of Airport Pavements*, and American Society for Testing and Materials (ASTM) D5340. The pavement ratings are shown in **Table 2-8**.

Table 2-8
PCI Ratings

Rating	PCI Rating	Work Repair Levels
Excellent	86 – 100	Preventive Maintenance
Very Good	71 – 85	
Good	56 – 70	Major Rehabilitation
Fair	41 – 55	
Poor	26 – 40	Reconstruction
Very Poor	11 – 25	
Failed	0 – 10	

Source: Minnesota Airport System Pavement Evaluation 2013 Update for Hutchinson Municipal Airport

Periodic pavement rehabilitation projects have been completed at the airport in recent years. **Table 2-9** summarizes the PCI rating for each major pavement section at HCD. These areas are graphically represented in **Figure 2-4** at the end of this chapter.

Table 2-9
Pavement Condition

Pavement Area	Last Construction Date(s)	2013 PCI
Runway 15/33	1994	66
Apron	2000	70/87
Parallel Taxiway and Connector Taxiways	2010	60 - 79
Taxilane (North Hangar Area)	2000	75
Taxilane (South Hangar Area)	1990 - 2000	26 - 71

Source: HCD Pavement Evaluation Report (2013), MnDOT Aeronautics

The pavement at HCD ranges from poor to excellent condition. The areas in the poorest condition include the area surrounding one of the south T-hangars and the connecting taxiway closest to the apron. These areas require major rehabilitation and possibly reconstruction in the near-term.

2.11. LANDSIDE FACILITIES

2.11.1. ARRIVAL/DEPARTURE (A/D) BUILDING

An A/D building is utilized at a general aviation airport to provide an area for local and transient pilots and passengers to transition to and from the aircraft operations area. The A/D building at HCD was constructed in 1999, see photo on the right side of the page. The facility is approximately 3,000 square feet in size. Facilities include restrooms, conference room, office, lounge space for local and transient pilots, and computer access for flight planning. The building is located in close proximity to the hangar and apron area (see **Figure 2-5**, at the end of this chapter, for a detailed layout of the building area).



2.11.2. AUTOMOBILE ACCESS & PARKING

The primary airport access road is located off of State Highway 15. The access road is a bituminous surface. There is no controlled access to the airport.

The airport automobile parking lot is paved and has 45 automobile parking stalls in immediate proximity to the A/D building (see **Figure 2-5**). The parking lot is commonly used by airport business employees, visitors, and transient passengers. Airport tenants commonly park their vehicle adjacent to their aircraft storage hangar.

2.11.3. AIRCRAFT STORAGE

Aircraft storage hangars provide indoor storage for aircraft and aircraft tie-downs provide outdoor storage. Hangar facilities at HCD were initially developed south of the apron. Subsequent hangar buildings have been constructed north of the A/D building and apron area. There are three 8-unit T-hangars and one 11-unit T-hangar with open sides at HCD in addition to six private hangars and one public hangar, see photo on the right side of the page. All enclosed storage spaces are full. There are some open-sided hangars that are available for rent. In addition to hangar/covered storage, there are 15 tie-downs available on the apron for outside storage (see **Figure 2-5**).



2.11.4. HELICOPTER PARKING

Helicopter parking is located in the southwest corner of the apron (see **Figure 2-5**). Lifelink III used this area for parking its helicopter for 8 years. It remains an electrically powered helicopter parking area for helicopters arriving at HCD.

2.11.5. AIRPORT FUEL SYSTEM

The City of Hutchinson owns and operates the airport fuel facility located on the apron next to the A/D building (see **Figure 2-5**, and the photo on the right side of the page). The facility includes one 10,000 gallon 100LL (100 low lead) above ground fuel tank. The fuel tank was found in good condition, refurbished, and moved to its current location in 1998. There is also a 12,000 gallon above ground Jet A fuel tank. Fuels are dispensed through fueling pumps. A credit card reader allows for 24-hour self-fueling operations.



2.11.6. FIXED BASE OPERATOR (FBO) & OTHER AIRPORT BUSINESSES

A common airport tenant is an FBO. An FBO is a commercial business providing one or more aviation-related services to the general flying public. Examples of these services include aircraft maintenance, flight instruction, charter services, aircraft fueling, aircraft parking, and hangar storage. Other airport tenants may include aviation related businesses that provide more specialized aeronautical services. Hutchinson Aviation served as the FBO at the HCD until May 2014, when ASI Jet AG Division, LLC (ASI) took over. ASI provides aircraft maintenance and is a Thrush aircraft authorized service center. The FBO can be seen in the picture on the right side of the page.



There are currently four businesses that have seven agricultural spray airplanes on the airfield. There has been a trend in the agricultural industry to consider the cost/benefit option of using aerial spraying equipment instead of wheeled boom-type sprayers. Wheeled boom-type sprayers may cause unwanted soil compaction on farm fields. In addition, the increasing use of micro-nutrients and micro-pesticide applications reduces the overall amount of chemicals added onto the field. This reduces costs and allows

for a safer food supply. Many of these applications are done at a specific time during plant development, making aerial application a viable alternative. These developments support continued growth in agricultural spraying operations.

2.11.7. AIRPORT MAINTENANCE

The City of Hutchinson is responsible for monitoring the condition of the airport, completing snow removal and also grass cutting activities. The FBO coordinates with City staff as needed for additional snow removal or grass mowing, building repairs, periodic minor pavement repairs, and overall maintenance of the airfield.

Airport maintenance equipment storage is located off-site in the City equipment buildings. The City owns dedicated airport snow removal equipment consisting of a tractor with plow and snow blower.

2.11.8. UTILITIES & DRAINAGE

HCD is not connected to City sewer and water. Electrical and natural gas service is available at all buildings at the airport. Telephone and internet service is also available from local phone, cable, and satellite companies.

Culverts and swales divert water from the building area, runways, and taxiways to the natural discharge points of local wetlands for groundwater infiltration. No stormwater filtration basins are on-site.

2.11.9. FENCING & SECURITY

Airport fencing is installed to deter or prevent unauthorized access by persons or vehicles onto airport property, as well as define outer airport property boundaries. Fencing is also installed for wildlife protection. The existing airport property is not fenced. Access from the parking lot to the airfield is uncontrolled.

2.11.10. AIRPORT PROPERTY

Airport property consists of 288.11 acres, owned in fee title by the City of Hutchinson. Since the previous Airport Layout Plan, the City completed a land swap with McLeod County which exchanged 3.73 acres of the northeast portion of Parcel 3 for 4.48 acres of property south of Airport Road. The existing parcel boundaries can be seen within the Airport Layout Plan update completed as a part of this project.

The City has also acquired 59.36 acres in easement within the approaches of the primary runway to protect airport airspace and land use compatibility interests. This number differs from the previous Airport Layout Plan to take into consideration the fact that Parcel 9 (originally an easement) was later purchased in fee as part of Parcel 14. The acres for Parcel 9 were not counted in the total existing easement numbers to avoid duplication. See **Figure 2-3** at the end of this chapter.

2.12. LAND USE AND DEVELOPMENT

FAA and MnDOT Office of Aeronautics strongly recommend airport sponsors maintain airspace and land uses compatible with airport operations. Airport land use compatibility means planning and controlling land uses in and around airports to promote use and development that does not create restrictions to the airport, or hazards to persons or property on the ground and the flying public. Maintaining compatible land use is an FAA grant assurance and is driven by the design standards for the airport. Land uses should be controlled within the airport property, runway protection zones, approach areas, and the general vicinity of the airport.

Minnesota State Statue Chapter 360 requires owners of public airports to enact airport land use and airspace safety zoning standards. The Minnesota Airport Land Use Compatibility Manual published in 2006 provides additional resources on this topic.

2.12.1. LAND USE PLANS

The County Comprehensive Plan was last updated in 1990. The Comprehensive Plan for the County should be updated to account for recent city development trends and likely projections. The plan acknowledges much of the development that occurs within the County’s jurisdiction is on the fringe of municipalities.

The County’s Zoning Districts are highlighted in **Figure 2-6**, at the end of this chapter. The County Zoning Ordinance identifies several platted subdivisions in the area surrounding HCD. The platted areas to the north of the airport are outside of Safety Zone A for the existing 4,000-foot runway. **Chapter 4.0, Facility Requirements** will address the location of the platted subdivisions in relation to the future airport configuration. The City is aware of the restrictions around the airport and has worked closely with airport staff to determine potential residential growth areas near the airport.

The City of Hutchinson Comprehensive Plan identifies property surrounding HCD as guided for future infrastructure improvements. Investment in local infrastructure suggests greater density land uses will be pursued. These land uses have the potential to be incompatible with airport operations. Areas immediately outside of Hutchinson City Limits are identified in the Comprehensive Plan as a ‘joint planning district’. This joint planning group must guide critical areas surrounding HCD for land uses compatible with airport operations. The airport must restrict land uses that would create obstructions or lead to a congregation of people in the runway approach. The City of Hutchinson and McLeod County Comprehensive Plans should be amended to acknowledge HCD is an essential public facility that serves an important public transportation role. The Comprehensive Plan should guide land uses surrounding the airport to protect the flying public and people and property on the ground.

A residential neighborhood is located immediately east of the airport, outside of City limits. In addition, the areas to the northwest of the airport are currently zoned as Medium Density Residential and Single Family Residential. The growth in this area will need to be monitored and the Airport Zoning Ordinance needs to be enforced to avoid impacts to the existing and future plan for the airport (see **Figure 2-6**).

2.12.2. CONDITIONAL USE PERMIT

The airport is classified by the City of Hutchinson as a Conditional Use within these areas. The airport lies entirely within City limits and prior to any airport construction project, a conditional use permit must be applied for with the City Planning Commission. The City Planning Commission will review the application and make a recommendation to the City Council for approval.

2.12.3. RUNWAY PROTECTION ZONE & MNDOT CLEAR ZONE

FAA has established land use standards in the form of a Runway Protection Zone (RPZ). An RPZ area is designed to enhance protection of persons and property on the ground in the vicinity of the runway. An RPZ has a trapezoidal shape centered along the runway centerline and begins 200 feet beyond the end of each runway end at HCD. FAA prefers the RPZ be clear of structures, roads or other obstructions, and purchased in fee whenever practicable. RPZ dimensions are based on the runway design code and approach types established for each runway end.

According to FAA, land uses prohibited in the RPZ include buildings, residences, and places of public assembly (i.e. churches, schools, hospitals, office buildings, shopping centers, and other uses with similar concentrations of persons). FAA published interim guidance about land uses within RPZs in 2012. If the

RPZ dimensions or locations change, or if there is a local development proposal through the RPZ, FAA expects the RPZ to be clear of the following land uses:

- Building and structures
- Recreational land uses
- Transportation facilities (including public roads/highways, vehicular parking facilities)
- Fuel storage facilities
- Hazardous material storage
- Wastewater treatment facilities
- Above ground utility infrastructure

If clearing the RPZ of the above mentioned land uses is not economically feasible or no proposed alternative is reasonable to other surrounding entities such as County or State officials, coordination with FAA is required. An alternatives analysis must be performed to avoid the new land use, minimize its impact within the RPZ, or mitigate risk to people and property on the ground.

There is a separate approach RPZ and departure RPZ for the Runway 15 end due to approach minimums for B-II aircraft being less than 1 mile. The starting point of each RPZ is the same, however the dimensions for the RPZs are different (see **Figure 2-3**). **Table 2-11** lists the dimensions of the RPZs for each runway end at HCD.

MnDOT Office of Aeronautics has developed Clear Zone (CZ) standards which are adopted as part of department policy. These dimensions vary from the RPZ areas defined by FAA (see **Figure 2-3**). MnDOT Office of Aeronautics requires the CZ to be acquired in fee to continue to receive airport development funding. Similar to the RPZ, dimensions for the CZs are defined by runway classification, instrument approach type, and instrument approach minimums. **Table 2-11** lists the existing MnDOT Office of Aeronautics CZ dimensions at HCD.

Table 2-11
FAA RPZ & MnDOT CZ Dimensions

Runway	RPZ Dimensions (Inner width x length x outer width)	Clear Zone Dimensions (Inner width x length x outer width)
15 Existing	Approach RPZ: 1,000' x 1,700' x 1,510' Departure RPZ: 500' x 1,000' x 700'	500' x 1,000' x 800'
33 Existing	500' x 1,000' x 700'	500' x 1,000' x 800'

Source: FAA AC/150 5300-13A *Airport Design*; MnDOT Office of Aeronautics, Planning & Zoning (2007)

The City of Hutchinson owns airport property that covers the majority of the RPZs. Avigation easements are in place over other critical areas for Runway 15/33 to protect critical airspace (see **Figure 2-3**). A portion of the Runway 15 approach RPZ is not owned in fee by the City. RPZ's at the airport are free from any incompatible land uses. This Airport Master Plan will evaluate future runway configurations and any potential incompatibilities or necessary land acquisitions that may be necessary as a result of planned airport expansion.

2.12.4. STATE AIRPORT ZONING

The State of Minnesota under Minnesota Statute Chapter 360 requires public airports to enact an overlay airport zoning ordinance to:

- Protect the airport from incompatible land uses that could interfere with the safe operation of the airport.
- Protect public safety by reducing the potential for fatalities, property damage, or noise complaints within the vicinity of the airport.
- Protect the public investment made by taxpayers in the airport and maintain the economic benefits it provides to the region.

MnDOT airport zoning land use restrictions are defined below:

- Safety Zone A extends outward from the end of the primary surface on the extended runway centerline a distance equal to two-thirds of the runway length or planned runway length. This zone does not allow buildings, temporary structures, uses that create wildlife hazards, or similar land use structural hazards; and should be restricted from uses that would create, attract, or bring together an assembly of people. Typical allowed land uses in Zone A include agriculture, cemetery, and automobile parking.
- Safety Zone B extends farther outward from Safety Zone A, a distance equal to one-third the runway length or the planned runway length. This safety zone allows buildings on sites that encompass three or more acres; actual allowable building site area depends on the size of the parcel. Zone B should not create, attract, or bring together an assembly of people that would exceed 15 times the size of the parcel. Zone B cannot have more than one building plot area on which numerous structures can be constructed.
- Safety Zone C encompasses all of the land enclosed within the perimeter of the FAA horizontal surface that is not included in Safety Zone A or Safety Zone B. Zone C shall not contain land uses that create or cause interference with the operation of radio or electronic communications between the airport and aircraft, make it difficult for pilots to distinguish between airport lights and other lights, result in glare, impair visibility of the airport vicinity, or endanger aircraft operations.

A multi-jurisdictional Hutchinson Municipal Airport Zoning Ordinance was adopted in 1984 by the Hutchinson Municipal Airport Zoning Board consisting of representatives from the City of Hutchinson, McLeod County, and Hassan Valley and Lynn Townships, pursuant to the provisions and authority of Minnesota Statutes 360.063. The Airport Zoning Ordinance was enacted to protect for the future airport configuration to meet minimum State standards. The Joint Airport Zoning Board in 1984 planned for an 800-foot runway extension to the north for a total runway length of 4,000 feet which has since been constructed. Therefore, the Zoning Ordinance protects for the existing runway configuration and conforms to the MnDOT model Airport Zoning Ordinance. The Airport Zoning Ordinance does not protect for the crosswind runway identified in the 2008 ALP. An update to the Airport Zoning Ordinance may be necessary to protect for the future runway configuration. The future runway configuration will be addressed in **Chapter 4.0, Facility Requirements**. The multi-jurisdictional zoning ordinance is administered by the City of Hutchinson and McLeod County. **Figure 2-6**, at the end of this chapter, shows both the existing airport zoning and underlying zoning at HCD.

2.12.5. COMMERICAL THROUGH-THE-FENCE

In 1994 Skydive Hutchinson began operations at HCD. There were approximately 1,500 dives in June and July of 1994. A through-the-fence agreement was reached in August 1994, and in September the taxiway to the Skydive Hutchinson property was completed. Operations and the through-the-fence agreement ended in 2005, and no skydiving operations have been seen in the last five years. The taxiway and the property still remain, however the taxiway has not been maintained. The property is currently for sale, and the taxiway connector to the property will be removed with the next runway project.

2.13. ENVIRONMENTAL OVERVIEW

The purpose of this section is to provide a general overview of environmental features which should be considered in the alternatives analysis. The intent is not to perform detailed analysis, but rather to assemble readily available information in a systematic manner. More comprehensive environmental analysis would be performed during the National Environmental Policy Act (NEPA) process to be discussed in the Implementation section of this Master Plan. **Figure 2-7** and **Figure 2-8**, at the end of this chapter, depict important environmental considerations in and around HCD.

2.13.1. AIR QUALITY CLASSIFICATION

The Clean Air Act (CAA) established National Ambient Air Quality Standards (NAAQS) for six pollutants (particulate matter, ground-level ozone, carbon monoxide, sulfur oxides, nitrogen oxides, and lead) termed “criteria pollutants.” There are no non-attainment areas in McLeod County. General conformity regulations do not apply to a Federal action in an area that is designated attainment for all six criteria pollutants.

2.13.2. AQUATIC CONCERNS

Airport Drainage

General drainage patterns for the airport are depicted on **Figure 2-7**. Drainage from the runway, taxiway, infield, and hangar areas is generally routed west to a north-south ditch along the westerly border of the airport. This ditch drains south to McCuen Creek approximately 1,000 feet south of Runway 33. McCuen Creek drainage runs east approximately 3.5 miles discharging to South Fork Crow River. Most of the airport stormwater conveyance is overland flow, with culverts and conveyance piping under taxiway and runway pavements where needed. Drainage from the east side of the hangar areas generally runs over land east to the State Highway 15 ditch.

Rivers

The closest river to the airport is the South Fork Crow River, approximately two miles to the east. As described above, most airport drainage goes to McCuen Creek, which flows east ultimately to the South Fork Crow River. The South Fork Crow River in this reach has been categorized as Impaired by the Minnesota Pollution Control Agency (MPCA) for mercury and turbidity. This status elevates treatment requirements for drainage originating within a mile of the river. Since the airport is more than a mile from South Fork Crow River, these requirements do not apply. McCuen Creek is not designated as Impaired by the MPCA.

Wetlands

The Clean Water Act affords protection for wetlands by the U.S. Army Corps of Engineers (USACE) under Section 404 and by the McLeod County Soil and Water Conservation District as the local administrator of the Minnesota Wetland Conservation Act (WCA). The Minnesota Pollution Control Agency provides water quality review and certification related to USACE permitting under Section 401 of the Clean Water Act. Projects that result in wetland impacts are required to demonstrate wetland impact avoidance and minimization in a permit application. The WCA and federal Clean Water Act have an established sequencing process for avoidance and minimization of impacts. Wetland impacts that cannot be feasibly avoided or minimized must be replaced by compensatory mitigation.

The National Wetland Inventory (NWI) wetlands on and in the vicinity of the airport property are depicted on **Figure 2-7**. It can be seen that three wetland areas are identified on or directly adjacent to the airport:

- West of the middle-southern portion of Runway 15/33

- At and east of Runway 15
- Directly east-northeast of the southerly hangar area

The nature of this mapping relative to existing airport conditions identifies the NWI information is dated. A runway extension project in the early 1990's resulted in approximately eight acres of encroachment into the north wetland. Consistent with applicable regulatory requirements, this impact was mitigated by enhancing the wetland area west of Runway 15/33. The NWI identifies a wetland near the building area as can be seen on **Figure 2-7**. A wetland evaluation was conducted prior to building area development completed in 1999 and found no evidence of wetland resources in the area. Potential mitigation for future airport projects will need to consider the proximity to the airport as it relates to wildlife attractants.

Floodplains

Floodplains are defined in Executive Order 11988, *Floodplain Management*, as:

“...the lowland and relatively flat areas adjoining inland and coastal waters including flood prone areas of offshore islands; including, at a minimum, that area subject to a one percent or greater chance of flooding in any given year.”

This definition refers to any area that would be inundated with floodwaters from a 100-year flood.

To meet Executive Order 11988, federally approved actions must avoid the floodplain, if a practicable alternative exists. If no practicable alternative exists, actions in a floodplain must be designed to minimize adverse impact to the floodplain's natural and beneficial values. The design must also minimize the potential risks for flood-related property loss and impacts on human safety, health, and welfare.

HCD is not in or in proximity to Federal Emergency Management Agency (FEMA) floodplain areas.

2.13.3. TERRESTRIAL CONCERNS

Soils

Soils on and adjacent to the airport are in the “B” or “B/D” categories in the US Department of Agriculture's hydrologic classification system. “A” soils have the highest infiltration rates, and “D” soils have the lowest. “B/D” soils have the lowest infiltration rates unless they are drained through tiling or other measures. It can be assumed that any poor soils under and directly adjacent to runways and taxiways were corrected during construction activities.

Prime and Unique Farmlands

The Farmland Protection Act (FPPA) of 1984 (7 USC 4201-4209) as amended, creates the statutory framework for considering important farmlands in Federal actions including federally-funded airport improvements. Using the Farmland Conversion Impact Rating Form (AD-1006), coordination with the local office of the Natural Resource Conservation Service (NRCS) is required to determine if farmland impacts are significant.

It can be seen on **Figure 2-8** there are significant areas of Prime Farmland and Farmland of Statewide Importance on and in the vicinity of the airport. Given the airport is within city limits and relatively close to urban development, it is not anticipated the AD-1006 rating of airport projects will affect implementation of projects. However, this is a factor to consider when planning future projects.

Contaminated Areas

Federal, State, and local laws regulate hazardous materials use, storage, transport, or disposal. These laws may extend liability to past and future landowners of properties containing these materials. In addition, disrupting sites containing hazardous materials or contaminants may cause significant impacts to soil, surface water, groundwater, air quality, and the organisms using these resources.

A search of the Minnesota Pollution Control Agency database did not identify any contaminated sites on or in proximity to the airport. Information is provided that underground fuel tanks have been removed from the site and one 10,000 gallon aboveground storage tank remains. Based on the inventory at the airport, there are two above ground storage tanks at the airport. One is used for 100LL fuel and one is used for Jet A fuel. The MPCA report identifies there have been no compliance or enforcement actions associated with fuel tanks at the airport.

Habitat-Endangered/Threatened Species

Based on US Fish and Wildlife Service (USFWS) information, there is only one federally listed Threatened, Endangered, Proposed, or Candidate species in McLeod County. That is the Poweshiek Skipperling (*Oarisma poweshiek*), which is a Candidate Species. Candidate species are plants and animals for which the USFWS has sufficient information on their biological status and threats to propose them as endangered or threatened under the Endangered Species Act. The Poweshiek Skipperling is a small moth-like butterfly. Its habitat is native prairie. Future airport projects would not impact areas of native prairie, and therefore would not be anticipated to impact this species.

2.13.4. CULTURAL RESOURCES

Residential, Parks, and other Potentially Noise Sensitive Areas

There is a rural residential structure approximately 580 feet southeast of the edge of the Runway 33 parallel taxiway (see **Figure 2-8** at the end of this chapter). This structure is just outside of the Runway 33 RPZ. There is also a group of approximately 20 rural residential homes along State Highway 15 ranging from approximately 700 to 800 feet east of airport operating surfaces.

There are six parks within approximately one mile of the airport (all distances are from the edge of Runway 15):

- Elks Park, approximately 1.1 mile east-northeast
- Linden Park, approximately 1.1 mile north-northeast
- Junior Community Women Park, approximately 1.1 mile north-northwest
- VFW Park, approximately 1.1 mile northeast
- Lion's Park West, approximately 1.2 mile north-northeast
- Legion Park, approximately 1.3 mile northeast

There are four schools within approximately one mile of the airport (all distances are from the edge of Runway 15):

- Ridgewater Community College, 0.9 mile northeast
- Hutchinson Middle School, 1.0 mile north-northwest
- Hutchinson West Elementary School, 1.1 mile northwest
- Hutchinson Senior High School, 1.3 mile north-northwest

There are six churches within approximately one mile of the airport (all distances are from the edge of Runway 15):

- Christ the King Lutheran, 0.9 north
- Oak Heights Covenant Church, 1.0 mile north-northwest
- River of Hope Lutheran Church & Vineyard United Methodist, 1.0 mile north
- Word of Life, 1.1 mile northwest
- Bethlehem United Methodist, 1.3 mile north-northeast
- Church of God, 1.3 mile northeast

A snowmobile trail is located near the airport that traverses through airport property and Zone A of the Airport Zoning Ordinance (see **Figure 2-8**). The snowmobile trail is part of a 158 mile Crow River

Snowmobile Trail sponsored by the Department of Natural Resources (DNR) Grant in Aid (GIA) program. The DNR GIA program guidance documents requires snowmobile clubs or sponsors to receive permission for snowmobile trails to be located on public or private property.

MnDOT Office of Aeronautics has published an “Airport Land Use Compatibility Manual”; the manual suggests the use ‘may or may not be compatible’ with airport operations depending upon if there is a feasible alternative, if the use would lead to a congregation of people in the approach, and if the trail would be considered a structure or require appurtenances such as lighting. Federal Grant Assurances state FAA approval is required to use airport property for non-aeronautical land uses. The City of Hutchinson is working with the snowmobile trail operators to determine the best snowmobile trail route.

Historic and Archaeological

The State Historic Preservation Office (SHPO) database of known historic and archeological sites was queried in November 2013 for any known cultural resources within one mile of the airport. The SHPO database contains no known cultural resources within this search area.

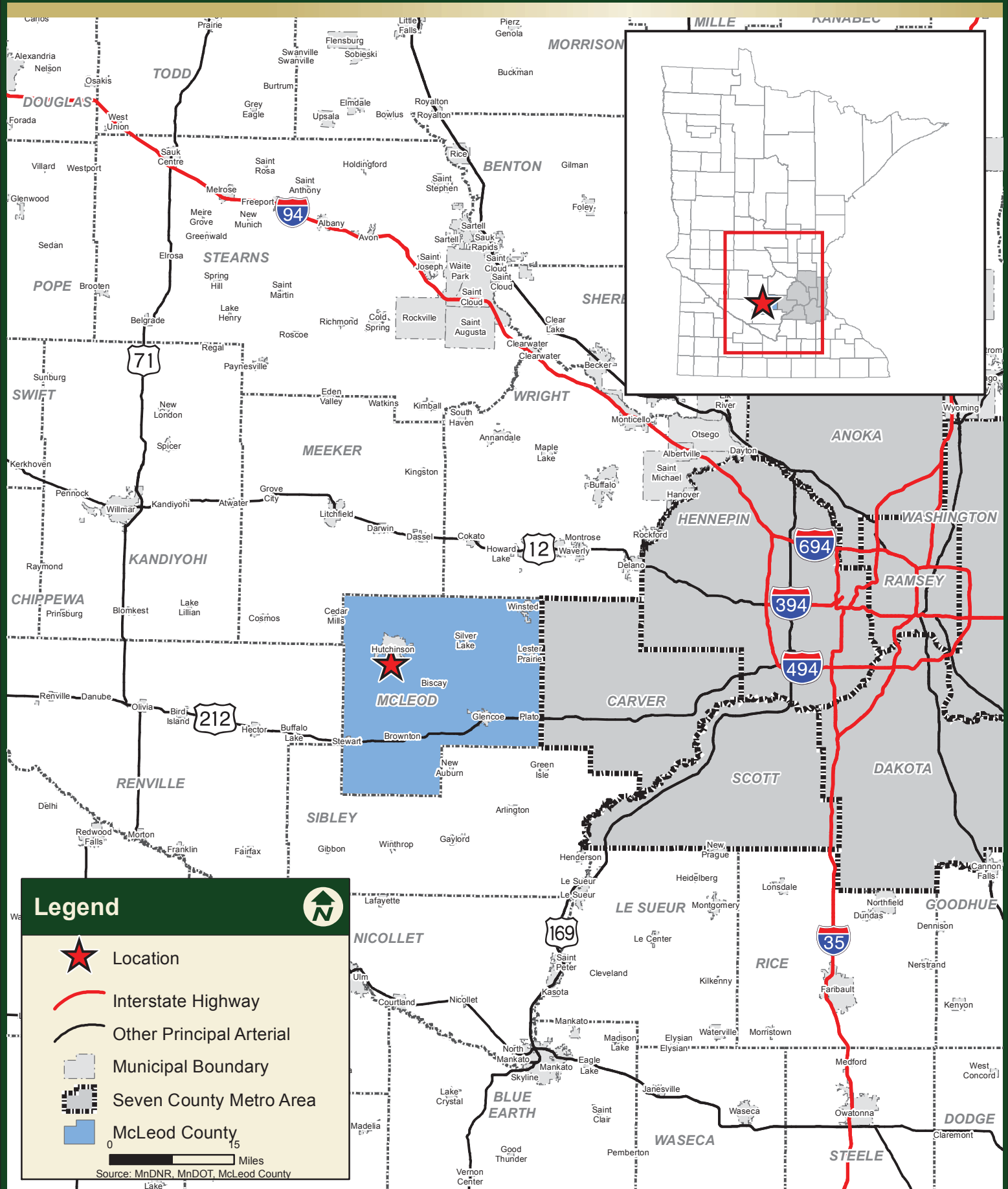
This review is only preliminary. As part of future NEPA review for specific projects advanced on the basis of this Airport Master Plan, more detailed historic and archeological review including site review and field sampling may be required. However, there are no known historic or archeological resources that would factor into the review of project alternatives in this Airport Master Plan.

Wildlife Areas

The closest Wildlife Management Area (WMA) to the airport is the Hutchinson WMA. It is approximately 2.5 miles northwest of Runway 15. It is directly west of Campbell Lake, and approximately one third of a mile north of County Road 7 just outside the city limits. WMAs are part of Minnesota’s outdoor recreation system and are established to protect those lands and waters that have a high potential for wildlife production, public hunting, trapping, fishing, and other compatible recreational uses. They are owned by the State and managed by the Minnesota Department of Natural Resources (DNR). The Hutchinson WMA is approximately 49 acres in size. It contains grassland and wetland habitat at the north end of Campbell Marsh. It is closed to the hunting and trapping of all species.

General Land Use Concerns - Roadways

The most significant land use constraints regarding the potential lengthening of Runway 15/33 are roadways at both ends of the runway. At the north end, Airport Road (County Highway 115) was realigned at the time of the runway extension project in the early 1990s to allow FAA RPZ and MnDOT Office of Aeronautics CZ requirements existing at that time to be met. Any lengthening of the runway at the north end would require an RPZ study and, likely, further roadway realignment. At the south end, State Highway 15 is already approximately 80 feet within the RPZ and 150 feet within the CZ. As with the north end, any lengthening of Runway 33 would require an RPZ study and, ultimately may require a roadway realignment.





Hutchinson Municipal Airport

Airport Master Plan

Figure 2-2

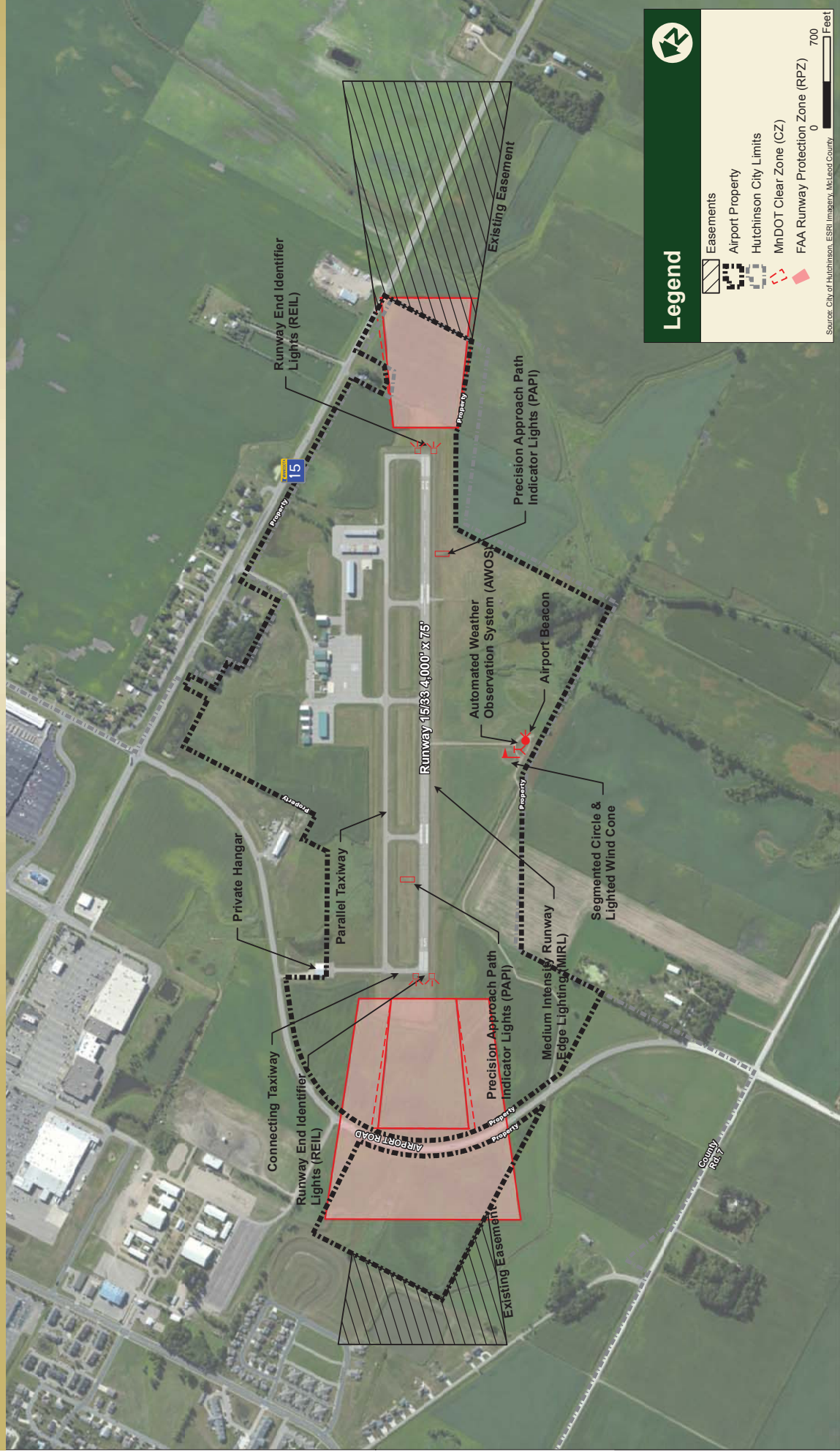
Airport Location Map





Hutchinson Municipal Airport Airport Master Plan

Figure 2-3
Existing Airport Layout





Hutchinson Municipal Airport Airport Master Plan

Figure 2-4
2013 Pavement Condition
Index (PCI) Rating





Hutchinson Municipal Airport Airport Master Plan

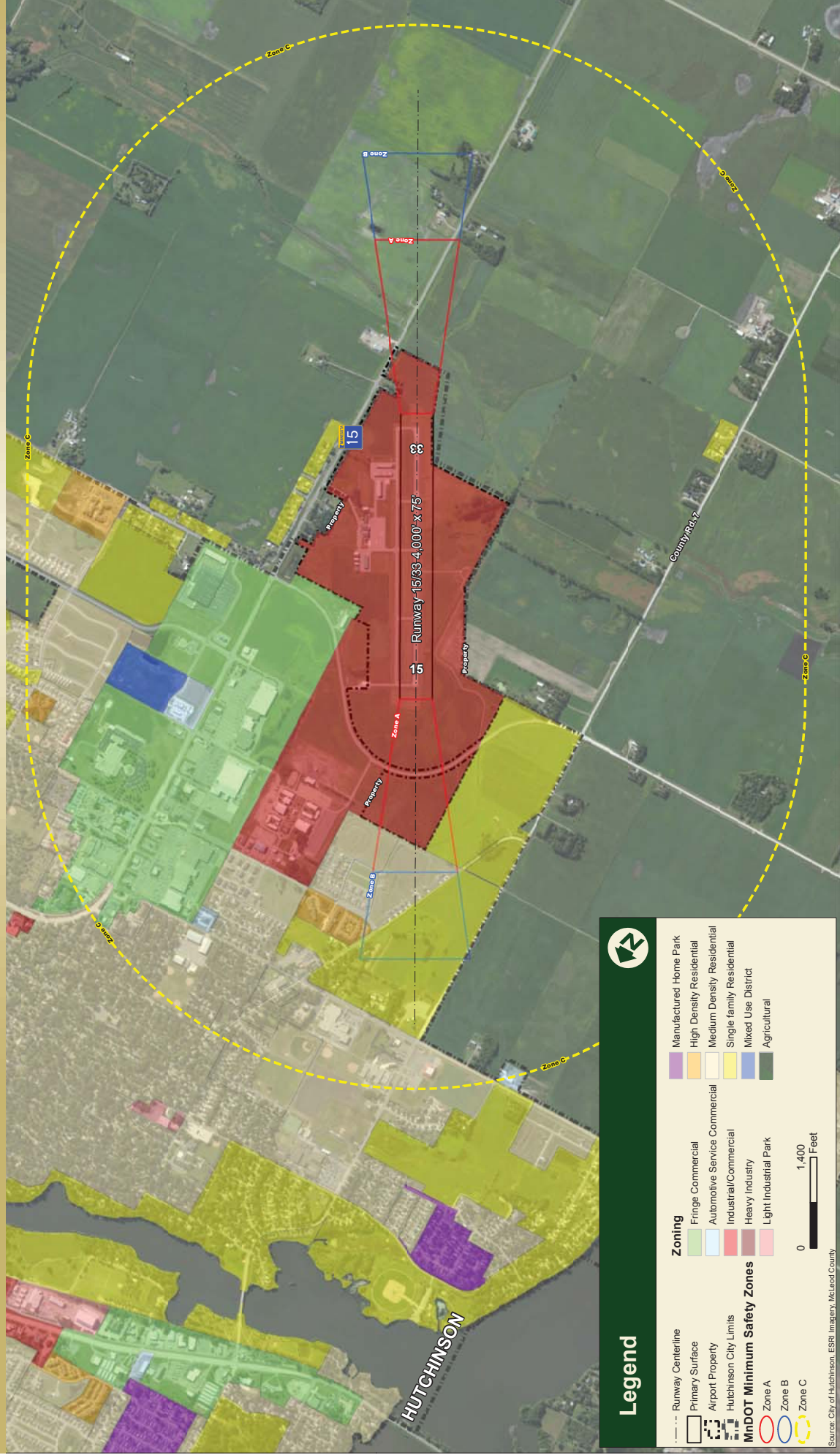
Figure 2-5
Existing Building Area

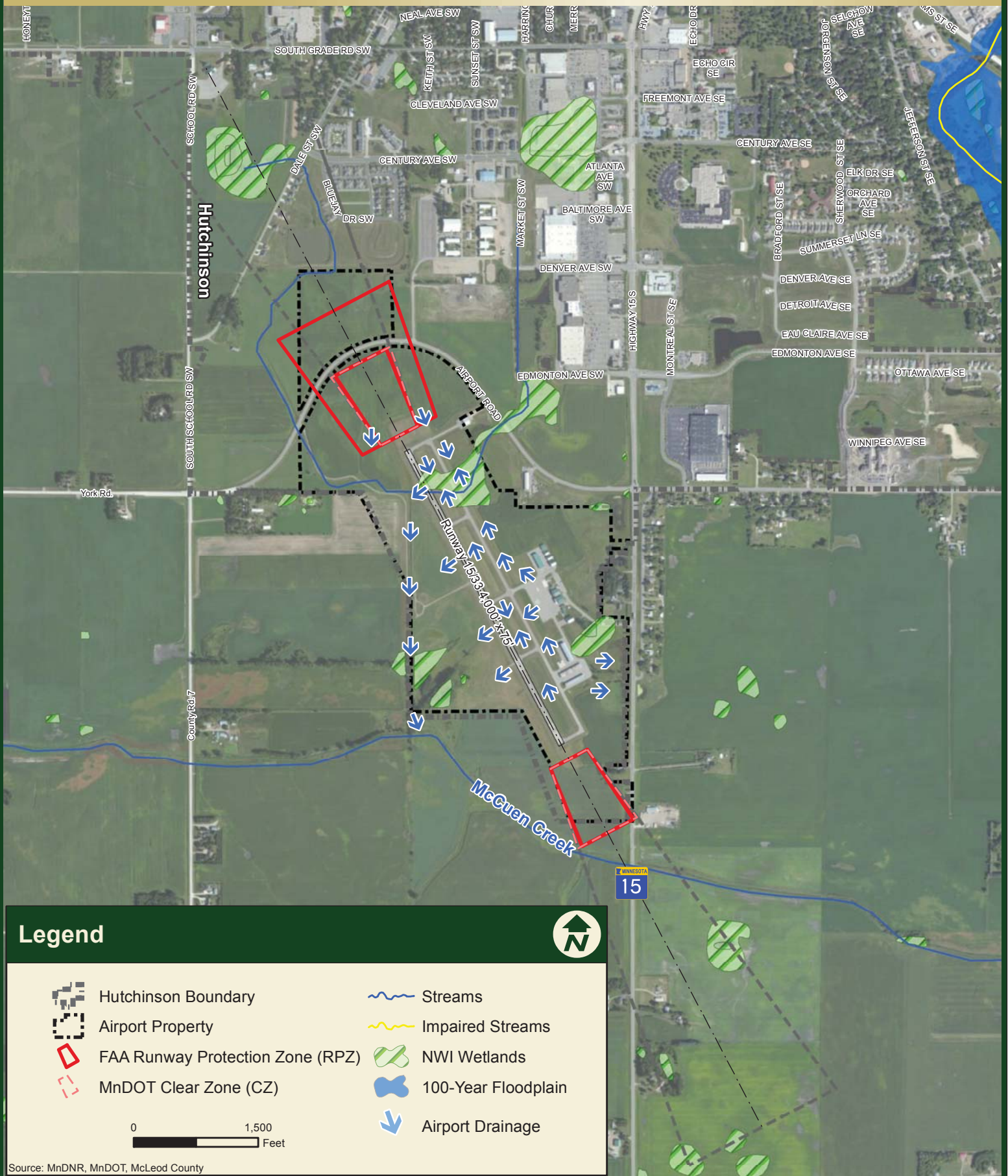




Hutchinson Municipal Airport Airport Master Plan

Figure 2-6
State Airport Zoning & County
Zoning Map

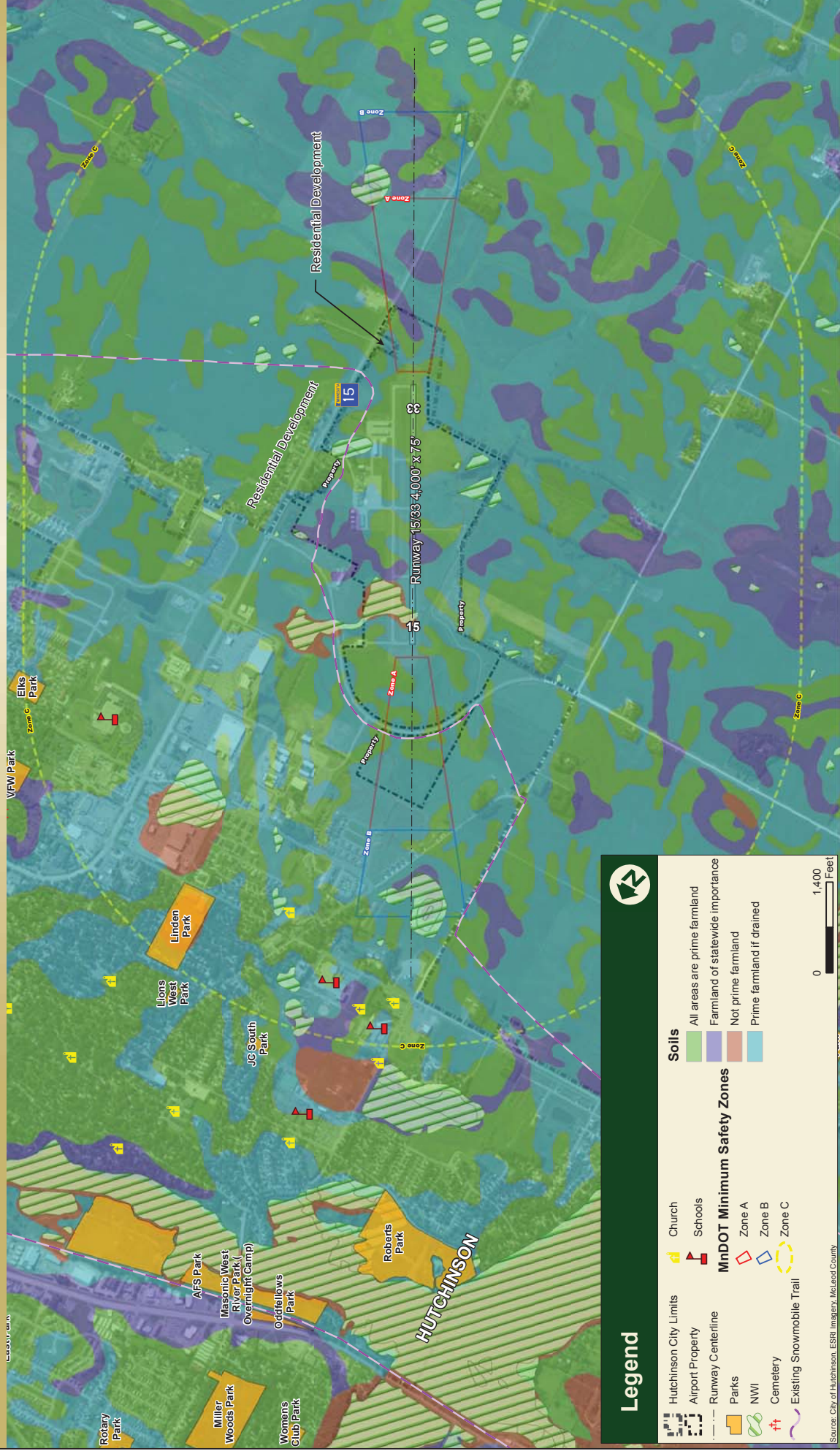






Hutchinson Municipal Airport Airport Master Plan

Figure 2-8
Built Environment & Compatible
Land Use Considerations



3. AVIATION FORECASTS

3.1. INTRODUCTION

Evaluation of current and forecasted aviation activity is vital in preparing an Airport Master Plan. Aviation forecasts are necessary to evaluate current and potential future airport facility safety and capacity requirements.

Aviation forecasts are based on numerous factors including socioeconomic data, local, regional, and national aviation trends, and Federal Aviation Administration (FAA) aviation forecasting methodology. Guidance used to help develop aviation activity forecasts includes the following resources:



- *Forecasting Aviation Activity by Airport* (July 2001), GRA, Inc., prepared for FAA.
- *Model for Estimating General Aviation Operations at Non-Towered Airports Using Towered and Non-Towered Airport Data* (July 2001), GRA, Inc., prepared for FAA.

Forecasts for general aviation airports commonly include based aircraft, annual operations, and critical aircraft projections over a 20-year planning period. The time period for the forecasts at HCD are from the base year, 2013, through 2033. Based aircraft counts are split by the following aircraft types: single-engine piston, multi-engine piston, turboprop, turbojet, helicopter, and ultralight/experimental aircraft. Annual operations are classified as local or itinerant. *Forecasting Aviation Activity by Airport* defines local operations as “aircraft operating in the traffic pattern or aircraft known to be departing or arriving from flight in local practice areas, or aircraft executing practice instrument approaches at the airport.” Itinerant operations are defined as operations “other than local operations.” Critical aircraft projections are used to determine the airport design standards.

Forecasts developed are unconstrained; they identify the actual aviation demand for the facility regardless of limiting factors such as hangar availability or runway length, etc.

3.2. USER SURVEY SUMMARY

To assist in determining the number of local aviation operations at HCD, and to help determine local aviation needs and trends, an airport user survey was conducted. A questionnaire was sent to users or potential recreational and business users of the airport facility. A copy of the airport user survey is located in **Appendix A**.

The service area for HCD covers the area half way between the airport and the surrounding airports with similar facilities. Since one advantage to flying is reduced travel time, it is assumed pilots will use the airport closest to their residence that has the facilities to meet their needs. The service area for HCD includes the western half of McLeod County and small portions of the eastern parts of Kandiyohi and Sibley Counties, as well as a small part in the south of Meeker County. User Surveys were sent to registered pilots within the service area in addition to registered pilots within the 30 minute drive time of the airport (see **Figure 3-1** at the end of this chapter).

The survey at HCD was completed in November 2013. Of the nearly 300 questionnaires sent out, there were a total of 43 questionnaires returned (14%), 41 of which indicated an existing or future use of the airport. A summary of the operations reported in the survey are shown in **Table 3-1**.

Table 3-1
User Survey (2013) Annual Operations

Year	Aircraft	Annual Operations
2007	53	2,847
2012	53	2,641
2017	53	1,743

Source: HCD Airport User Survey (2013)

Notes: Some survey respondents own more than one aircraft

Overall, airport users indicated a negative growth in annual aircraft operations at HCD. The sample size of the user survey was determined to be too low to make definitive conclusions on growth trends at HCD.

Of the 43 surveys that were returned, 53 aircraft were reported, of which 15 are based at HCD. This represents more than a one-third of the 42 based aircraft at HCD. Another 16 aircraft were reported as being based at airports within 30 nautical miles of HCD. In total 31 of the 53 aircraft reported are based in and around HCD.

Most of the reported aircraft were small aircraft and owned by the respondents. Four aircraft were corporate aircraft, with 12 of the 43 returned user surveys declaring use of their aircraft for business travel. Flight training was reported by 15 surveys as a major use of HCD. Ten users expressed interest in upgrading their aircraft fleet within five years, six of which were for performance improvements such as range, speed, and payload of aircraft.

The survey asked respondents two questions regarding their priorities and needs when using HCD. **Table 3-2** and **Table 3-3** indicate the user responses.

Table 3-2
Survey Question 10: Please Indicate the Types of Facilities Important to Your Use of HCD

Questions	High Priority	Moderate Priority	Low Priority
Runway longer than 4,000 feet	5	17	21
Aircraft storage - T-hanger rental unit	6	15	22
Aircraft storage - Conventional hangar development site	6	14	23
Aircraft storage - Transient/overnight	9	15	19
Ground transportation (shuttle, taxi service, rental cars, courtesy car)	15	19	9
Fueling truck	4	9	30
Business center/meeting facilities	0	7	36

Source: HCD Airport User Survey (2013)

Table 3-3
Survey Question 11: What Services Do You Strongly Desire to Operate at HCD?

Services Desired	Reponses
Self-service fueling*	39
Full-service fueling	4
Aircraft charter	0
Transient Aircraft Storage*	9
Aircraft repair/maintenance*	27
Rental car	12
Crew rest area*	16
Conference room facilities	5
Flight training/instruction*	21
Pilot shop	8
Catering	0

Source: HCD Airport User Survey (2013)

*Services are available at HCD

Additional comments included: need a crosswind runway (4 comments), fuel prices are too high compared to surrounding airports (4 comments), drainage ditches are a safety problem (3 comments), better snow removal (2 comments), longer runway (2 comments), need more T-hangar space, would like to see an opportunity for private hangar development, multiple dedicated corporate jet parking spaces.

A summary from the websites of each of the businesses are listed below:

- Vessco, Inc.
 - Vessco, Inc. is a supplier of water and wastewater technologies operating out of the main office in Chanhassen, MN. They “represent the best equipment” available for water treatment, and guide municipalities through the entire process from initial consultation to field service and parts delivery. Vessco, Inc. operates a Beechcraft Baron 58 about 20 times a year into HCD. They are looking to upgrade to a Beechcraft King Air that will maintain their current operations into HCD.
- Life Flight
 - An Air Medical service provider for Minnesota, Life Flight can transport those in need of immediate medical service anywhere in the world. Life Flight is capable of operating to Hutchinson in their Lear Jet aircraft.
- ASI Jet, AG Division, LLC
 - Starting as the new FBO in May 2014, ASI Jet is an authorized Thrush Aircraft service center. They currently operate three Thrush Aircraft for use in aerial application. Many Thrush and other agricultural aircraft visit ASI Jet for aircraft service as ASI Jet is one of three certified Thrush aircraft service locations in North America. The growth of aerial application in the Hutchinson area prompted their locating at HCD, and the amount of agricultural aircraft operations are expected to increase due to the lower cost of using agricultural aircraft compared to ground based application.

- Form-A-Feed
 - Form-A-Feed is a manufacturer of brand name and private label livestock feed. In business for over 40 years out of Stewart, MN, it has created or acquired companies to meet market needs. Form-A-Feed has numerous manufacturing and storage facilities across Minnesota, Iowa, and Nebraska. They frequently fly in and out of HCD.
- United Farmers Cooperative (UFC)
 - Starting in 1915 as the Creamery Cooperative Association of Lafayette, MN with two employees and sales of \$35,000, the company has evolved over the last 85 years to have a presence in 11 communities, employ more than 200 Minnesotans, and have an annual sales volume of over \$230 million.
- Bobcat
 - Bobcat is a manufacturer and provider of compact vehicles for construction, agriculture, and mining, in addition to other markets. Many companies in the region are involved with supplying parts to Bobcat.
 - Another Bobcat full-service facility, and an authorized Bobcat dealer is Farm-Rite Equipment in nearby Dassell, MN. Beginning as a farm implement dealer in the 1970s, it is now exclusively a Bobcat Equipment dealer. They recently moved to a larger facility in Dassell in 2007.

3.3. AVIATION TRENDS

3.3.1. NATIONAL, REGIONAL & STATE TRENDS

During the time period between 2001 and 2005, general aviation aircraft registered with FAA declined nearly 3.1%. From 2005 through 2011, the total number of general aviation aircraft remained relatively flat. The economic decline since 2008 has resulted in a reduction in the number of general aviation aircraft with FAA estimating the overall general aviation fleet being reduced by 2.7% from 2008 to 2011. Piston-powered fixed-wing aircraft, which make up the majority of general aviation aircraft, are projected to decrease in numbers through 2032 at a -0.1% average annual growth rate. The number of hours flown is projected to decrease by the same rate.

Shipments of new general aviation aircraft, according to the 2012 General Aviation Manufacturers Association (GAMA) year-end shipment report, have increased 0.6% from 2011 to 2012. This represents a slight upturn in manufacturing after years of decline since 2008. Total shipments in 2012 are down 50%, however, from 2007. Manufacturing of turboprop aircraft are up 10.6% in the same time period.

The outlook in the general aviation industry is favorable, especially in the areas of turbine aircraft, rotorcraft, and experimental aircraft. Overall activity levels are expected to grow.

According to the FAA Aerospace Forecast (2012-2032):

“The forecast calls for robust growth in the long term outlook, driven by higher corporate profits and the growth of worldwide Gross Domestic Product [GDP]. Additionally, continued concerns about safety, security, and flight delays keep business aviation attractive relative to commercial air travel. As the industry experts report a significant portion of piston aircraft hours are also used for business purposes, we predict business usage of general aviation aircraft will expand at a faster pace than that for personal and recreational use.”

Turbine powered general aviation aircraft (turboprop and turbojet) trends from 2000-2011 indicated a steady 4.7% annual growth in the number of aircraft, while usage only increased by 1.7% annually, signifying these aircraft are being flown less. In the future, FAA projects the number of turbine general aviation aircraft will increase 2.9% annually from 2011 to 2032, and the usage of each aircraft will increase 4.0% annually.

Experimental aircraft provide pilots with the ability to construct an aircraft at a low cost. An increase in experimental aircraft is projected into the future with a 1.2% annual growth rate through 2032.

Overall, according to the FAA 2012 – 2032 aviation forecasts, the active general aviation fleet is projected to increase at an average of 0.6% per year for the forecast period with activity increasing by 1.7% per year.

National and Minnesota aviation trends can be measured by activity levels published in the FAA Terminal Area Forecast (TAF). Statewide trends provide a closer look into how the national aviation trends translate on a regional level. Based aircraft from the 2013 FAA TAF are listed in **Table 3-4**.

Table 3-4
2013 FAA TAF – National, Regional, & State Based Aircraft

Year	United States	Great Lakes Region	State of Minnesota
1990	162,219	26,576	3,317
1995	157,805	26,668	3,601
2000	179,929	30,507	4,520
2005	197,407	32,951	4,875
2010	165,807	27,586	4,105
2015	166,491	27,685	4,365
2020	173,937	28,717	4,519
2025	181,917	29,772	4,681
2030	189,917	30,816	4,862
2035	198,440	31,889	5,050
Historical Trend	0.11%	0.19%	1.07%
Future Trend	0.88%	0.71%	0.73%

Source: FAA Terminal Area Forecast (2013)

Notes: Trend indicates annual growth rate. Great Lakes Region includes North Dakota, South Dakota, Minnesota, Wisconsin, Illinois, Indiana, Michigan, and Ohio.

Overall aviation trends show a steady increase in based aircraft for the United States, the Great Lakes region, and in the State of Minnesota. Minnesota has historically had a higher rate of based aircraft growth than both the Great Lakes Region and the United States. Annual operations from the 2013 FAA TAF are listed in **Table 3-5**.

Table 3-5
2013 FAA TAF – National, Regional & State Annual Operations

Year	United States	Great Lakes Region	State of Minnesota
1990	105,390,026	17,393,585	2,195,004
1995	109,078,669	18,414,499	2,335,247
2000	121,942,002	20,347,943	2,624,609
2005	115,458,386	19,068,855	2,442,400
2010	101,410,177	16,335,713	2,133,332
2015	101,426,575	15,977,505	2,062,276
2020	104,685,199	16,403,673	2,120,978
2025	108,211,355	16,869,548	2,192,422
2030	112,134,282	17,387,503	2,270,497
2035	116,506,082	17,959,731	2,355,773
Historical Trend	-0.19%	-0.31%	-0.14%
Future Trend	0.70%	0.59%	0.67%

Source: FAA Terminal Area Forecast (2013)

Notes: Trend indicates annual growth rate. Great Lakes Region includes North Dakota, South Dakota, Minnesota, Wisconsin, Illinois, Indiana, Michigan, and Ohio.

Overall aviation trends show an average annual decrease in operations since 1990, and an increase in future, annual operations for the United States, Great Lakes Region, and the State of Minnesota.

3.4. EXISTING BASED AIRCRAFT & ANNUAL OPERATIONS

The FAA TAF also publishes based aircraft and annual operations data for every federal National Plan of Integrated Airport Systems (NPIAS) airport in the United States. Data is available from 1990. In addition, the 2012 Minnesota State Aviation System Plan (SASP) provides based aircraft and operations forecasts for individual airports. These forecasts provide baseline data to aid in forecasting based aircraft and operations at a local level.

Table 3-6 shows the based aircraft forecasts for HCD from the FAA TAF and the SASP.

Table 3-6
Existing Based Aircraft Data

Year	FAA TAF Based Aircraft	2010 Minnesota SASP Based Aircraft
2011	39	46
2015	39	49
2020	39	51
2025	39	54
2030	39	57
Trend:	0.00%	1.08%

Source: FAA Terminal Area Forecast (2013); 2012 Minnesota State Aviation System Plan (2010 data) for HCD

According to the City of Hutchinson, there are currently 42 based aircraft at HCD at the end of 2013 and early 2014. There are currently two aircraft on a waiting list for hangar development, and there have been multiple phone calls about the potential for private hangar development at the airport.

In addition to based aircraft, both the FAA TAF and SASP forecast annual operations at HCD for the next 20 years. **Table 3-7** shows the FAA TAF operations forecast data through 2035, and **Table 3-8** depicts the SASP operations data through 2030.

Table 3-7
Existing FAA TAF Annual Operations Forecasts (2013)

Year	TAF Itinerant Operations	TAF Local Operations	Total Operations	Based Aircraft	OPBA
2011	5,645	6,750	12,395	39	318
2015	5,645	6,750	12,395	39	318
2020	5,645	6,750	12,395	39	318
2025	5,645	6,750	12,395	39	318
2030	5,645	6,750	12,395	39	318
2035	5,645	6,750	12,395	39	318

Source: FAA Terminal Area Forecast (2013)

Notes: OPBA = Operations Per Based Aircraft

The FAA TAF provides a general overview of airport activity. As with most general aviation airports, the FAA TAF does not show any growth in based aircraft or annual operations at HCD for the next 20 years.

Table 3-8
State Aviation System Plan Operations Forecast (2013)

Year	SASP Itinerant Operations	SASP Local Operations	Total Operations	Based Aircraft	OPBA
2011	5,466	6,683	12,149	46	264
2015	5,747	7,024	12,771	49	261
2020	6,063	7,410	13,473	51	264
2025	6,556	8,013	14,569	54	270
2030	7,428	9,080	16,508	57	290

Source: 2012 Minnesota State Aviation System Plan (2010 data) for HCD

Notes: OPBA = Operations Per Based Aircraft

3.5. BASED AIRCRAFT FORECAST

Based aircraft demand is typically a product of population, income, and labor force. The baseline for the number and type of based aircraft at HCD was derived from local records. The current based aircraft fleet mix at HCD includes 42 aircraft: 37 single-engine, piston aircraft; 1 multi-engine, piston aircraft; 2 single-engine, turboprop aircraft; and 2 ultralight/experimental aircraft.

The SASP provides a forecast of based aircraft for airports in Minnesota. An annual growth rate can be established based on these numbers over the 20 year period from 2010 to 2030. According to the SASP, HCD has a based aircraft annual growth rate of 1.08%. The average annual population growth rate for McLeod County from 2006-2035 is 0.72%, and for the City of Hutchinson it is 0.83%.

The service area for HCD is shown in **Figure 3-1** at the end of this chapter. To determine trends in the HCD service area, nearby airports were considered and their growth rates were also evaluated. The average annual growth rate for based aircraft of the five nearby airports is 1.06%. The surrounding airports include: Glencoe Municipal Airport – Vernon F. Perschau Field (GYL), Hector Municipal Airport (1D6), Litchfield Municipal Airport (LJF), Willmar Municipal Airport – John L. Rice Field (BDH), and Winsted Municipal Airport (10D). The individual growth rates can be seen in **Table 3-9**.

Table 3-9
Based Aircraft Growth Rates of Nearby Airports

SASP Based Aircraft					
Nearby Airports to 04Y	Base Year 2010	2012-2015	2016-2020	2021-2030	Annual Growth Rate
Hutchinson (HCD)*	46	49	51	57	1.08%
Glencoe (GYL)	35	38	41	45	1.26%
Hector (1D6)	40	41	42	43	0.36%
Litchfield (LJF)	30	31	33	36	0.92%
Willmar (BDH)	44	48	51	57	1.30%
Winsted (10D)	45	49	53	60	1.45%
				Average	1.06%

Source: 2012 Minnesota State Aviation System Plan (2010 data)

*HCD is not included in the annual growth rate average

The population of both McLeod County and the City of Hutchinson is projected to increase over the next 20 years. In addition, the SASP shows growth in based aircraft over the next 20 years. These are both indications that based aircraft will also continue to grow at HCD. The average annual growth rate of 1.06% was used to forecast the based aircraft over the 20-year planning period at HCD.

Another factor considered was aircraft waiting for hangar space. HCD currently has a T-hangar with available space, however it is not an enclosed hangar and pilots are less willing to store aircraft that may be exposed to the elements. With a T-hangar planned in the near-term at HCD and a waiting list of two aircraft, the aircraft waiting for hangar space are artificially added to the growth of based aircraft in the year 2020 to simulate the completion of an enclosed T-hangar. The growth rate from year to year still remains 1.06% throughout the planning period, while the overall average annual growth rate for based aircraft is 1.27%.

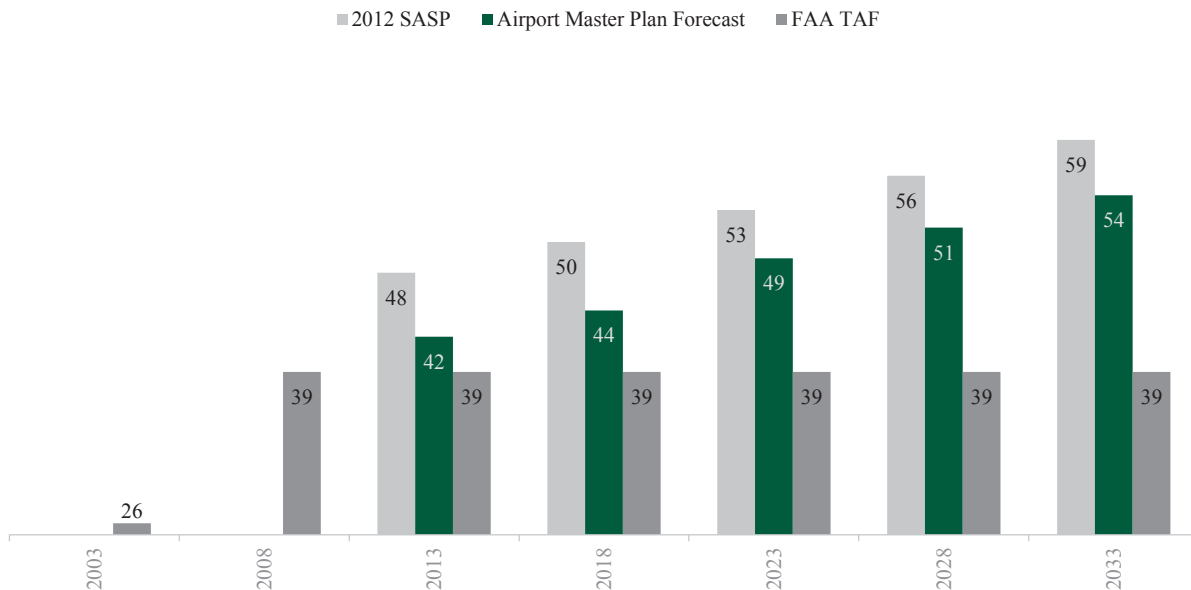
The 20-year planning period shows an increase in based aircraft from 42 aircraft in 2013, to 54 based aircraft in 2033. **Table 3-10** shows the based aircraft forecasts over the next 20 years including the increase in based aircraft in 2020 due to hangar construction. Growth of individual aircraft types are shown according to growth rates seen in the General Aviation section of *FAA Aerospace Forecast Fiscal Years 2013-2033*. **Chart 3-1** graphically depicts the Master Plan forecast based aircraft in comparison to existing forecasts.

Table 3-10
Based Aircraft Forecast

Year	Single Piston	Multi Piston	Turboprop	Turbojet	Helicopter	Ultralight/ Experimental	Total
2013	37	1	2	0	0	2	42
2014	37	1	2	0	0	2	42
2015	38	1	2	0	0	2	43
2016	38	1	2	0	0	2	43
2017	39	1	2	0	0	2	44
2018	39	1	2	0	0	2	44
2019	40	1	2	0	0	2	45
2020	42	1	2	0	0	2	47
2021	43	1	2	0	0	2	48
2022	42	1	3	0	0	2	48
2023	43	1	3	0	0	2	49
2024	43	1	3	0	0	2	49
2025	43	1	3	0	0	3	50
2026	43	1	3	0	0	3	50
2027	44	1	3	0	0	3	51
2028	43	2	3	0	0	3	51
2029	44	2	3	0	0	3	52
2030	44	2	3	0	0	3	52
2031	45	2	3	0	0	3	53
2032	46	2	3	0	0	3	54
2033	46	2	3	0	0	3	54

Source: Bolton & Menk Analysis

Chart 3-1
Based Aircraft Forecast Comparison



3.6. ANNUAL OPERATIONS FORECAST

3.6.1. EXISTING CRITICAL AIRCRAFT

Development of the operations study relies upon the identification of the most demanding aircraft type currently or projected to utilize the airport, also known as the critical design aircraft. FAA airport design standards for airport infrastructure and safety area geometrics are developed around the critical design aircraft.

According to *Advisory Circular 150/5300-13A* the definition of critical design aircraft is:

An aircraft with characteristics that determine the application of airport design standards for a specific runway, taxiway, taxilane, apron, or other facility (such as Engineered Materials Arresting System [EMAS]). This aircraft can be a specific aircraft model or a composite of several aircraft using, expected, or intended to use the airport or part of the airport (also called “critical aircraft” or “critical design aircraft”).

Critical design aircraft are further defined in AC 150/5325-4B, *Runway Length Requirements for Airport Design*. This advisory circular also defines the substantial use threshold needed for future development.

Critical Design Airplanes: The listing of airplanes (or a single airplane) that results in the longest recommended runway length. The listed airplanes will be evaluated either individually or as a single family grouping to obtain a recommended runway length.

Substantial Use Threshold: Federally funded projects require critical design airplanes have at least 500 or more annual itinerant operations at the airport (landings and takeoffs are considered as separate operations) for an individual airplane or a family grouping of airplanes. Under unusual circumstances, adjustments may be made to the 500 total annual itinerant operations threshold after considering the circumstances of a particular airport. Two examples are airports with demonstrated seasonal traffic variations, or airports situated in isolated or remote areas that have special needs.

As described in **Chapter 2.0, Airport Inventory**, the existing Airport Reference Code (ARC) used when establishing safety dimensional criteria at HCD is B-II, small aircraft. Small aircraft are defined as aircraft weighing less than or equal to 12,500 pounds. Aircraft weighing more than 12,500 pounds are considered large aircraft. Small aircraft may include single-engine aircraft of design group A-I in addition to such aircraft as the Cessna 414A twin-engine piston aircraft (FAA design code B-I) and the Beechcraft King Air series twin-engine turboprop (FAA design code B-II). There are currently less than 500 operations per year for aircraft in the B-II, small category. The existing critical design aircraft with greater than 500 itinerant operations is an A-II, small aircraft.

3.6.2. CONFIRMED OPERATIONS

The lack of an FAA Air Traffic Control Tower does not allow for exact aircraft operation counts at a general aviation airport like HCD. Therefore, FAA Instrument Flight Rules (IFR) flight data for 2011 – 2012 was obtained to get an understanding of the larger corporate users at HCD. IFR flight data is recorded when pilots file a flight plan with FAA. It does not take into account fair weather flights, touch and go operations, or flights where the flight plan is cancelled before landing at the airport.

Table 3-11 shows the confirmed operations data from both the user survey, and 12 months of IFR data from November 2011 to October 2012.

Table 3-11
Aircraft Types and Operations from IFR Flight Data and User Survey Responses

Piston Aircraft					
Aircraft	ARC	Ops	Aircraft	ARC	Ops
Beechcraft 23 Musketeer	A-I/s	50	PA J-3 Cub	A-I/s	100
Beechcraft 35/36 Bonanza	A-I/s	257	PA-20 Tri-Pacer	A-I/s	4
Bell 407	HELI	730	PA-28 Cherokee	A-I/s	262
Cessna 150/152	A-I/s	226	PA-30 Twin Comanche	A-I/s	6
Cessna 172	A-I/s	649	PA-31 Navajo	A-I/s	11
Cessna 177	A-I/s	25	PA-32 Cherokee Six	A-I/s	1
Cessna 180	A-I/s	20	PA-38 Tomahawk	A-I/s	20
Cessna 182	A-I/s	23	Van's Aircraft RV-7 EXP	A-I/s	1
Cessna 206	A-I/s	5	Van's Aircraft RV-9 EXP	A-I/s	60
Cessna 210	A-I/s	7	Wheeler Express	A-I/s	3
Cirrus SR20/22	A-I/s	40	Zenair Zodiac	A-I/s	36
Diamond Twin Star	A-I/s	3	Beechcraft 55/58 Baron	B-I/s	50
Glasair III	A-I/s	180	Cessna 414A	B-I/s	4
Mooney M20 Bravo	A-I/s	12	Cessna 421	B-I/s	30
PA Aerostar	A-I/s	1	Cessna 441	B-II/s	2
Turbofan/Jet Engine			Turboprop		
Aircraft	ARC	Ops	Aircraft	ARC	Ops
Cessna CJ4	B-I/s	8	PA-46 Meridian	A-I/s	2
Dassault Falcon 10	B-I/L	3	Pilatus PC-12	A-II/s	14
Dassault Falcon 20	B-II/L	4	Beechcraft C90 King Air	B-II/s	5
Embraer Phenom 100	A-I/s	2	Beechcraft 200 Super King Air	B-II/L	8
Embraer Phenom 300	B-II/L	2	Beechcraft 300 Super King Air	B-II/L	4
Eclipse 500	A-I/s	2	Total Ops (All Aircraft):		2,872

*Includes data from IFR Flight Data; Source: 2013 User Survey, FAA IFR Flight Data Nov. 2011 – Oct. 2012

Notes: HELI = Helicopter; /s = small aircraft; /L = large aircraft greater than 12,500 pounds

3.6.3. ANNUAL OPERATIONS FORECAST

Annual operations are the count of both takeoffs and landings at an airport. Baseline (year 2013) airport operations were estimated using FAA approved Operations Per Based Aircraft (OPBA) figures. The OPBA figure is an average that includes both based aircraft and transient aircraft traffic. FAA Order 5090.3C *Field Formulation of the National Plan of Integrated Airport Systems* recommends 250 operations per based aircraft for rural general aviation airports and 350 operations per based aircraft for busier general aviation airports with more itinerant traffic. The current FAA TAF shows 12,395 operations for HCD. Dividing the number of annual operations by the 2013 FAA TAF based aircraft number, 39, yields 318 OPBA. The SASP shows 12,149 operations and 46 based aircraft for an OPBA of 264 in 2011.

Although OPBA figures from the FAA TAF and SASP are reasonable, to maintain consistent methodologies between the based aircraft forecast and the OPBA, the average OPBA of the surrounding airports was used. As seen in **Table 3-12**, the average OPBA at these airports is 290 according to the SASP. An OPBA of 290 produces a baseline of 12,180 for airport operations at HCD, and was used to forecast the operations to 2033.

Table 3-12
Operations Per Based Aircraft at Nearby Airports

Nearby Airports to 04Y	Operations	OPBA
	Base Year 2010	Base Year 2010
Hutchinson (HCD)*	12,149	264
Glencoe (GYL)	10,615	303
Hector (1D6)	7,600	190
Litchfield (LJF)	9,000	300
Willmar (BDH)	17,850	406
Winsted (10D)	11,001	244
	Average:	290

Source: 2012 Minnesota State Aviation System Plan (2010 data)

*HCD is not included in the OPBA average

The based aircraft discussion in **Section 3.4** noted two aircraft would immediately fill available hangar space once a new T-hangar is built in 2020. It is assumed local operations would increase due to the addition of two aircraft in one year in addition to natural growth.

Using an OPBA of 290 and based aircraft growing from 42 to 54 over the 20-year planning period, operations will grow from a baseline of 12,180 total operations, to 15,660 operations in 2033.

The annual operations forecast for HCD over the 20-year planning period is shown in **Table 3-13**. **Chart 3-2** graphically depicts the Airport Master Plan annual operations forecast in comparison to existing forecasts.

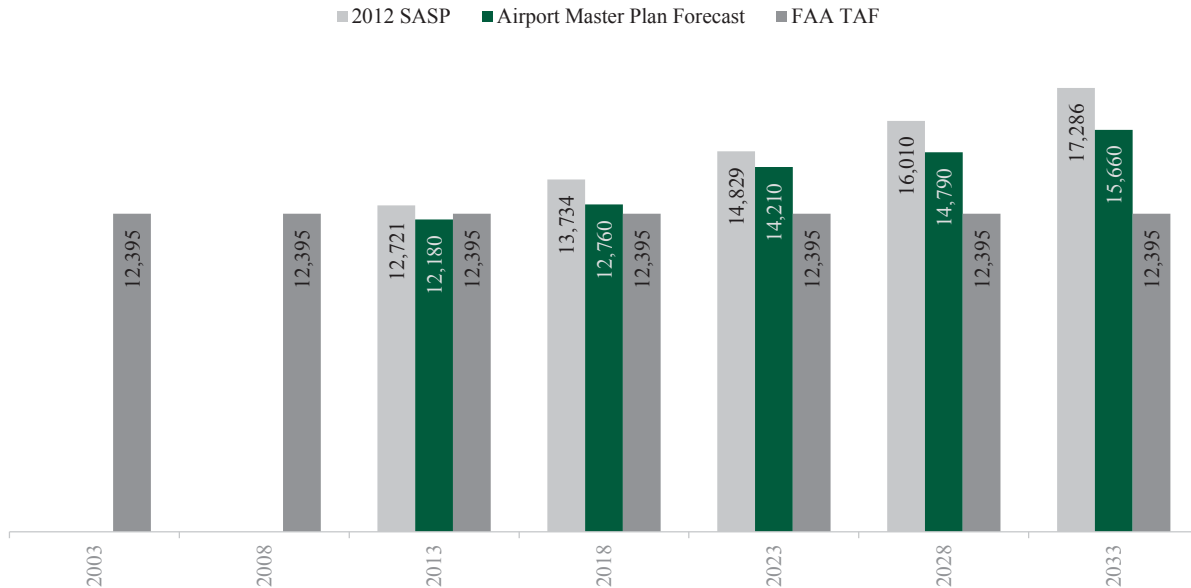
Table 3-13
Annual Operations Forecast by Aircraft Type

Year	Itinerant							Local				
	Small Aircraft				Large Aircraft			Small Aircraft				
	A-I	A-II	B-I	B-II	HELI	B-I	B-II	A-I	A-II	B-I	B-II	HELI
2013	4,827	42	276	21	365	9	63	5,583	600	25	4	365
2014	4,812	43	277	22	375	9	65	5,563	610	25	4	375
2015	4,931	43	279	22	385	10	67	5,700	620	25	4	385
2016	4,916	44	280	23	395	10	68	5,679	630	25	4	395
2017	5,033	45	282	23	406	10	70	5,814	641	26	4	406
2018	5,017	46	283	24	417	10	72	5,792	651	26	4	417
2019	5,134	46	284	25	428	11	74	5,927	662	26	4	428
2020	5,384	47	286	25	440	11	76	6,217	673	26	4	440
2021	5,500	48	287	26	452	11	79	6,351	684	26	4	452
2022	5,483	49	289	27	464	12	81	6,327	695	26	4	464
2023	5,598	49	290	28	476	12	83	6,459	707	26	5	476
2024	5,579	50	292	28	489	12	85	6,435	718	26	5	489
2025	5,694	51	293	29	503	13	88	6,566	730	27	5	503
2026	5,674	52	294	30	516	13	90	6,540	742	27	5	516
2027	5,788	53	296	31	530	13	93	6,671	754	27	5	530
2028	5,767	54	297	32	544	14	95	6,644	767	27	5	544
2029	5,880	55	299	33	559	14	98	6,773	780	27	5	559
2030	5,858	55	300	34	574	14	101	6,744	792	27	5	574
2031	5,969	56	302	35	590	15	104	6,872	806	27	5	590
2032	6,080	57	303	35	606	15	106	6,999	819	27	5	606
2033	6,057	58	305	36	622	16	109	6,969	832	28	5	622

Source: Bolton & Menk estimates

Notes: All local operations at HCD are conducted by small aircraft, therefore large aircraft forecasts for local operations are 0 and not shown. Small indicates aircraft with a maximum takeoff weight 12,500 pounds or less.

Chart 3-2
Annual Operations Forecast Comparisons



3.7. FUTURE CRITICAL DESIGN AIRCRAFT

3.7.1. RUNWAY DESIGN CODE (RDC) & AIRPORT REFERENCE CODE (ARC)

Most of the existing airport operations at HCD are in small aircraft 12,500 pounds or less. This would include aircraft such as Piper PA-32 Cherokee Six (RDC A-I) and Air Tractor 602 (RDC A-II). A select few turboprop and turbofan aircraft are noted to have flown into the airport from FAA IFR flight plan data including a Beechcraft King Air 300 (RDC B-II) and the Dassault Falcon 20 (RDC B-II). The maximum takeoff weights of these aircraft are greater than 12,500 pounds.

The critical design aircraft represents the aircraft design group that utilizes an airport on a regular basis of 500 or more annual operations. The existing critical design aircraft category is A-II. The forecasts estimate Aircraft Approach Category B aircraft will use the airport close to 500 operations through the end of the planning period in an unconstrained scenario. These operations are typically those that support local businesses and a growing community.

The existing airport configuration on the Airport Layout Plan shows the airport is designed to B-II standards. Based on documented data, estimates, and statewide criteria, the future critical design aircraft for HCD should be a B-II/small aircraft. Based on this, the RDC for future primary runway design is B-II-4000.

The City of Hutchinson should continue to monitor airport operations and evaluate the needs of current and future airport users.

3.8. SUMMARY

The following points summarize key findings with regard to forecast general aviation activities at HCD:

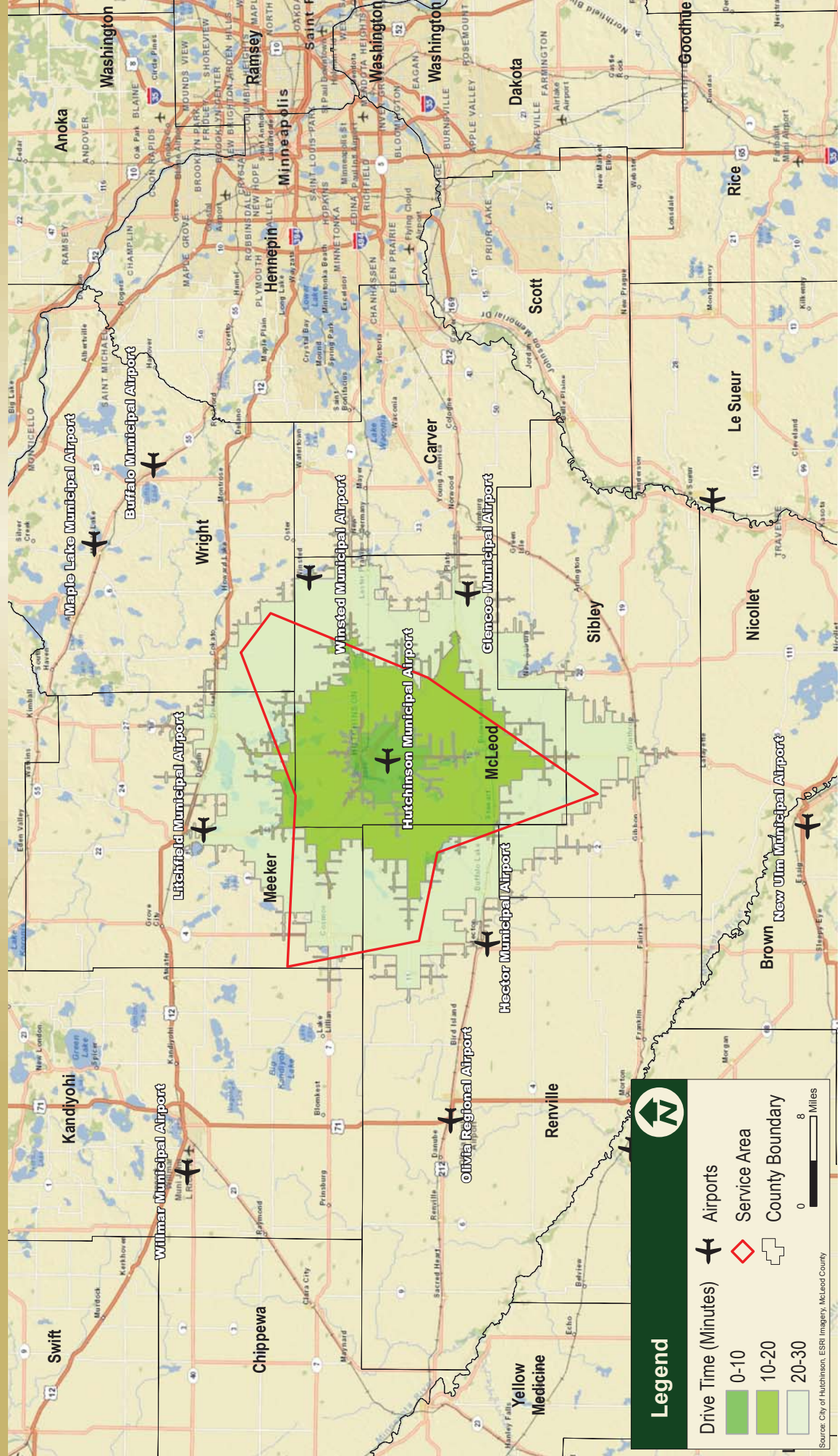
- HCD airport operations are a mix of recreational and business flights. The user survey indicated local use of aviation for business travel. These flights provide local travel needs for existing business activities.
- Based aircraft are projected to increase from 42 to 54 by the end of the planning period in 2033. The annual growth rate of based aircraft is 1.06%. This growth rate is more conservative than the existing SASP forecasts of HCD and nearby airports.
- Aircraft operations are estimated at 12,180 in 2013, and are expected to increase to 15,660 at the end of 20-year planning period. This is an average annual growth rate of 1.27%. This growth rate is slightly less than the State Aviation System Plan growth rate.
- The existing critical design aircraft is A-II, small, however the airport is currently designed to B-II standards, and it should remain designed to B-II-4000 standards throughout the planning period.
- Although there are operations from many businesses in the area, the majority of the existing and future aircraft using the airport are single-engine airplanes weighing less than 12,500 pounds. These type of aircraft are commonly used for agricultural spraying operations which have grown in the Hutchinson area over the last several years.



Hutchinson Municipal Airport Airport Master Plan

Figure 3-1

Service Area & Drive Times



4. FACILITY REQUIREMENTS

4.1. INTRODUCTION

The Facility Requirements Chapter evaluates the airside, landside, and support facility requirements at the airport. Airside areas for general aviation airports include the runway and taxiway environment, as well as general aviation aircraft parking, storage hangars, and fueling needs. Landside and other airport support facilities include airport support buildings, access roads, parking lots, fencing, and utilities.



Although there are similar infrastructure and operational requirements every Airport Master Plan evaluates, individual airports have different areas of focus to address specific safety related concerns, future facility needs, and/or environmental and planning considerations for the surrounding environment. These specific areas for HCD, both on and off airport property, are identified on **Figure 4-1**. The primary planning considerations at HCD include evaluating the need for a crosswind runway, identifying obstructions to the navigable airspace, determining the compatibility of airport development with the surrounding natural resources, evaluating the compatibility of airport operations with the local community comprehensive growth plan and local zoning ordinance, and maximizing funding sources for the airport.

In addition to addressing the existing conditions at the airport, this chapter evaluates the ability for the airport to accommodate the forecasted demand and meet applicable airport facility requirements for the users of the facility. These areas will be addressed in the following sections:

- Airfield capacity and delay analysis
- Instrument approaches
- Runway facility requirements
- Airport visual aids & navigational aids
- Meteorological facilities
- Taxiway & taxilane facility requirements
- Apron size and tie-down requirements
- MN State Aviation System Plan (SASP) airside recommendations
- Landside facility requirements
- MN SASP landside recommendations

Federal Aviation Administration (FAA) Advisory Circular (AC) 150/5300-13A, *Airport Design*, was referenced for the design standard criteria used to evaluate the impacts of the recommended development throughout the Airport Master Plan and corresponding Airport Layout Plan (ALP). Specific facility requirements are based on aeronautical compliance, demand, or triggering events, rather than specific time periods. This allows the City to use the Airport Master Plan as a tool for decision making and funding prioritization over the next 20 years.

4.2. AIRFIELD CAPACITY & DEMAND ANALYSIS

4.2.1. AIRFIELD CAPACITY

Airfield capacity is defined as the maximum aircraft operations an airfield configuration can accommodate. The FAA metric used to determine reasonable airfield capacity is Annual Service Volume (ASV). ASV is a calculated number that represents a reasonable estimate of an airport's annual operational capacity taking into account differences in runway utilization, weather conditions, and aircraft mix that would be encountered in a year's time.

The ASV is determined by grouping aircraft into classes per FAA AC 150/5060-5, *Airport Capacity and Delay*. These classes identify aircraft based on recommended arrival and departure separation distances (see **Table 4-1**).

Table 4-1
Annual Service Volume Classifications

Aircraft Classification	Maximum Takeoff Weight (lbs.)	Number of Engines	Wake Turbulence Classification
A	12,500 or less	Single	Small
B	12,500 or less	Multi	Small
C	12,501 – 300,000	Multi	Large
D	Over 300,000	Multi	Heavy

Source: FAA AC 150/5060-5 *Airport Capacity and Delay*

The largest aircraft to utilize HCD includes ASV Class C aircraft (12,501-300,000 lbs.). Examples include the Beechcraft King Air B-300 turboprop and smaller business jets. The aviation forecasts for HCD presented in **Chapter 3.0, Aviation Forecasts** estimate, in the long-term, operations will be comprised of 2% ASV Class C airplanes (approximately 300 annual operations), nearly 4% ASV Class B airplanes, and the remaining 94% being ASV Class A airplanes.

FAA AC 150/5060-5, *Airport Capacity and Delay* was used to calculate the ASV for a single-runway scenario at HCD. The results are shown in **Table 4-2**.

Table 4-2
Annual Service Volume

2033 Annual Operations	Annual Service Capacity	Percentage
15,660	230,000	6.8%

Source: Bolton & Menk Analysis, FAA AC 150/5060-5 *Airport Capacity and Delay*

Under these conditions, the airfield configuration for one primary runway will adequately meet the capacity demand over the next 20 years.

4.2.2. AIRFIELD DEMAND

The demand of an airfield is a function of the number and location of exit taxiways, the runway configuration, wind, and weather conditions. The methodology for computing the relationship between the demands placed upon an airport versus its capacity is also contained in FAA AC 150/5060-5. In order to facilitate this comparison, computations were made to determine the hourly capacity of a single runway configuration in visual flight rules (VFR) and instrument flight rules (IFR). VFR are when a pilot operates

an aircraft during weather conditions that allow the pilot to see the ground and visually avoid obstructions. IFR are when a pilot operates an aircraft using instruments within the cockpit versus referencing the ground due to the surrounding cloud cover and weather conditions.

Based on the forecasts presented in **Chapter 3.0, Aviation Forecasts**, the peak hourly operations were calculated for the existing 2013 operations and for the future 2033 operations. The national FAA guidance for general aviation airports assumes a single general aviation runway can accommodate 98 operations per hour during VFR conditions and 59 operations per hour during IFR conditions. The FAA guidance also assumes the busiest month at a general aviation airport conducts 14.8% of the annual operations. However, due to the seasonal activity of agricultural aircraft at HCD, the busiest month was assumed to be 20% of annual operations. This equates to 2,436 operations in the busiest month for 2013 and 3,132 operations in 2033. The number of peak operations for the busiest day in the busiest month is 82 (2,436/30) in 2013 and 104 (3,132/30) in 2033. The national FAA guidance also assumes at general aviation airports, the peak hour is 20% of the peak daily operations. Therefore, the peak hourly operations for 2013 are 16 (82 x 0.20) and the peak hourly operations in 2033 are 20 (104 x 0.20). Based on the airport layout and conditions at HCD, the hourly capacity is shown in **Table 4-3**.

Table 4-3
Hourly Capacity

2033 Peak Hourly Operations	VFR Hourly Capacity	VFR Percentage	IFR Hourly Capacity
20	98	20.4%	59

Source: Bolton & Menk Analysis, FAA AC 150/5060-5 *Airport Capacity and Delay*

The vast majority of operations at HCD will occur under VFR conditions. Peak hourly operations will likely never be achieved under IFR conditions. Using these assumptions, the peak operations forecasted within the planning horizon will adequately meet the demand of a single runway during VFR and IFR weather conditions. No significant long-term delays are forecasted.

4.3. INSTRUMENT APPROACHES

Instrument approach procedures provide arriving aircraft with electronic guidance to the airport runway environment during periods of low visibility. HCD experiences weather conditions requiring the use of an instrument approach procedure approximately 10% of the time. Visual approaches to a runway have no instrument approach procedure. For instrument approaches, FAA defines these types of procedures:

- **Non-Precision Approach** – A standard instrument approach procedure with horizontal guidance to the runway end and no electronic vertical descent guidance. These approaches utilize ground-based or satellite-based navigational aids such as GPS, VOR, and NDB. The definitions for GPS, VOR, and NDB are included in **Section 2.10.3** of this report.
- **Approach with Vertical Guidance** – An instrument approach procedure providing course and vertical descent guidance. These approaches utilize ground-based glideslope navigational aids or satellite based navigational aids such as a Localizer Performance with Vertical Guidance (LPV).
- **Precision Approach** – An instrument approach procedure with course and vertical descent guidance and visibility minimums of less than $\frac{3}{4}$ mile (4,000 foot Runway Visual Range). These approaches utilize ground-based navigational aids as part of an Instrument Landing System (ILS). The three components of an ILS are a localizer antenna for course guidance, a glideslope antenna for vertical guidance, and an Approach Lighting System.

HCD currently has non-precision approaches, with vertical guidance to Runways 15 and 33. These procedures include an Area Navigation (RNAV) Global Positioning System (GPS) LPV approach to both runway ends and a ground-based VOR navigational aid approach to Runway 33. Published cloud ceiling minimums are as low as 300 feet above the airport elevation. Published visibility minimums are 7/8 mile for the approach to Runway 15, and one mile for the approach to Runway 33. These approaches are satellite-based and do not rely on ground-based facilities. Both runway ends have approaches that meet the needs of the existing and future users of the airport and are adequate for the 20-year planning period.

4.4. RUNWAY FACILITY REQUIREMENTS

Runways at airports need to meet applicable design standards for safe operations and to remain eligible for federal and state funding. These standards are established by regulatory agencies in order to provide for the safe and efficient operation of aircraft on and in the vicinity of an airport. The design standards are based on two components which include the critical design aircraft and the most demanding type of approach established for either runway end.

The future critical design aircraft for Runway 15/33 was determined in the forecast chapter to be A-II, small aircraft throughout the 20 year planning period. The forecasts estimate Aircraft Approach Category B aircraft will reach close to 500 annual operations within the 20-year planning period based on an unconstrained scenario. The runway is currently designed to B-II standards, and is recommended to remain designed to those standards to meet the needs of the future users of the airport over the next 20 years. These requirements are important when determining the design standards for the future development of not only the runways, but the entire airport.

4.4.1. PRIMARY RUNWAY 15/33

Runway Length

Runway length is a critical component to any airport design, as it provides aircraft a defined area for takeoff and landing operations. Runway length requirements are determined by reviewing the needs of the critical design aircraft planned to use the airport for a total of 500 annual operations or more. Aircraft require the most runway length during their takeoff roll. Factors affecting runway length include aircraft performance, aircraft load factor, route length, airport elevation, runway gradient, runway condition, and temperature. FAA AC 150/5325-4B, *Runway Length Requirements for Airport Design*, provides guidance in determining runway length requirements.

FAA runway length requirements split small airplanes (less than 12,500 lbs.) into three categories to determine runway length. These are defined as the following:

Small Airplanes with less than 10 passenger seats:

- 95% of Fleet - This category applies to airports that are primarily intended to serve medium size population communities with a diversity of usage and a greater potential for increased aviation activities. Also included in this category are those airports that are primarily intended to serve low-activity locations, small population communities, and remote recreational areas. Their inclusion recognizes these airports, in many cases, develop into airports with higher levels of aviation activity.
- 100% of Fleet - This type of airport is primarily intended to serve communities located on the fringe of a metropolitan area or a relatively large population remote from a metropolitan area.

Small Airplanes with 10 or more passenger seats

- Small airplanes with 10 or more passenger seats (excluding pilot and co-pilot) demand a longer

runway to safely serve these type of aircraft, thus these airplanes have their own determined runway length requirements category.

Table 4-4 lists the recommended runway lengths for HCD.

Table 4-4
Recommended Runway Lengths (airplanes less than 60,000 pounds)

Airport Data	
Airport elevation	1,062' mean sea level
Mean daily maximum temperature of the hottest month	83.0°F
Maximum difference in runway centerline elevation	8 feet
Aircraft Criteria	Runway Length (feet)
Small airplanes (with less than 10 passenger seats)	
95% of these small airplanes	3,300
100% of these small airplanes	3,900
Small airplanes with 10 or more passenger seats	4,200

Source: AC 150/5325-4B *Runway Length Requirements for Airport Design*

The Piper Cherokee Six is the critical design aircraft and is classified as a small airplane with 10 or fewer passenger seats. The City of Hutchinson is a medium size community and is located approximately 50 miles west of the Twin Cities metropolitan area. As a result, the current runway length of 4,000 feet is greater than the recommended runway length of 3,300 feet for 95% of small airplanes. The current runway length of 4,000 feet is adequate for the 20-year planning period and maximizes the existing airport site.

However, it should be noted the City of Hutchinson is located at the intersection of State Highway 7, State Highway 22, and State Highway 15. As the community continues to grow, the City of Hutchinson should continue to monitor the runway length needs of the existing and potential future users of the airport.

Runway Length Considerations

As previously discussed, a runway length of 4,000 maximizes the physical location of the airport and is adequate for the 20-year planning period. If either runway end were to be extended, either County Road 115 or State Highway 15 would need to be relocated due to the location of the proposed RPZ.

An alternative option to increase takeoff length calculation for pilots, while avoiding road relocation, is to construct a stopway off each end of the runway. Takeoff is the most critical operation for an aircraft and requires the most runway length. A stopway increases the Accelerate Stop Distance Available (ASDA). ASDA is the amount of runway plus stopway length available for the acceleration and deceleration of an aircraft aborting a takeoff and bring the aircraft to a stop in the event of an emergency. This pavement is capable of supporting the critical design aircraft without causing structural damage, however, it is not capable of supporting regular aircraft operations and is to be used for emergency purposes only. It does not increase the length of the takeoff run. The addition of a stopway does not move the start of the Runway Protection Zone and would maximize the airport site without relocating any surrounding roadways.

To maximize the use of airport property, a stopway of 959 feet was added to the Runway 15 end. This increases the ASDA to 4,959 feet when taking off from the Runway 33 end. A stopway of 620 feet was added to the Runway 33 end for an ASDA of 4,620 feet when taking off from the Runway 15 end (see

Figure 4-2). The addition of a stopway shifts the Runway Object Free Area and Runway Safety Area to extend beyond the end of the stopway pavement. However, the start of the RPZ continues to be based on the existing threshold location. Currently, the aircraft utilizing the airport do not need a stopway. If the demand for aircraft requiring more than 4,000 feet of ASDA increases significantly, the airport sponsor should consider adding a stopway as an alternative to extending the runway.

Runway Width

FAA airport design standards require an RDC B-II runway with non-precision instrument approaches to have a width of 75 feet. A runway width of 75 feet is also a Minnesota State Aviation System Plan (SASP) objective for an Intermediate airport. HCD currently meets these design standards. The runway width is adequate for the 20-year planning period.

Runway Pavement Strength, Type, Condition

Airport pavement strength is based on single wheel and dual-wheel landing gear configurations. The gear configuration determines how the weight is distributed on the pavement. Published weight bearing capacity is a result of the pavement section thickness, materials, and underlying soils. There is currently no published pavement strength for the primary runway at HCD, however it can be assumed the pavement was designed to accommodate regular use of small aircraft 12,500 pounds or less in a single wheel configuration.

The maximum gross weight of the future critical design aircraft will continue to be up to but not exceed 12,500 pounds. The airfield pavement strength should be verified and then published for pilot awareness. Aircraft greater than 12,500 pounds may use HCD on a non-regular basis. Future pavement design should ensure these operations can be accommodated without jeopardizing the pavement condition.

The 2013 Pavement Condition Index (PCI) report states the bituminous runway is in good condition.

The maximum allowable transverse grade within the Runway Safety Area (RSA) for a RDC B-II runway is 5%. The existing RSA meets standards, however, the area beyond the RSA between the runway and the taxiway is too steep. There have been incidents that have caused damage to aircraft veering off of the runway. It is recommended the steep transverse grade be corrected with the next runway pavement rehabilitation project.

Runway Wind Coverage

At 91.19%, the wind coverage of the primary runway currently does not satisfy the 95% wind coverage at 10.5 knots recommended for smaller RDC A-I aircraft. This critical aircraft design group conducted approximately 10,410 operations in 2013 at HCD and is forecasted to increase to 13,026 operations in 2033 (83.2% of the total operations).

One option to attain 95% wind coverage on the primary runway is to realign the runway to a 12/30 orientation, which provides the greatest amount of wind coverage for small airplanes at 94.11%. This orientation retains 97.19% wind coverage for a 13 knot crosswind component as well.

A realignment of the primary runway to 12/30 requires both the runway and parallel taxiway to be rebuilt (see **Figure 4-3**). This relocation would require approximately 97 acres of land acquisition from six residential land owners.

Changing any runway threshold location requires the future Runway Protection Zone (RPZ) location to be clear of all incompatible land uses including, but not limited to, roadways, structures, recreational land uses, fuel storage facilities, and above-ground utility infrastructure. Previous guidance allowed roads through the RPZ with ditches that were properly graded to allow access through the RPZ by rescue and firefighting equipment or by aircraft that may land short or overshoot the runway. However, in September

2012, FAA published a memorandum clarifying the FAA policy on land uses within the RPZ. These new guidelines state transportation facilities such as public roads or highways require consultation with the National Airport Planning and Environmental division within FAA and are prohibited unless it can be proven no viable alternative exists. The guidelines in the memorandum apply to the introduction of new or modified land uses within an RPZ and proposed changes to the RPZ size or location. Mitigation of existing incompatible land uses is recommended by the airport sponsor when practicable.

In order to leave State Highway 15 in the current location, the proposed Runway 12 RPZ would extend over County Road 7. This would require the relocation of approximately 3,800 linear feet of County Road 7 (see **Figure 4-3**).

The impacts to the surrounding community members and natural environment in addition to the development costs for this alternative removed it from further consideration. Development of a crosswind runway will be addressed in **Section 4.4.2** to mitigate the lack of crosswind coverage for the smaller aircraft that use HCD.

4.4.2. CROSSWIND RUNWAY ALTERNATIVES

Reorienting the primary runway was dismissed from further consideration, therefore, the impacts of a crosswind runway were evaluated to gain proper wind coverage for smaller (A-I) aircraft at the airport.

Crosswind Runway Length

The suggested crosswind runway length according to FAA AC 150/5325-4B, *Runway Length Requirements for Airport Design*, is “100% of the length determined for the lower crosswind capable airplanes using the primary runway.” Based on review of several aircraft manufacturing manuals and discussions with the users of the primary runway, a crosswind runway length of 2,500 feet is adequate for the 20 year planning period. The Minnesota statewide average length of turf crosswind runways is 2,464 feet. It is recommended a crosswind runway be constructed to a minimum runway length of 2,500 feet.

AC 150/5300-13A, *Airport Design*, provides guidance on installing either a strip of concrete or frangible cones along each threshold of the turf runway in order to maintain an accurate location of the runway ends. Many times during mowing operations or when opening the runway after winter months, the threshold locations can shift. Marking the ends with either a strip of concrete or frangible cones can ensure that the airspace evaluation remains valid for each runway end. The frangible cones must stay out of the 20:1 approach slope and the concrete can only be 1.5 inches above the surrounding grade.

Crosswind Runway Width

FAA Airport Design standards recommend a runway width based on the Aircraft Approach Category and Airplane Design Group of the critical aircraft using or proposed to use the runway. Since the purpose of the crosswind runway is to provide adequate wind coverage for small A-I aircraft, the runway width requirement is 60 feet. A width of 60 feet is adequate for the 20 year planning period.

Crosswind Runway Pavement Strength, Type, Condition

The crosswind runway is to be used by smaller aircraft such as conventional gear aircraft, small agricultural sprayers, and aircraft with low approach and takeoff speeds. The weight of this group of aircraft is under 12,500 pounds. Due to the smaller aircraft use, a turf runway is preferred. Larger aircraft have adequate wind coverage on the primary runway and do not need to access the crosswind runway. It is recommended the crosswind runway be constructed as a turf runway, which will be adequate for the 20 year planning period.

Crosswind Runway Alternatives

HCD is constrained to the east and west by state and county roadways. County Road 7 to the west is classified as a rural collector road. In 2013, there were approximately 1,900 vehicles a day traveling on the portion of County Road 7 past the airport. State Highway 15, on the east side of the airport, is classified as a rural minor arterial road. Approximately 10,900 vehicles travelled past the airport each day on State Highway 15 in 2013. Of the vehicles that use that portion of State Highway 15, between 1,000 and 4,999 of those vehicles were semi-trucks or multi-axle trucks. Both roadways are important to the transportation system in the City of Hutchinson. As previously discussed, any new or relocated runway end would require the Runway Protection Zone to be clear of any incompatible land uses. This was taken into consideration when reviewing crosswind runway alternatives.

Another consideration when evaluating alternatives is the impact MnDOT Safety Zoning will have on the surrounding residents and economic development around the airport. According to Minnesota Statute Chapter 360, the land use restrictions for Safety Zone A include no buildings, temporary structures, uses that create wildlife hazards, or uses that would create, attract, or bring together an assembly of people. Uses allowed in Safety Zone A include agriculture, cemetery, and automobile parking. For a turf runway, Safety Zone A begins at the end of the runway and extends to two-thirds the runway length. Therefore, the length of the Safety Zone depends on the length of the runway.

Safety Zone B begins at the end of Safety Zone A and extends an additional one-third of the runway length. The restrictions in Safety Zone B are less than in Safety Zone A. Buildings are allowed in Safety Zone B but they must be on sites that encompass three or more acres. In addition, Safety Zone B should not create, attract, or bring together an assembly of people that would exceed 15 times the size of the parcel.

The crosswind runway alternatives analyzed below consider the impacts to the surrounding residential areas, potential economic development, and natural environment. The alternative evaluation was divided into three areas of analysis including the south, central, and north portions of airport property.

South Crosswind Runway Alternatives:

- Alternative 1 – Crosswind runway from the existing ALP (see **Figure 4-4**). A runway orientation of 8/26 provides 98.73% wind coverage for the 10.5 knot crosswind component when combined with the primary runway. This turf runway is 2,800 feet by 120 feet and meets the runway length recommendations for a crosswind runway. However, this alternative does not provide a clear future RPZ to the Runway 26 end. State Highway 15 would need to be relocated to provide an RPZ clear of land use incompatibilities. The previous ALP was completed in 2011 and approved in early 2012, prior to the clarification on land uses within an RPZ was published.

This alternative would require 37 acres of property acquisition to the west of the airport from three residential property owners, and 6.6 acres of property acquisition to the east of the airport from one business and one residential property owner. The alternative crosses a portion of the Waters of the State (McCuen Creek). A culvert would need to be added under the runway to allow the creek to continue to flow. This would need to be evaluated through the environmental assessment process.

This alternative intersects the primary runway which is preferred by FAA for safety reasons. It also prevents an aircraft from being under the approach surface of the crosswind runway while an approaching aircraft is within one mile of the crosswind runway threshold. Safety Zone A would extend east of State Highway 15 and would prevent any future residential growth south of the existing development. This alternative was removed from further consideration due to the impact to State Highway 15 and limiting the residential growth in this area.

- Alternative 2 – Shifted ALP alternative (see **Figure 4-4**). Alternative 2 has the same orientation, wind coverage, and length as Alternative 1, however, the runway was shifted west to avoid the impacts to State Highway 15. Shifting the runway prevents the crosswind runway from intersecting the primary runway, which is not the preferred type of development by FAA. This alternative crosses the same portion of McCuen Creek as Alternative 1 and would require the same analysis during the environmental assessment process.

Alternative 2 prevents the need to relocate State Highway 15 however, Safety Zone A would still impact any future residential development east of the highway. Alternative 2 requires 42.8 acres of property acquisition to the west of the airport from two property owners. No additional property is needed to the east of the airport. Although this alternative impacts fewer property owners, the impacts to the residential development east of State Highway 15 removed this alternative from further consideration.

- Alternative 3 – Reoriented south crosswind runway alternative (see **Figure 4-4**). Alternative 3 was analyzed to gain additional residential development space east of State Highway 15 by shifting Safety Zone A further south. This alternative is aligned as Runway 10/28, achieves 98.26% wind coverage for the 10.5 knot crosswind component when combined with the primary runway, and is 2,500 feet long by 60 feet wide. The location of Safety Zone A for this alternative would allow approximately three additional residential properties south of the existing development.

This alternative completely avoids the Waters of the State to the west of the primary runway, however, it does not avoid ditches that are currently used for drainage. This alternative does not cross the primary runway and a total of 32.3 acres of property acquisition is required. This alternative does not cross the primary runway and was removed from further consideration.

Central Crosswind Runway Alternatives:

- Alternative 4 – North/south orientation (see **Figure 4-5**). Alternative 4 is aligned as Runway 3/21, achieves 95.15% wind coverage for a 10.5 knot crosswind component when combined with the primary runway, and is 2,500 feet long by 60 feet wide. This alternative is shown to the west of the primary runway. This alternative does not cross the primary runway, however it avoids the need to relocate any roadways surrounding the airport. The Runway Object Free Area and Runway Safety Area cross over McCuen Creek requiring a culvert or other system to be developed to meet the grading requirements of these surfaces. To prevent this, the runway would need to be shortened to 2,300 feet. A length of 2,300 feet does not meet the needs of the existing users of the airport.

Alternative 4 limits development that could occur between Airport Road and the existing airport property line due to the location of Safety Zone A as seen on **Figure 4-5**. An additional 34.6 acres of land acquisition is required from two residential property owners.

This alternative requires relocation of the Automated Weather Observation System (AWOS) and the wind cone. In addition, pilots using the parallel taxiway to the primary runway would need to hold short of the approach surface while aircraft were landing on the Runway 21 end. Aircraft cannot be under the approach surface when an aircraft on approach is within one mile of the runway threshold and aircraft cannot park or hold within the RPZ. Because this turf runway does not meet the recommended runway length, would impact development along the south side of Airport Road, and requires the relocation of the AWOS and wind cone, this alternative was removed from further discussion.

- Alternative 5 – Reoriented central crosswind runway alternative (see **Figure 4-5**). Alternative 5 is a realignment of Alternative 4 in order to increase the amount of wind coverage and avoid impacting McCuen Creek and the AWOS and wind cone. This alternative is oriented as Runway 5/23, achieves 96.96% wind coverage for a 10.5 knot crosswind component when combined with the primary runway, and is 1,900 feet long by 60 feet wide. This alternative does not require the relocation of any roadways. In addition, development is allowed south of Airport Road, however, it must be restricted to the requirements within Safety Zone B.

This alternative does not cross the primary runway and requires 29.4 acres of property acquisition from one residential property owner. The area to be acquired goes through the middle of a farmed parcel making it more difficult to use for farming operations compared to how it exists today. The same restrictions apply to operating on the parallel taxiway and primary runway when aircraft are approaching the Runway 23 end. Because this alternative does not meet the runway length requirements, does not cross the primary runway, and divides a farming parcel in half, it was removed from further consideration.

North Crosswind Runway Alternatives:

- Alternative 6 – Longest north crosswind runway alternative (see **Figure 4-6**). Alternative 6 is oriented as Runway 8/26, achieves 98.38% wind coverage for a 10.5 knot crosswind component when combined with the primary runway, and is 2,550 feet long by 60 feet wide. This runway alternative was designed to maximize the use of the existing airport property while minimizing the impact to the surrounding community and McCuen Creek.

This runway location allows the turf runway to cross the primary runway as desired by FAA. This alternative also eliminates the need to relocate any of the surrounding roadways. Safety Zone A crosses over State Highway 15 but does not include any residential homes. Safety Zone B is partially located over an open space area in the northeast corner of State Highway 15 and Airport Road. This area has the potential for commercial development and is a part of the economic growth plan for the City of Hutchinson.

This alternative requires 26.7 acres of property acquisition from one residential property owner. The location of this alternative would divide the existing farmland as with Alternative 5. Due to the impact to the area planned for commercial development, and division of the farmed parcel, this alternative was removed from further consideration.

- Alternative 7 – Shifted north crosswind runway alternative (see **Figure 4-6**). Alternative 7 has the same alignment and provides the same wind coverage as Alternative 6. This alternative is 2,500 feet long and 60 feet wide. This location keeps the Runway 26 RPZ on airport property and does not require relocation of any of the surrounding roadways. This alternative keeps Safety Zone A off residential property and does not prohibit commercial development in the northeast quadrant of State Highway 15 and Airport Road.

This alternative requires the least amount of property acquisition of all the crosswind runway alternatives at 23.17 acres, and although there is some segregation of farming areas, this alternative has the least amount of farming impacts compared to the other alternatives analyzed.

Alternative 7 was chosen as the preferred alternative because it provides adequate wind coverage for small aircraft using the airport, meets the recommended runway length, and has the least amount of impacts to the surrounding community and natural environment. As the chosen option, Alternative 7 is depicted on the Airport Layout Plan (ALP) (see **Appendix C**).

4.5. AIRPORT VISUAL AIDS & NAVIGATIONAL AIDS

Airport visual aids are a necessary component to provide pilots with the proper guidance within the immediate airport environment. As discussed in the Airport Inventory chapter, there are several visual aids at the airport. This section will identify if any airport visual aids need to be added, changed, or upgraded based on the needs of the existing and future users of the airport.

- The existing runway edge lights on Runway 15/33 are Medium Intensity Runway Lights (MIRLs). MIRLs are recommended for runways with night procedures and/or visibility minimums one mile or greater. If the visibility minimums drop below one mile, High Intensity Runway Lights (HIRLs) are required. The existing approach to the Runway 15 end has visibility minimums less than 1 mile. HIRLs should be installed within the 20-year planning period. The turf crosswind runway will not be lit throughout the planning period.
- HCD has taxiway edge lighting installed along the connecting taxiways leading to the parallel taxiway. The parallel taxiway currently has retroreflective markers installed on the edges. It is recommended that medium intensity taxiway lighting (MITL) be installed along the entire parallel taxiway.
- Runway End Identifier Lights (REILs) are installed at HCD on each runway end. These lights provide rapid and positive identification of the approach end of a runway during night and low visibility conditions. No REILs are recommended for the proposed turf crosswind runway.
- It is recommended that either a strip of concrete or frangible cones be installed along each threshold of the proposed turf crosswind runway in order to maintain an accurate location of the runway ends. However, runway markings such as runway numbers or threshold location bars will not be painted on the turf runway.
- Additional guidance signs for the crosswind runway will need to be installed to guide pilots on both the primary and crosswind runways. Additionally, hold position markings will need to be painted on the existing parallel taxiway for pilots to monitor traffic when crossing the turf runway along the parallel taxiway.
- The proposed stopways need to be marked with yellow full and partial chevrons. These markings indicate the pavement for a stopway is not useable for normal operating procedures.
- There are currently 4-light Precision Approach Path Indicators (PAPIs) for both runway ends of Runway 15/33 at HCD. These type of lights provide glide path guidance to pilots during landing operations. No other Visual Glide Slope Indicators (VGSI) are recommended for HCD throughout the planning period.



No additional visual aids or navigational aids are recommended at HCD over the next 20 years. Additional approach navigational aids such as a VOR, ILS, or NDB, as discussed in the Airport Inventory chapter, require additional equipment be installed at the airport and are not recommended for HCD over the next 20 years.

4.6. METEOROLOGICAL FACILITIES

HCD has a wind cone visible to pilots on both ends of Runway 15/33. It is also visible when leaving the existing building area. It is recommended the wind cone remain in its current location over the next 20 years.

The existing AWOS must be kept clear of agricultural operations within 100 feet of the tower, clear of objects above the 30-foot sensor height within 500 feet, and clear of high objects or structures within 1,000 feet of the system. The existing location of the AWOS is adequate for the 20-year planning period.

4.7. TAXIWAY & TAXILANE FACILITY REQUIREMENTS

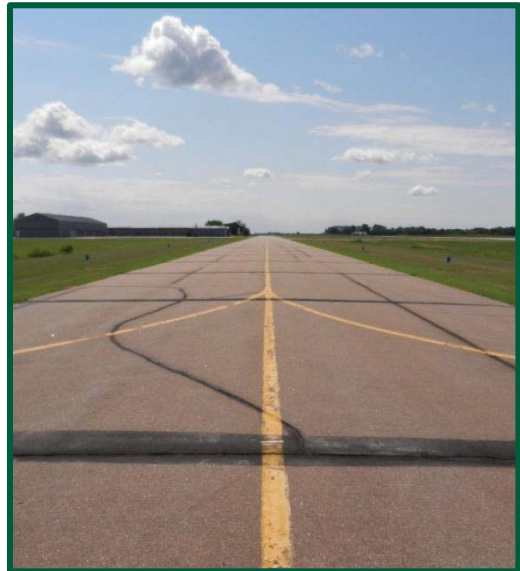
4.7.1. TAXIWAY REQUIREMENTS

The existing taxiway system at HCD consists of five paved connecting taxiways and a full parallel taxiway (see **Figure 2-3**). Taxiway facilities at an airport are established to enhance the safety and efficiency of airfield operations. A full parallel taxiway prohibits the need for aircraft to back taxi on an active runway after landing or prior to takeoff.

The runway to taxiway centerline separation distance and the taxiway safety area dimensions are defined by the critical aircraft and type of approaches proposed to be used at the airport over the next 20 years. The future critical design aircraft for the runway is RDC B-II and the future approaches are proposed to be non-precision with less than one mile visibility minimums. Based on this criteria, the parallel taxiway should be constructed 240 feet from the runway centerline. The taxiway object free area (TOFA) width is 131 feet centered on the taxiway centerline to ensure proper wing tip clearance. Only objects necessary for air navigation may be placed within the TOFA. The existing runway to taxiway centerline separation is 300 feet. This separation distance is adequate for approach category C aircraft. It is not anticipated that approach category C aircraft will become the critical aircraft over the next 20 years however, a change in separation distance is not necessary to meet the needs of the existing and future users of the airport.

Taxiway width, fillet, and curve design are based on the Taxiway Design Code (TDG) of the critical aircraft identified for use on the parallel taxiway. The TDG is based on the width of the main gear of the aircraft and the distance between the cockpit and main gear of the critical design aircraft. The classification for taxiway development at HCD is TDG-2. The taxiway width for this group of aircraft is 35 feet. The existing taxiway width at HCD is 40 feet. This width is adequate for the 20 year planning period.

According to the updated FAA AC 150/5300-13A, *Airport Design*, any taxiways leading from the apron area directly to the runway should be avoided to discourage pilots from accidentally taxiing directly from the building area onto the runway. HCD has a taxiway leading from the apron area directly to the runway. This connecting taxiway should be relocated with the next runway project.



There is also a connecting taxiway on the Runway 15 end that connects the existing parallel taxiway to a building previously used as an aviation business. The business is no longer in operation and this connecting taxiway pavement should be removed with the next runway project.

A turf parallel taxiway should be constructed and maintained to at least one end of the proposed crosswind runway. It is recommended the taxiway be constructed to TDG 1A standards with a width of 25 feet and a TOFA of 89 feet centered on the taxiway centerline.

4.7.2. TAXILANE REQUIREMENTS

While taxiways provide access from the active runway to the building areas, taxilanes provide access to hangars and other facilities throughout the building area. Taxilanes are not as wide nor do they require the same safety area widths as taxiways due to aircraft operating at a lower speeds.

There are two groupings of aircraft that are in the existing hangars or do business at HCD. The TDG for the type of aircraft using the hangar area at the airport is TDG-1A and TDG-2. Based on the fillet design tables for taxiways, the minimum recommended taxilane width for TDG-1A aircraft is 25 feet and the taxilane width for TDG-2 aircraft is 35 feet. The taxilane object free area used to maintain adequate wing tip clearance between hangars is based on the ADG of the critical aircraft and should be 79 feet for ADG I aircraft and 115 feet for ADG II aircraft.

The majority of separation distances in the existing building area meet standards. Any new taxilanes constructed in the building area should meet the width and separation distance standards as mentioned above. The 20 year building area plan in the ALP depicts the different separation standards and taxilane access within the building area (see **Appendix C**). The ALP may show more development than necessary within the 20 year planning period, however, this provides a plan in the event hangar growth occurs more rapidly than expected.

4.8. APRON SIZE & TIE-DOWN REQUIREMENTS

An aircraft apron provides an area for aircraft parking, aircraft movements, fueling operations, and access to the hangar area. The apron space requirements are developed according to local trends and FAA design standards. The existing apron is 14,200 square yards and provides 15 tie-downs.

Aircraft Tie-Downs

An analysis of the overall tie-down and apron size requirements was completed to determine the future needs at the airport. The peak number of operations on the busiest day of the year at HCD were used to calculate the number of tie-down spaces needed in the base year and also at the end of the 20 year planning period. This will ensure there are adequate tie-down spaces available at any time throughout the year. The demand at the airport was calculated at the beginning of this chapter. In 2013, the peak number of operations on the busiest day is 82. Itinerant aircraft represent 50% of the operations or 41 operations or 20 aircraft on the busiest day of the year. It is assumed 50% of itinerant aircraft that use the airport on the busiest day will stay and park at the airport for a total of 10 tie-downs needed in 2013.



The same formula was used to determine the number of tie-downs necessary at the end of the 20 year planning period. The peak number of operations at the airport in 2033 is 104. Therefore, there are approximately 52 operations per day by 26 aircraft on the busiest day of the year. If 50% of the itinerant aircraft that use the airport on the busiest day stay and park at the airport, 13 tie-downs will be needed in 2033.

There are currently 15 tie-down spaces available for ADG-I aircraft at HCD and one concrete tie-down for aircraft weighing more than 12,500 pounds. No new tie-downs are needed at HCD, however one or two of the existing tie-downs should be reconfigured to support transient large aircraft weighing more than 12,500 pounds. The building area plan on the ALP depicts the future tie-down locations.

Apron Size

General aviation apron space requirements necessitate an assessment of the number of aircraft tie-downs, airplane types, wingtip clearances, and aircraft maneuverability.

Existing apron facilities at the airport consist of a main 14,200 square yard area for parking, aircraft tie-downs, fueling, and general aircraft circulation. FAA size factors for apron space assume 960 square yards of apron space to accommodate both the aircraft and a taxilane for ADG-I airplane and 1,385 square yards to accommodate both the aircraft and a taxilane for an ADG-II airplane. To accommodate ADG-II aircraft, an apron of 14,159 square yards is recommended for the existing conditions increasing to 18,257 square yards in 2033. The existing apron should be expanded within the 20 year planning period to accommodate future demands including parking for ADG-II aircraft. Actual apron size will be based on meeting local constraints and maneuverability requirements.

4.9. MN SASP AIRSIDE RECOMMENDATIONS

The Minnesota State Aviation System Plan (SASP) gives a top down approach to looking at the needs of the aviation system in Minnesota. Although the Airport Master Plan process is a more in depth look at a specific airport, the SASP recommends basic needs for the airport based on how the airport serves the aviation system as a whole within the state.

HCD is classified as an Intermediate Airport in the SASP. Intermediate Airports such as HCD have a paved and lighted primary runway less than 5,000 feet in length. These airports are capable of accommodating all single-engine aircraft and some multi-engine aircraft and business jets depending on runway length. These airport types serve a variety of roles including emergency medical flights, recreational flying, flight training, and business travel flights in support of local businesses.

The only airside need recommended for HCD within the SASP is to expand the apron area. As previously discussed, this recommendation will be depicted on the ALP (see **Appendix C**).

4.10. LANDSIDE FACILITY REQUIREMENTS

Building area facilities at a general aviation airport support airfield operations providing aircraft storage, fueling operations, aviation services, Arrival/Departure (A/D) building space, and automobile parking. Overall facility requirements should be designed to accommodate ARC B-II aircraft to meet existing and future critical aircraft requirements. Areas designed to exclusively serve smaller aircraft will also be depicted on the ALP (see **Appendix C**).

4.10.1. ARRIVAL/DEPARTURE (A/D) BUILDING

General aviation A/D buildings provide an area for local and transient pilots and passengers to transition to and from the aircraft operations area. The existing A/D building is 3,000 square feet in size and was constructed in 1999. The facilities within the A/D building include restrooms, conference room, office, and computer access for flight planning. The facilities located within the building are adequate for the type of users at HCD.



Public space requirements are designed around the number of passengers (including the pilot) during the peak hours of operations at the airport. A general average of one pilot and one passenger per general aviation flight can be assumed. A general aviation A/D building requires approximately 50 square feet per passenger for circulation, waiting area, management/operations space, public conveniences, concessions area, and storage. The recommended size of the A/D building is based on the peak hourly operations of 16 in 2013 and 20 in 2033. Assuming two persons per flight, the existing activity at HCD requires a 1,600 square foot building increasing to 2,000 square feet within the 20 year planning period. The existing A/D building of 3,000 square feet is adequate for the 20 year planning period.

4.10.2. AIRPORT ACCESS & AUTOMOBILE PARKING

Access

The entrance to HCD is located on the east side of the airport accessible via State Highway 15. The airport entrance road provides access to the building area and automobile parking. The access road is paved and adequate to serve the existing and projected needs of the airport.

Parking

An airport needs to provide adequate automobile parking to accommodate pilots, employees, visitors, and passengers. The existing automobile parking lot is paved and has 45 automobile parking stalls in immediate proximity to the A/D building and Fixed Based Operator (FBO). The SASP recommendations for public automobile parking spaces are estimated at one per based aircraft plus 25%. There are currently 42 based aircraft at HCD. Adding 25% to that number gives a total of 53 automobile parking spaces needed. The based aircraft forecasts show 54 based aircraft in 2033 which would require approximately 68 automobile parking spaces at the airport within the 20 year planning period. Additional parking is provided throughout the building area plan to provide adequate automobile parking as the based aircraft and business use at the airport continues to grow.

On-site aviation businesses also require additional vehicular parking needs for employees and their visitors. Generally, an automobile parking area should provide five parking spaces for each service offered with additional spaces for employee parking. The existing parking lot adequately satisfies demand for existing aviation businesses at HCD. The City of Hutchinson should continue to monitor parking availability for future businesses locating at the airport.

4.10.3. AIRCRAFT STORAGE

Aircraft are typically stored in conventional box hangars, or T-hangar structures on the airport. Currently, HCD has three public 8-unit T-hangar buildings (24 units), one 11-unit T-hangar with open sides, one public conventional hangar, and six private conventional hangars.

Planning considerations for hangar facilities include the appropriate number and type of hangars to accommodate the projected based aircraft, hangar owner/tenant needs, and geographic/environmental constraints. Aircraft storage needs are driven by the based aircraft forecast and the type of aircraft storage demand.

Currently, most of the based aircraft at HCD utilize T-hangar units for storage. Demand for T-hangar space is assumed to remain strong as it is economical for the user. Currently, there are two people on a waiting list for T-hangar space. However, the existing T-hangars do not have wide enough doors to accommodate some users who want to base at HCD.

Building area alternatives were developed not only to accommodate the existing needs of the airport but to also understand the potential of the building area and determining the appropriate location for various hangar types and other building area needs. Two building alternatives were developed for HCD. The building areas were planned to maximize the available space, regardless of demand, to ensure the most infrastructure can be planned. The building alternatives correspond with the north and south crosswind alternatives. The central alternatives did not impact the building area development.

The Building Area for South Crosswind Runway Development is divided into areas based on hangar types (see **Figure 4-7**). The north end has five T-hangars proposed near the existing 8-unit T-hangar. Private hangars for ADG-I aircraft are proposed to the east. To the east of the A/D building is the ADG-II hangar area intended for corporate aircraft. Development on the south end includes another ADG-I area. The SRE building is proposed along the entrance road. Parking is dispersed throughout the building area to separate vehicle and aircraft traffic.

The Building Area for North Crosswind Runway Development is shown on **Figure 4-8**, at the end of this chapter. To the east of the A/D building is the ADG-II hangar area. These hangars are intended for corporate aircraft. To the north of the ADG-II hangar area is the ADG-I hangar area. These hangars are intended for smaller aircraft. Two T-hangars are proposed near the existing 8-unit T-hangar north of the existing apron, and another ADG-I area is proposed on the south end of the airport. Five 10-unit T-hangars are proposed on the south end as well. An SRE building is proposed along the entrance road, and vehicle parking is dispersed throughout the building area to separate vehicle and aircraft traffic.

As hangar growth continues at the airport, the City will continue to monitor the viewshed from the residential properties adjacent to the airport. It will be important to plan for the proper screening between the airport development and residential properties. This could be in the form of bushes or small evergreen growth to uniform exterior hangar colors.

Due to the selection of the preferred crosswind runway alternative, the Building Area for North Crosswind Runway Development was chosen as the preferred alternative and meets the 20 year building area needs at the airport. The North Alternatives Building Area will be depicted on the ALP (see **Appendix C**).

The development of the Building Area for North Crosswind Runway includes growth for additional recreational aircraft, corporate aircraft, and agricultural aircraft. However, due to the location of the crosswind runway, the City determined that it would be appropriate to plan for an area near the crosswind runway for agricultural building area development. Agricultural aircraft make multiple landings and takeoffs in one day during operation. The aircraft are taxied back to the building area often to refill with the supplies being used in the fields. An area near the crosswind runway and separate from the existing building area would allow safer separation between the different types of operations at the airport. This area is also depicted on the ALP (see **Appendix C**).

4.10.4. AIRPORT FUELING SYSTEM

Fuel storage requirements are based on the average forecasted number of annual operations and fuel sales data for the airport. Based on national estimates, an estimated fuel consumption rate of three gallons per piston aircraft operation for 100LL fuel and a consumption rate of five gallons per turbine aircraft operation for Jet A fuel is common at general aviation airports similar in size to HCD.

The existing peak month operations, discussed in **Section 4.2.2**, for piston aircraft is 1,462 operations (2,436 operations in the busiest month x 60%). At three gallons per operation, the peak month storage for 100LL fuel is 4,386 gallons. The ultimate peak month piston operations will be 1,880 operations (3,132 x 60%) requiring a peak month storage for 100LL fuel of 5,640 gallons.

Turbine operations comprise 30% of the total operations at HCD. Due to the high volume of turbine operations by agricultural aircraft during the growing season, the peak month operations for turbine aircraft is expected to be 40% of the total turbine operations in a year. The existing peak month operations for turbine aircraft will be 974 operations (2,436 x 40%). At five gallons per operation, this will require 4,870 gallons of Jet A fuel storage. The ultimate peak month turbine operations will be 1,252 operations (3,132 x 40%) requiring a peak month storage for Jet-A fuel of 6,260.



The existing fuel facility at HCD is located along the main apron and consists of an above-ground 10,000 gallon 100LL tank and an above-ground 12,000 gallon Jet A tank. The fuel storage requirements are sufficient to accommodate existing and future demand at the airport.

4.10.5. AIRPORT MAINTENANCE

The City of Hutchinson does not store airport maintenance equipment at the airport. An airport maintenance and snow removal equipment storage building on airport property is recommended. This structure would be located near the entrance road to allow for each vehicle access during snow events. A snow removal equipment storage building of 60 feet by 60 feet should be adequate to store airport snow removal equipment and attachments. The proposed location for the SRE building is shown in **Figure 4-8** and will be depicted on the ALP (see **Appendix C**).

4.10.6. AIRPORT PROPERTY

Airport property consists of 291.84 acres, owned in fee by the City of Hutchinson. In addition, the City has acquired 59.36 acres in easement within the Runway 15 and 33 approach to the primary runway. The future property acquisition is a total of 131.58 acres at the airport including 129.02 acres for construction of the crosswind runway and agricultural area development. The additional 2.56 acres is to own the remaining portions of the approach RPZ to Runway 15. The existing and future property is depicted on the ALP (see **Appendix C**).

4.10.7. FENCING & SECURITY

HCD does not have any wildlife or security fencing on airport property. A perimeter fence is recommended at airports for security and to prevent wildlife from accessing the runway, but not yet a requirement for general aviation airports such as HCD. A perimeter fence is recommended for the 20-year planning period. Any perimeter fence should be at least eight feet high. FAA is also beginning to require general aviation airports to complete a Wildlife Hazard Assessment study to determine the risk wildlife pose to aircraft at an individual airport. If a perimeter fence is recommended from the plan, those improvements will be prioritized for FAA funding.

4.10.8. STATE AIRPORT ZONING

The existing Airport Zoning Ordinance adopted for the airport in 1984 protects the airspace and land use for the existing 4,000 foot runway. The ordinance does not protect for the proposed crosswind alignment. It is recommended the ordinance be updated to protect the future configuration of the airport based on the results of the Airport Master Plan study. The updated zoning requirements for the future runway configurations can be seen on **Figure 4-9** and will be depicted on the ALP (see **Appendix C**).

4.11. MN SASP LANDSIDE RECOMMENDATIONS

At HCD, landside recommendations in the SASP include adding an additional 20 parking spaces for automobiles in the short-term, as well as constructing a partially enclosed perimeter fence at the airport.

4.12. SUMMARY

The following points summarize the key facility requirements at HCD:

- Critical design aircraft is expected to remain ARC B-II/small within the 20 year planning period. Most of the aircraft types using HCD will be ARC A-I small aircraft.
- The RSA is to be regraded with the next runway improvement project to prevent damage to aircraft that may veer off the runway.
- A new crosswind runway is proposed to be built to satisfy the 95% wind coverage requirement. This crosswind runway would raise the wind coverage at the airport from 91% to 98%.
- The proposed crosswind runway is aligned as Runway 8/26 and achieves 98.66% combined wind coverage. It is 2,500 feet in length, and 60 feet wide. Runway 8/26 is proposed north of the existing building area and requires 24.6 acres of property acquisition.
- Building area improvements include additional T-hangar and conventional hangar development in addition to an expanded apron area, additional tie-downs, and building area fencing.
- An SRE building is proposed to store maintenance and snow removal equipment. It will be located along the entrance road.



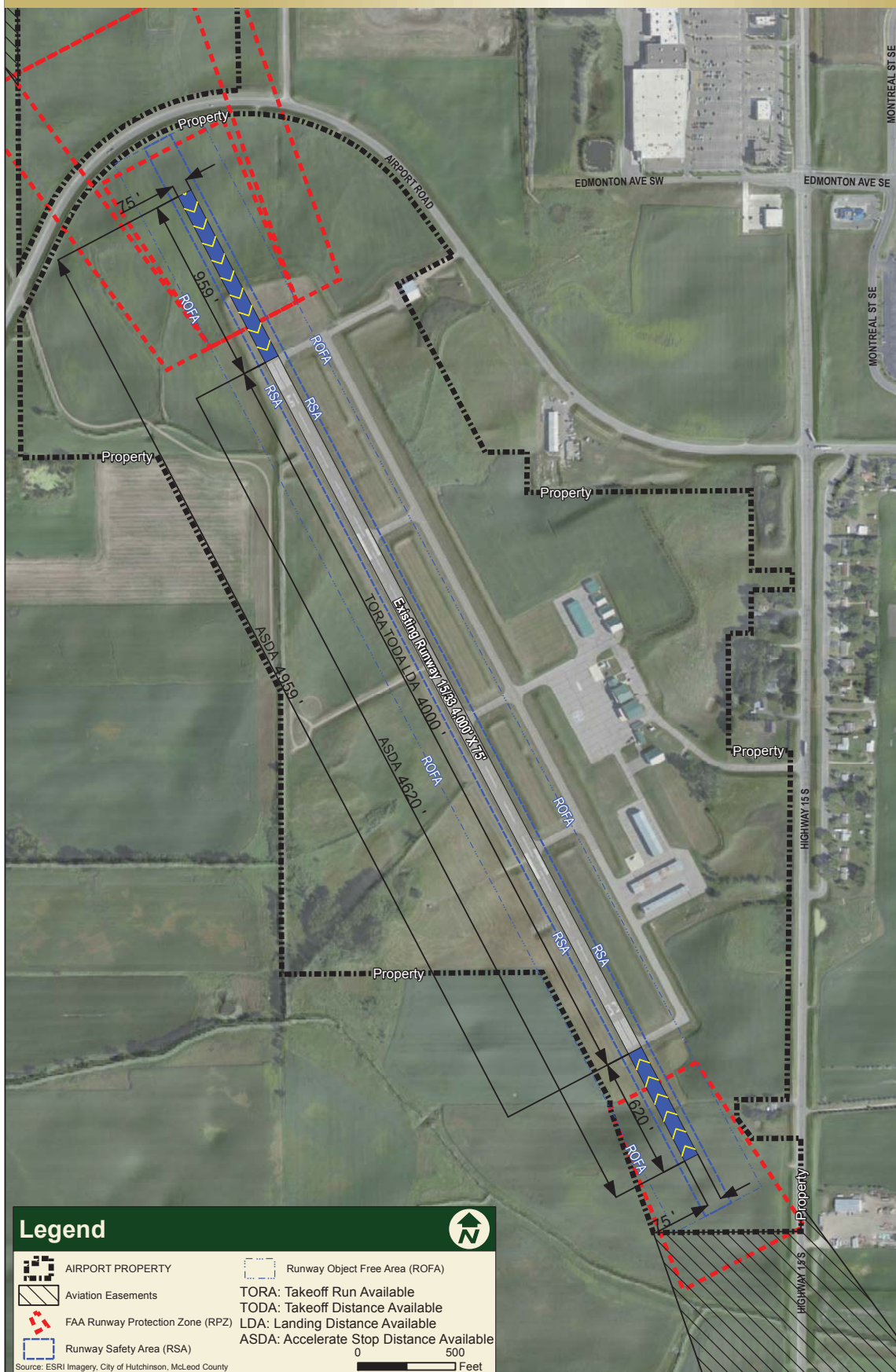


Hutchinson Municipal Airport

Airport Master Plan

Figure 4-2

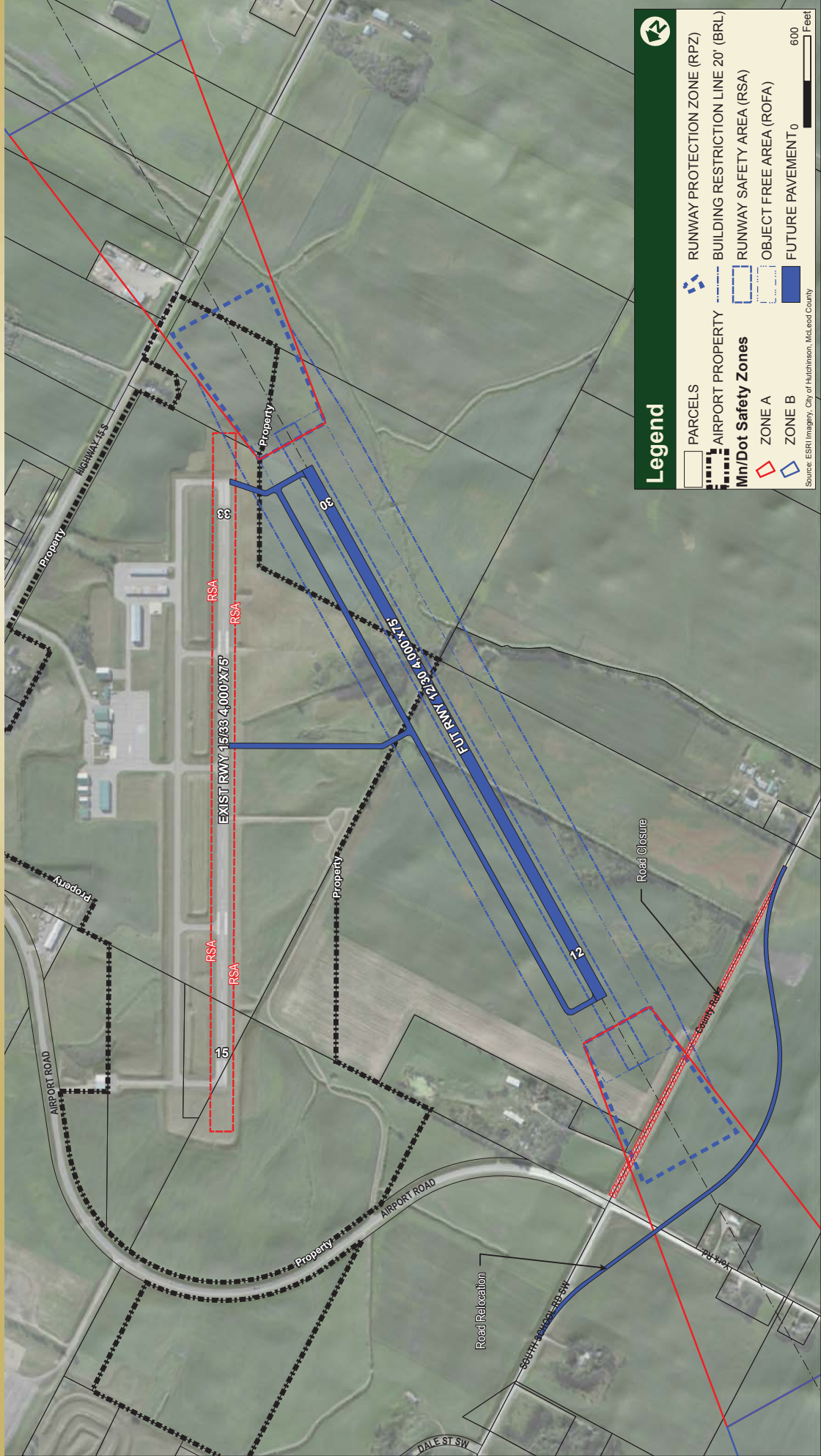
Stopway Alternative





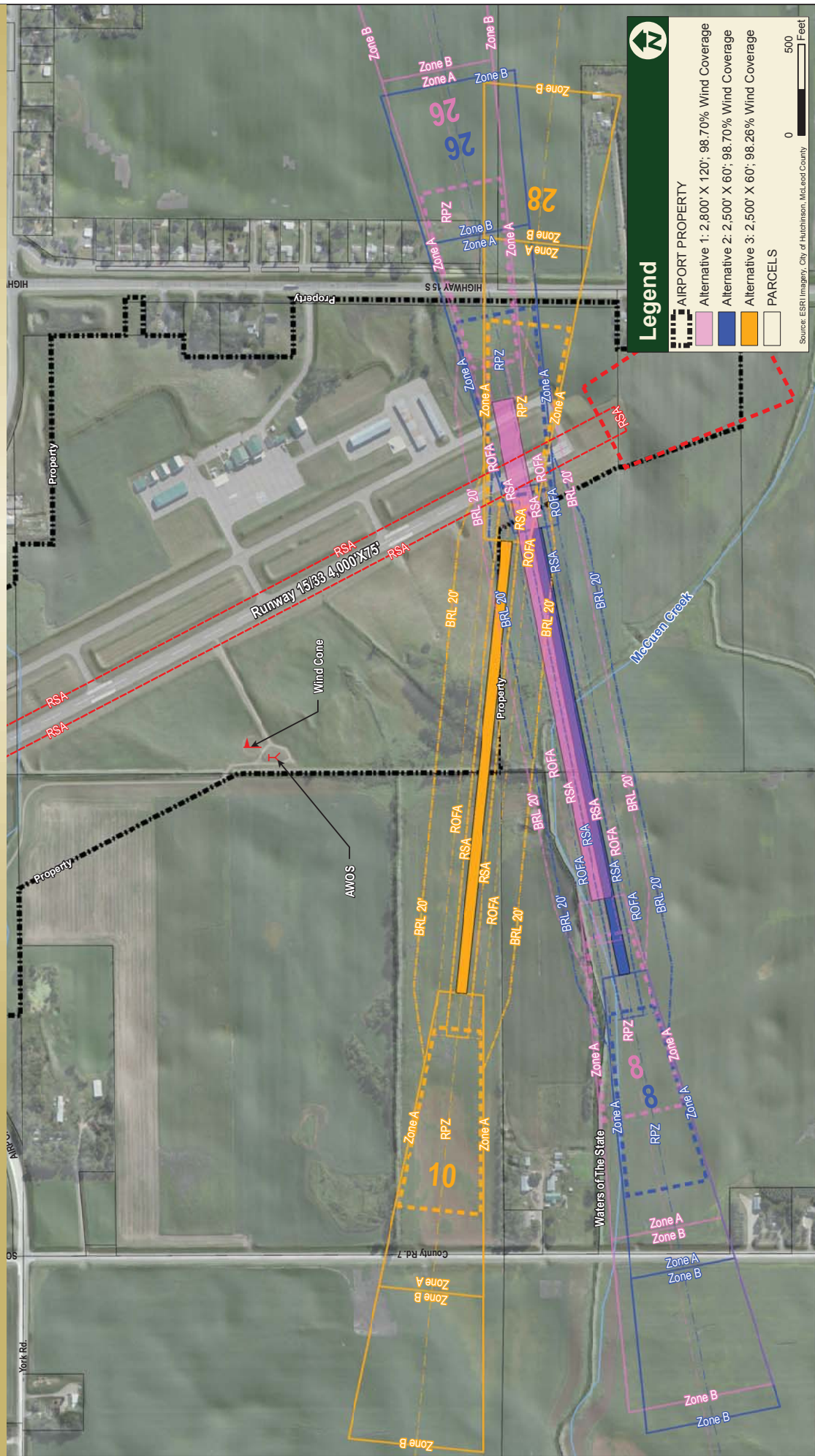
Hutchinson Municipal Airport Airport Master Plan

Figure 4-3 Primary Runway Realignment



Legend

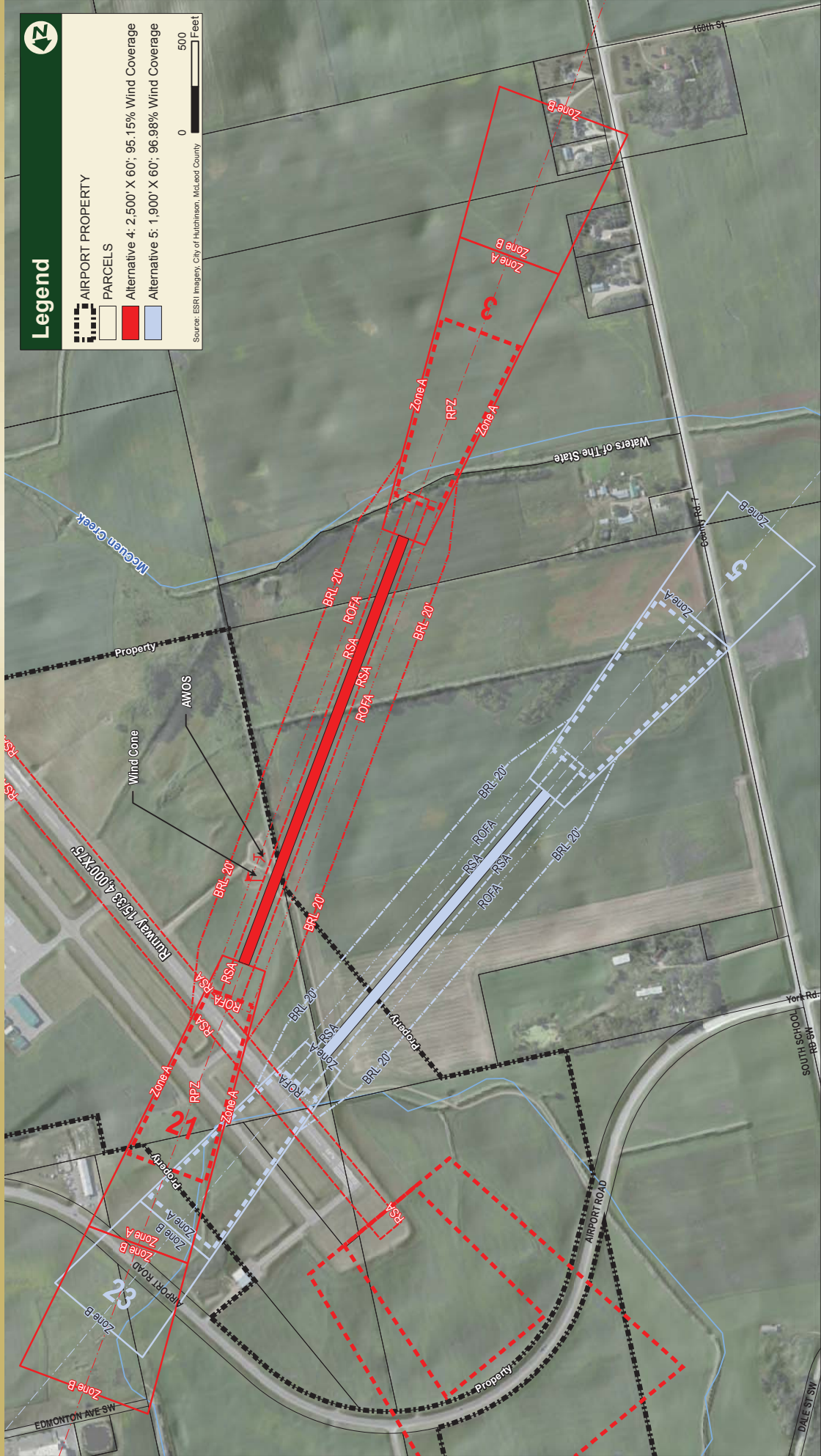
- PARCELS
 - AIRPORT PROPERTY
 - Mn/Dot Safety Zones
 - ZONE A
 - ZONE B
 - RUNWAY PROTECTION ZONE (RPZ)
 - BUILDING RESTRICTION LINE 20' (BRL)
 - RUNWAY SAFETY AREA (RSA)
 - OBJECT FREE AREA (ROFA)
 - FUTURE PAVEMENT 0
- Source: ESRI Imagery, City of Hutchinson, Midland County

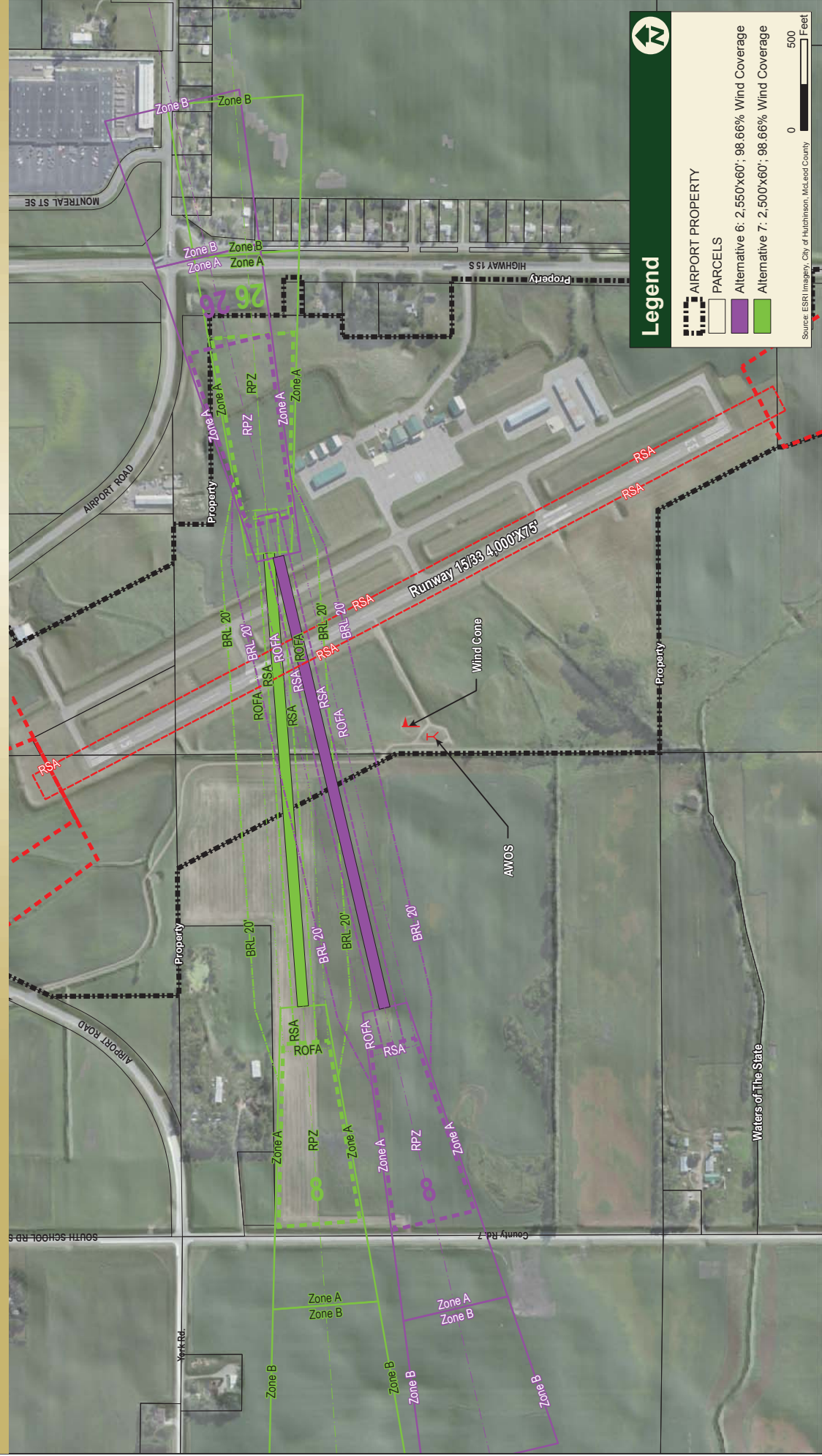




Hutchinson Municipal Airport Airport Master Plan

Figure 4-5 Central Crosswind Runway Alternatives







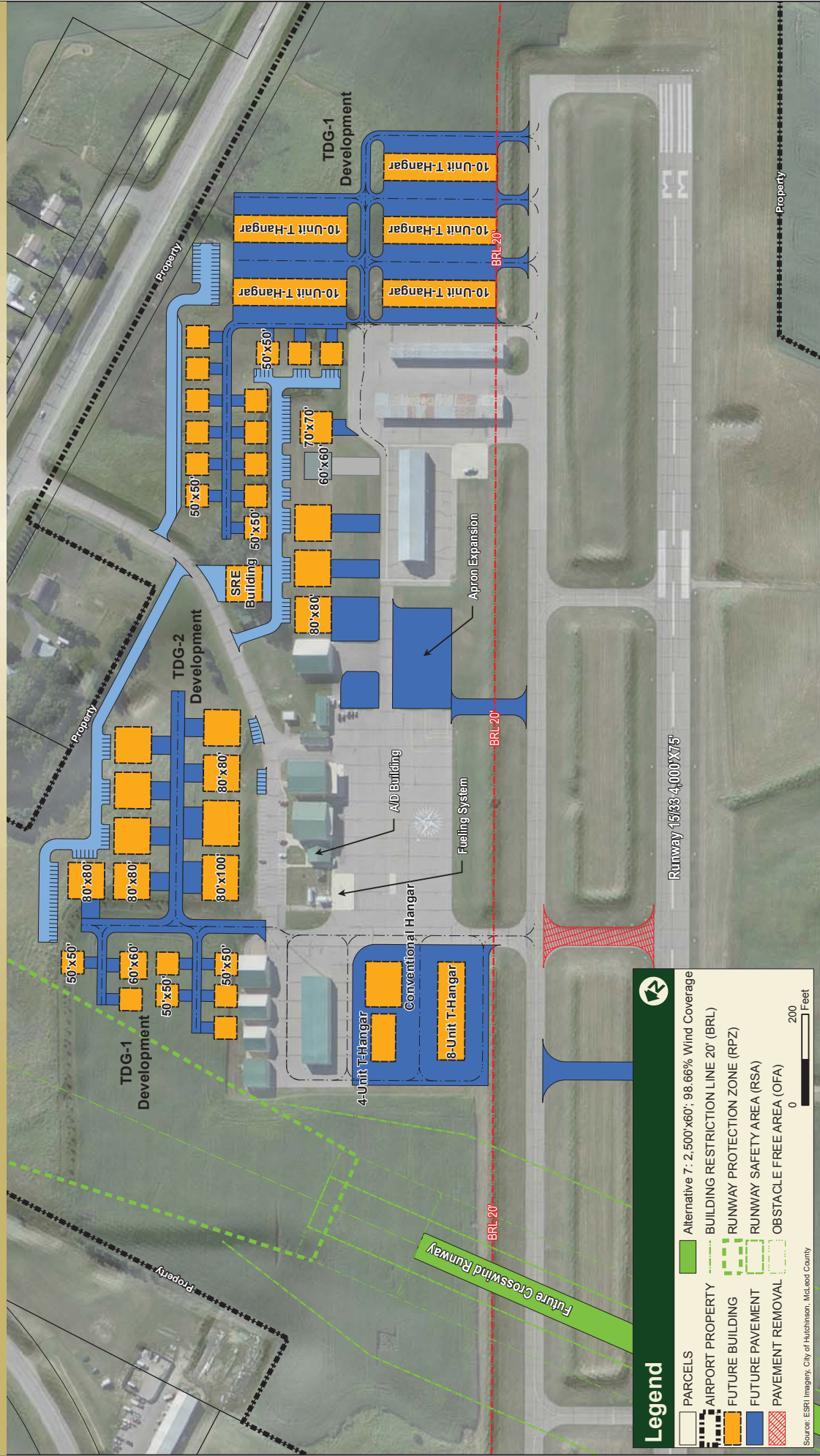
Hutchinson Municipal Airport

Airport Master Plan

Figure 4-7

Building Area for South Crosswind Runway Development





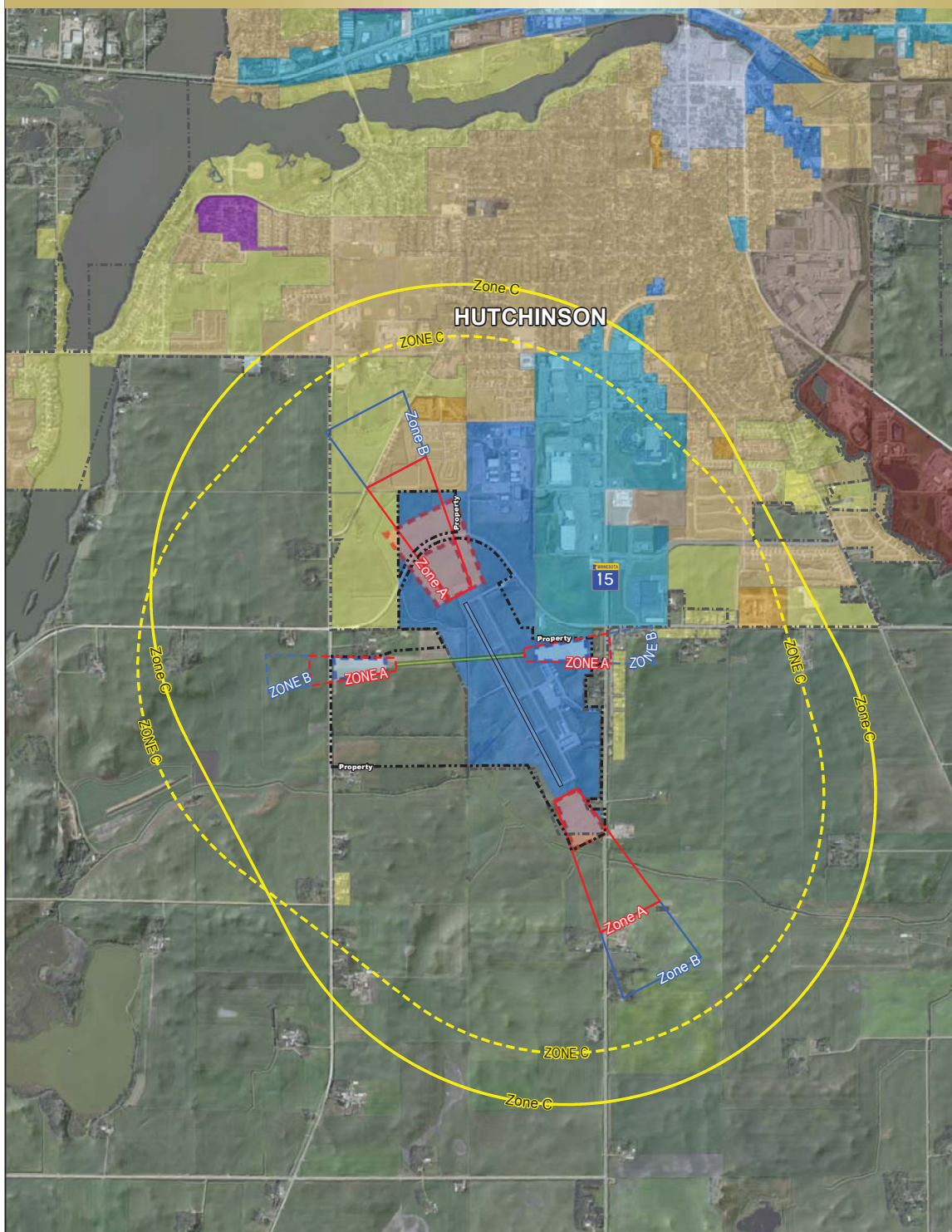


Hutchinson Municipal Airport

Land Use Zoning

Figure 4-9

Future MnDOT
Safety Zoning



Legend

	Existing Safety Zone A		Future Safety Zone A	Zoning		Light Industrial Park
	Existing Safety Zone B		Future Safety Zone B			Manufactured Home Park
	Existing Safety Zone C		Future Safety Zone C			High Density Residential
	FAA Runway Protection Zone (RPZ)		FAA Runway Protection Zone (RPZ)			Medium Density Residential
	Airport Property		Hutchinson City Limits			Single family Residential
						Mixed Use District
						Neighborhood Convenience Commercial
						R-1 Residential

Source: ESRI Imagery, City of Hutchinson, McLeod County

5. FACILITY IMPLEMENTATION PLAN

The implementation plan is necessary to provide guidance to the airport sponsor on how to implement the conclusions of the preferred airfield development alternative. A realistic, sequenced plan is developed to ensure airport development is completed to meet aviation demand, rules, regulations, and grant assurances. The implementation plan consists of a sequenced listing of projects over the 20 year planning period of this document.

Development projects are grouped into short-term (present – 5 years), mid-term (6 – 10 years), and long-term stages (11 – 20 years). The development depicted in the preferred alternative and future Airport Layout Plan (ALP) update corresponds to the recommended development for each of the stages. Planning level development cost estimates in 2014 dollars are included for each item in the facility implementation plan. The projects are based on the recommended facility requirements and alternatives presented and analyzed in this report. Projects include safety, capacity, and compatibility enhancements based on the preferred runway and building area development concepts. The phasing of the projects assists the airport sponsor in budgetary planning for projects necessary to meet aviation demand.

The implementation plan is completed as a planning-level project staging tool. Actual completion of the projects depends on project justification (i.e. critical aircraft, aircraft operations) and funding (i.e. availability of Federal and State grants and local resources). The comprehensive implementation of all airport projects is linked to the Airport Capital Improvement Program (CIP), updated each year by the airport sponsor and submitted to MnDOT Office of Aeronautics and FAA. The 2014 CIP for HCD is included in **Appendix B**.

5.1. FUNDING INFORMATION

The City of Hutchinson uses funding from the FAA, State of Minnesota, and local sources to maintain the airport and complete airport improvements.

As a NPIAS airport, Hutchinson is eligible to receive Airport Improvement Program (AIP) funds for planning and development projects. This funding source covers the vast majority of the cost of major capital improvements. AIP funds currently cover 90 percent of eligible planning, development, and equipment costs. Under the current authorization bill, general aviation airports are entitled to \$150,000 per year, and may accrue up to \$600,000 to use for eligible airport planning and development projects. Additional funds, designated as discretionary, are allocated to airports based on the FAA's national priority system.

Accepting AIP funds also requires the airport sponsor (City of Hutchinson) to follow grant assurances which ensure the airport sponsor maintains the federal development investment in the airport. Grant assurances require airports to be maintained as a public-use airport, abide by federal regulations, and operate in a safe manner. A copy of all 39 grant assurances can be found in **Appendix D**.

The City of Hutchinson also receives state airport funding from the Minnesota Department of Transportation Office of Aeronautics (MnDOT). State aviation grant funds are gathered from aviation fuel taxes and aircraft registration fees. Grant programs include the Airport Construction Grant Program to provide funding for airport safety, planning and development projects; the Airport Maintenance and Operations Program providing assistance for day-to-day airport operating and maintenance expenses; and the Hangar Loan Revolving Account Program that provides interest free loans for the construction of hangar infrastructure. State funding participation ranges from 50 to 80 percent, depending on the type of project. However, due to funding changes at the state level, beginning in calendar year 2014 through 2017 there is additional MnDOT funding participation available. The additional funding could increase

participation rates to 90 percent for state projects and an additional five percent for federally eligible projects. The additional funding will be evaluated on a yearly basis by MnDOT so it is not certain it will be there each year. After 2017 the funding rates would go back to what they were prior to 2014. Additional funding participation by the State would make the local funding share of a project less than it currently is today.

Locally, the City of Hutchinson collects revenues from fuel sales, hangar rental, and land leases. Other funding sources may include city general funding, private funding, or general obligation bonds. Bonds may be used to cover the local share of major airport improvement projects, such as runway rehabilitation.

5.2. PROJECT SCHEDULE

Below is a list of the proposed projects over the next 20 years at the airport. The following sections will provide details for each project such as a project description, timing of each project, interrelated projects, special considerations, and project costs. The projects for calendar years 2015 through 2017 will show additional state funding. The City should continue to plan conservatively in the event that the additional state funding does not come through. The projects listed can be seen on the updated ALP included in this report. There are also three figures located at the end of this chapter that summarize the development projects planned for each stage of development including a figure for short-term projects, mid-term projects, and long-term projects.

Short-term (present – 5 years) (Figure 5-1)

Pavement reclamation/construction
 Safety Area grading improvements
 Hangar site preparation for public T-hangar
 Construct 8-unit T-hangar
 Update zoning ordinance for turf crosswind Runway 8/26
 Construct Snow Removal Equipment (SRE) building
 Environmental Assessment for turf crosswind Runway 8/26

Mid-term (6 – 10 years) (Figure 5-2)

Land acquisition for turf crosswind Runway 8/26
 Construct turf crosswind Runway 8/26

Long-term (11 – 20 years) (Figure 5-3)

Environmental Assessment to construct stopways
 Runway 15 stopway construction
 Runway 33 stopway construction
 High Intensity Runway Lighting system upgrade
 Taxilane construction
 Apron expansion
 Hangar site preparation for public T-hangar
 Construct 8-unit T-hangar
 Perimeter fencing with controlled access gates
 Additional hangar area development as needed

5.2.1. KEY PROJECTS – SHORT-TERM (2015 - 2019)

Project Name:	Pavement Reclamation/Construction	
Project Scope:	Reclaim and reconstruct primary runway, taxiways, and apron	
Project Purpose:	Pavement maintenance is critical to maintaining the useful life of airport pavement. The 2011 PCI for the south apron area is “Good” with a drop in PCI of 1 to 3 points per year. This project will significantly improve the PCI rating of these pavements	
Interrelated Projects:	Runway Safety Area grading improvements	
Special Considerations:	A Categorical Exclusion will be required before the project begins	
Estimated Cost:	\$2,337,000 Federal funding (88.4%) = \$2,064,000 State Funding (6.4%) = \$150,000 Local funding (5.2%) = \$123,000	Potential State funding support: \$2,337,000 Federal funding (90%) = \$2,103,300 State funding (5%) = \$116,850 Local funding (5%) = \$116,850

Project Name:	Safety Area grading improvements	
Project Scope:	Regrade the taxiway safety area	
Project Purpose:	The runway safety area exceeds the allowable grade off the edges of the taxiway and must be regraded	
Interrelated Projects:	Pavement reclamation/construction	
Special Considerations:	A Categorical Exclusion will be required before the project begins	
Estimated Cost:	\$555,000 Federal funding (90%) = \$499,500 Local funding (10%) = \$55,500	Potential State funding support: \$555,000 Federal Funding (90%) = \$499,500 State funding (5%) = \$27,750 Local funding (5%) = \$27,750

Project Name:	Hangar site preparation for public T-hangar	
Project Scope:	Prepare and grade a selected site for a public T-hangar	
Project Purpose:	This project will include grading and site preparation for construction of an 8-unit public T-hangar	
Interrelated Projects:	Construction of an 8-unit T-hangar	
Special Considerations:	A Categorical Exclusion will be required before the project begins	
Estimated Cost:	\$300,000 State funding (80%) = \$240,000 Local funding (20%) = \$60,000	

Project Name:	Construct 8-unit public T-hangar
Project Scope:	Construct a T-hangar
Project Purpose:	Construct an 8-unit T-hangar to accommodate demand for based aircraft storage
Interrelated Projects:	Grading and site preparation for construction of the 8-unit public T-hangar
Special Considerations:	A Categorical Exclusion will be required before the project begins
Estimated Cost:	\$1,000,000 Local funding (100%) = \$1,000,000*

*May be eligible for state hangar revolving loan fund

Project Name:	Update Airport Zoning Ordinance for turf crosswind Runway 8/26
Project Scope:	Update the MnDOT state aviation zoning ordinance to accommodate construction of the crosswind runway in the new location
Project Purpose:	The new location for the construction of a turf crosswind runway is not covered in the existing airport zoning ordinance. Therefore, the ordinance should be updated to reflect the changes in the runway configuration
Interrelated Projects:	This project should occur prior to land acquisition for the crosswind runway
Special Considerations:	None
Estimated Cost:	\$50,000 State funding (50%) = \$25,000 Local funding (50%) = \$25,000

Project Name:	Construct Snow Removal Equipment Building
Project Scope:	Construct a Snow Removal Equipment Building
Project Purpose:	This project is necessary to provide storage for the airport's snow removal equipment in one location at the airport
Interrelated Projects:	This is a stand-alone project
Special Considerations:	A Categorical Exclusion will be required before the project begins
Estimated Cost:	\$600,000 Federal funding (90%) = \$540,000 Local funding (10%) = \$60,000

Project Name:	Environmental Assessment for turf crosswind Runway 8/26
Project Scope:	This project involves the examination of potential environmental impacts associated with construction of a turf crosswind runway including land acquisition
Project Purpose:	This project is necessary to satisfy the local, state, and federal environmental regulations and the National Environmental Policy Act of 1969 (NEPA) of the proposed action
Interrelated Projects:	Land acquisition and construction of a turf crosswind runway
Special Considerations:	None
Estimated Cost:	\$160,000 Federal funding (90%) = \$144,000 Local funding (10%) = \$16,000

The goals of the projects presented over the next five years are to rehabilitate the existing airport pavements, regrade the safety area of the parallel taxiway, construct an 8-unit T-hangar, update the airport zoning ordinance, conduct an environmental assessment for the crosswind runway, and construct an SRE building. The short-term project funding is summarized in **Table 5-1**.

Table 5-1
Short-Term Project Funding Summary (2015 – 2019)

Year	Project	Total Cost	Funding Rate Percentages			Federal Funding	State Funding	Local Funding
			Federal	State*	Local			
2015	Pavement reclamation/construction	\$2,337,000	90%	5%	5%	\$2,103,300	\$116,850	\$116,850
2015	Safety area grading improvements	\$555,000	90%	5%	5%	\$499,500	\$27,750	\$27,750
2016	Hangar site preparation – public T-hangar	\$300,000	--	80%	20%	--	\$240,000	\$60,000
2016	Construct 8-unit T-hangar	\$1,000,000	--	--	100%	--	--	\$1,000,000
2017	Update Zoning Ordinance	\$50,000	--	50%	50%	--	\$25,000	\$25,000
2018	Construct SRE building	\$600,000	90%	--	10%	\$540,000	--	\$60,000
2019	Environmental Assessment for crosswind runway	\$160,000	90%	--	10%	\$144,000	--	\$16,000
Totals		\$5,002,000				\$3,286,800	\$409,600	\$1,305,600

* This column depicts the funding participation rates should MnDOT provide additional funding support. This percentage could change if additional funding is no longer provided.

5.2.2. KEY PROJECTS – MID-TERM (2020 – 2024)

Project Name:	Land acquisition for turf crosswind Runway 8/26
Project Scope:	Acquire land to build crosswind runway
Project Purpose:	This project is to acquire land to allow the construction of the crosswind runway and control of the runway protection zone, as well as acquiring land out to the 20-foot building restriction line
Interrelated Projects:	Construction of the crosswind runway
Special Considerations:	Necessary mitigation will be determined through the environmental process completed prior to the project
Estimated Cost:	\$1,200,000 Federal funding (90%) = \$1,080,000 Local funding (10%) = \$120,000

Project Name:	Construct Turf Crosswind Runway
Project Scope:	Construct Crosswind Runway
Project Purpose:	This project will improve the wind coverage conditions at the airport from 91% coverage to 98% wind coverage
Interrelated Projects:	Land acquisition
Special Considerations:	Necessary mitigation will be determined through the environmental process completed prior to the project
Estimated Cost:	\$3,000,000 Federal funding (90%) = \$2,700,000 Local funding (10%) = \$300,000

The goal of the project presented over the six to ten year period includes land acquisition and construction of the crosswind runway. The farther out the improvement projects are, the less firm timing and funding availability become. The mid-term project funding is summarized in **Table 5-2**.

Table 5-2
Mid-Term Project Funding Summary (2020 – 2024)

Year	Project	Total Cost	Funding Rate Percentages			Federal Funding	State Funding	Local Funding
			Federal	State	Local			
2022	Land acquisition – crosswind runway	\$1,200,000	90%	--	10%	\$1,080,000	--	\$120,000
2024	Construct crosswind runway	\$3,000,000	90%	--	10%	\$2,700,000	--	\$60,000
	Totals	\$4,200,000				\$3,780,000	--	\$180,000

5.2.3. KEY PROJECTS – LONG-TERM (2025 – 2034)

Project Name:	Environmental Assessment to construct stopways
Project Scope:	This project involves the examination of potential environmental impacts associated with construction of stopways on each runway end and installation of High Intensity Runway Lights
Project Purpose:	This project is necessary to satisfy the local, state, and federal environmental regulations and the National Environmental Policy Act of 1969 (NEPA) of the proposed action
Interrelated Projects:	Construction of a stopway on each runway end and upgrading the runway edge lighting system to High Intensity Runway Lights
Special Considerations:	None
Estimated Cost:	\$160,000 Federal funding (90%) = \$144,000 Local funding (10%) = \$16,000

Project Name:	Runway 15 stopway construction
Project Scope:	Construct a stopway on the Runway 15 end
Project Purpose:	This project will construct a stopway of 959 feet onto the Runway 15 end to increase the accelerate stop distance available for aircraft taking off on Runway 33
Interrelated Projects:	Construction of a stopway on the Runway 33 end and upgrading the runway edge lighting system to High Intensity Runway Lights
Special Considerations:	Environmental documentation needs will be determined prior to construction of the project
Estimated Cost:	\$1,100,000 Federal funding (90%) = \$990,000 Local funding (10%) = \$110,000

Project Name:	Runway 33 stopway construction
Project Scope:	Construct a stopway on the Runway 33 end
Project Purpose:	This project will construct a stopway of 620 feet onto the Runway 33 end to increase the accelerate stop distance available for aircraft taking off on Runway 15
Interrelated Projects:	Construction of a stopway on the Runway 15 end and upgrading the runway edge lighting system to High Intensity Runway Lights
Special Considerations:	Environmental documentation needs will be determined prior to construction of the project
Estimated Cost:	\$690,000 Federal funding (90%) = \$621,000 Local funding (10%) = \$69,000

Project Name:	High Intensity Runway Lighting system upgrade
Project Scope:	Upgrade the runway lighting from MIRLs to HIRLs
Project Purpose:	This project will upgrade the runway lighting system because the runway visibility minimums for Runway 15 are less than 1 mile.
Interrelated Projects:	Construction of stopways to each runway end
Special Considerations:	Environmental documentation needs will be determined prior to construction of the project
Estimated Cost:	\$385,000 Federal funding (90%) = \$346,500 Local funding (10%) = \$38,500

Project Name:	Taxilane construction
Project Scope:	Construct new taxilanes for additional hangar development
Project Purpose:	This project will construct the taxilanes necessary to expand private hangar development at the airport
Interrelated Projects:	Construction of new private hangars
Special Considerations:	A Categorical Exclusion will be required before the project begins
Estimated Cost:	\$400,000 Federal funding (90%) = \$360,000 Local funding (10%) = \$40,000

Project Name:	Apron expansion
Project Scope:	Construct apron expansion
Project Purpose:	The existing tie-downs located on the apron are for airplane design group I aircraft. Adding tie-downs for airplane design group II aircraft and adding the appropriate maneuvering space will require the existing apron to be expanded
Interrelated Projects:	This is a stand-alone project
Special Considerations:	A Categorical Exclusion will be required before the project begins
Estimated Cost:	\$600,000 Federal funding (90%) = \$540,000 Local funding (10%) = \$60,000

Project Name:	Hangar site preparation for public T-hangar
Project Scope:	Prepare and grade a selected site for a future public T-hangar
Project Purpose:	This project will include grading and site preparation for construction of a future 8-unit public T-hangar
Interrelated Projects:	Construction of an 8-unit T-hangar
Special Considerations:	A Categorical Exclusion will be required before the project begins
Estimated Cost:	\$300,000 State funding (50%) = \$150,000 Local funding (50%) = \$150,000

Project Name:	Construct 8-unit public T-hangar
Project Scope:	Construct a T-hangar
Project Purpose:	Construct an 8-unit T-hangar to accommodate demand for based aircraft storage
Interrelated Projects:	Grading and site preparation for construction of the 8-unit public T-hangar
Special Considerations:	A Categorical Exclusion will be required before the project begins
Estimated Cost:	\$1,000,000 Local funding (100%) = \$1,000,000*

*May be eligible for state hangar revolving loan fund

Project Name:	Perimeter fencing with controlled access gates
Project Scope:	Construct a fence around the perimeter of the airport property
Project Purpose:	A perimeter fence deters wildlife from entering the airfield and interfering with aircraft operations. The fence provides a safer operating environment. A perimeter fence with controlled access gates also deters unwanted vehicles and persons from accessing the airfield
Interrelated Projects:	This is a stand-alone project
Special Considerations:	A Categorical Exclusion will be required before the project begins
Estimated Cost:	\$1,000,000 Federal funding (90%) = \$900,000 Local funding (10%) = \$100,000

The focus of this time period will be the construction of stopways to each runway end, upgrading the runway lighting to High Intensity Runway Lights, constructing additional taxilanes for hangar development, constructing an 8-unit T-hangar, and installing a perimeter fence around airport property. Project justification will need to be provided prior to beginning environmental review or construction of any projects listed for development. The farther out the improvement projects are, the less firm timing and funding availability become. Additional building area expansion can occur when the need is presented for additional based aircraft. The long-term project funding is summarized in **Table 5-3**.

Table 5-3
Long-Term Project Funding Summary (2025 – 2034)

Year	Project	Total Cost	Funding Rate Percentages			Federal Funding	State Funding	Local Funding
			Federal	State	Local			
2025	Environmental Assessment for stopway construction	\$160,000	90%	--	10%	\$144,000	--	\$16,000
2026	Runway 15 stopway construction	\$1,100,000	90%	--	10%	\$990,000	--	\$110,000
2027	Runway 33 stopway construction	\$690,000	90%	--	10%	\$621,000	--	\$69,000
2027	Upgrade runway lighting system to HIRLS	\$385,000	90%	--	10%	\$346,500	--	\$38,500
2030	Taxilane construction	\$400,000	90%	--	10%	\$360,000	--	\$40,000
2030	Apron expansion	\$600,000	90%	--	10%	\$540,000	--	\$60,000
2032	T-hangar site preparation	\$300,000	--	50%	50%	--	\$150,000	\$150,000
2032	Construct 8-unit T-hangar	\$1,000,000	--	--	100%	--	--	\$1,000,000
2034	Install perimeter fencing	\$1,000,000	90%	--	10%	\$900,000	--	\$100,000
Totals		\$5,635,000				\$3,901,500	\$150,000	\$1,583,500



Hutchinson Municipal Airport Airport Master Plan

Figure 5-1
Short-Term
Present-5 Years



Legend

Existing Airport Property

Building

- Short-Term Projects (Present – 5 Years)**
- Pavement Reclamation/Construction
 - Safety Area Grading Improvements



Hutchinson Municipal Airport Airport Master Plan



Figure 5-2

Mid-Term

6-10 Years

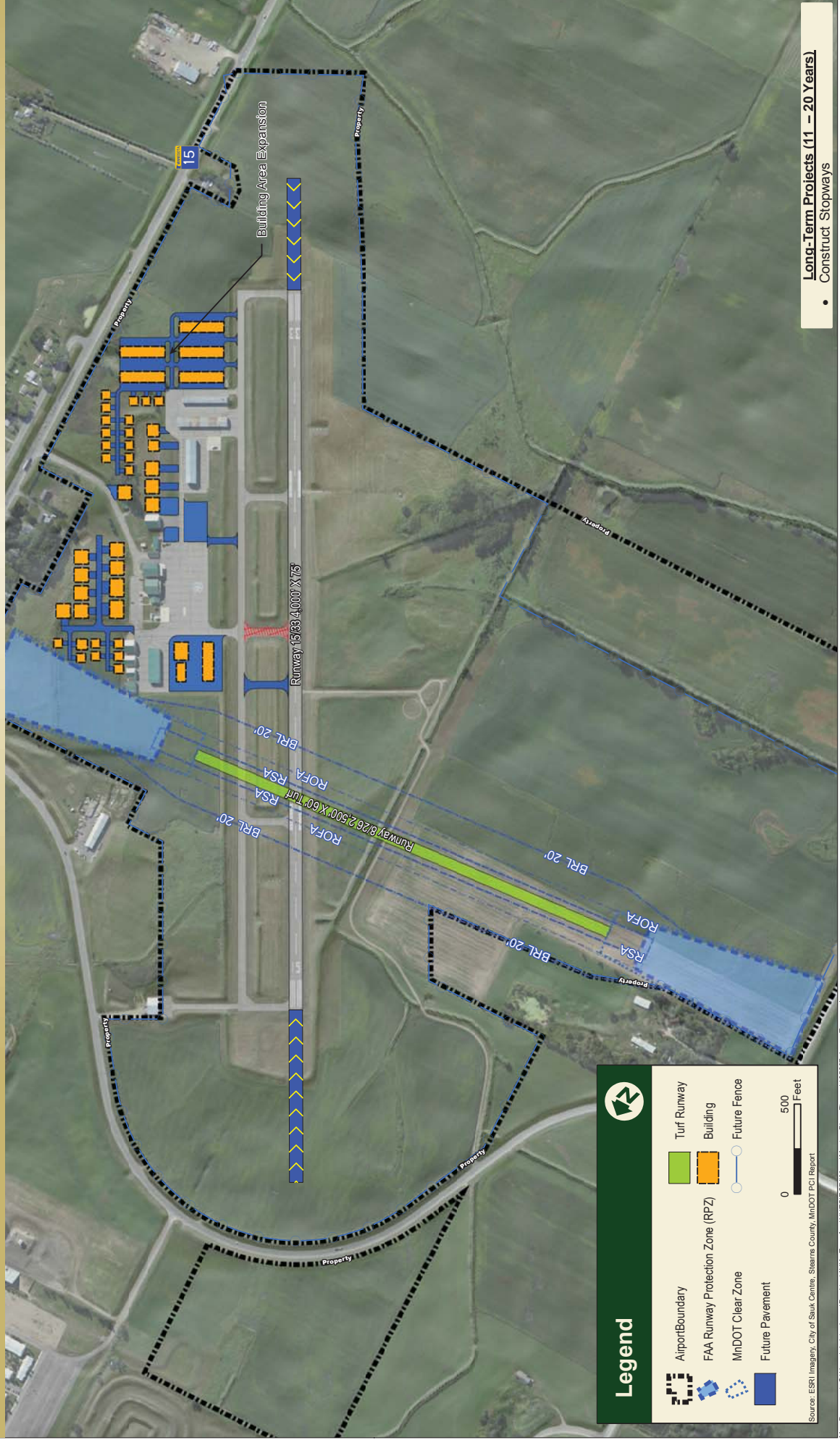




Hutchinson Municipal Airport Airport Master Plan



Figure 5-3
Long-Term
11-20 Years



- Long-Term Projects (11 - 20 Years)
- Construct Stopways

Source: ESRI Imagery, City of Sauk Centre, Stearns County, MndOT POI Report
Map Document: C:\Users\chad\Documents\Desktop\HUTCHinson\MapMaster_Plan_Figures\105597_Long_Term.mxd
Date Saved: 4/7/2016 4:08:57 PM

APPENDIX A

USER SURVEY

**AIRPORT USER SURVEY
HUTCHINSON MUNICIPAL AIRPORT
AIRPORT MASTER PLAN**



City of Hutchinson
Hutchinson Municipal Airport – Butler Field
Operations & Maintenance
1400 Adams St SE
Hutchinson, MN 55350

Phone (320) 234-4219 Fax (320) 234-6971

Dear Airport Operator Survey Recipient:

The City of Hutchinson, Minnesota is conducting an Airport Master Plan study for the Hutchinson Municipal Airport – Butler Field. This study will analyze the existing and future airport facility needs and determine a 20-year development plan. The City is conducting an airport operator survey to determine the current and projected airport activity as well as facility needs.

Hutchinson Municipal Airport – Butler Field currently has a paved primary Runway 15/33 (4,000 feet long, 75 feet wide) with a GPS non-precision instrument approach on both ends, 31 reported based aircraft, and over 12,000 annual operations. The City is evaluating airport enhancements primarily to meet safety, facility, and future capacity needs.

We need your help to provide us information on your activity and facility needs. Your detailed and accurate responses to this operator survey will help us identify usage to help justify FAA funding for future improvements. Any supporting documentation demonstrating a need for improvements such as a runway extension or building development is also very useful. Your efforts here are very important to the accuracy and viability of this Master Plan study.

We request that you please complete the survey online at the following address by **November 8, 2013**: <https://www.surveymonkey.com/s/hutchinsonHCD>. If you choose to complete the paper version or have additional information to submit, please return it to the address below.

John Olson, Public Works Manager
Hutchinson Area Transportation Services (HATS) Facility
1400 Adams Street SE
Hutchinson, MN 55350
Phone (320) 234-4287
Email: jolson@ci.hutchinson.mn.us

Please contact me with any questions you have regarding this airport operator survey. On behalf of the City of Hutchinson, we thank you in advance for your efforts.

Sincerely,

John Olson,
Public Works Manager

The Hutchinson Municipal Airport (HCD) is preparing an Airport Master Plan to evaluate airport facilities to better serve the economic vitality of the Hutchinson community and surrounding area. The data collected in this survey will assist in making decisions for the improvement of the airport.

Please Complete By November 8, 2013

AIRPORT USER SURVEY HUTCHINSON MUNICIPAL AIRPORT AIRPORT MASTER PLAN

The survey can be completed by-hand or online. An online version of this survey is available at <https://www.surveymonkey.com/s/hutchinsonHCD> or by scanning the QR code to the right.



Please return this survey, or direct any questions to:

John Olson, Public Works Manager
Hutchinson Area Transportation Services (HATS) Facility
1400 Adams Street SE
Hutchinson, MN 55350

Phone: (320) 234-4287
Fax: (320) 234-6971
E-mail: jolson@ci.hutchinson.mn.us

Please complete the following survey to the best of your ability:

1. How do you or your business currently use general aviation at HCD? Check all that apply

- | | |
|--|--|
| <ul style="list-style-type: none"> + Personal Travel + Business Travel + Flight Training/Instruction + Aircraft Charter (Passenger) + Aircraft Repair/Service + Cargo/Shipping/Parts | <ul style="list-style-type: none"> + Aerial Surveillance/Mapping + Agriculture/Natural Resource + Flying Club + Other (please specify) _____ + Do not use HCD but use General Aviation + Do not use General Aviation (Go to Question 11) |
|--|--|

2. Total annual operations for: _____ Business _____ Pleasure

3. How do you utilize general aviation aircraft?

- | | |
|---|---|
| <ul style="list-style-type: none"> + Own + Rent + Lease + Fractional/Shared Ownership | <ul style="list-style-type: none"> + Corporate Owned-Aircraft + Flying Club + Other (Please Specify) _____ |
|---|---|

4. What type of aircraft do you use when flying? If you use more than one aircraft, please include it here:

Aircraft Make/Model	N-Number	Home Airport

The following questions are about your flight operations at HCD:

*An operation is defined as either a takeoff or a landing. A **single visit** to an airport is comprised of **two operations**, arriving at the airport, and later departing from the airport. An "itinerant" operation is a landing or takeoff of an airplane traveling from one airport to another airport at least 20 nautical miles away. Local operations include flights to local practice areas, touch-and-goes within the traffic pattern, and agricultural aerial application operations.*

5. Please estimate your annual operations at HCD:

Current Aircraft Make/Model	Local Operations			Itinerant Operations		
	2007	2012	2017	2007	2012	2017

6. Are the runway lengths available at HCD adequate for your most demanding aircraft at desired weight?

	Adequate if wet/icy?		Adequate if hot?
Runway 15-33 (4,000 feet)	+ Yes + No		+ Yes + No

If no, what runway length would you require to land at HCD? _____

7. Do you currently make aircraft load concessions to operate at HCD? + Yes + No

If yes, what concessions do you make? _____

Please Complete By November 8, 2013

AIRPORT USER SURVEY HUTCHINSON MUNICIPAL AIRPORT AIRPORT MASTER PLAN

8. Please indicate the basis of your runway length requirements:

- | | |
|----------------------------|--------------------------------|
| + Pilot Operating Handbook | + Insurance Requirement |
| + Company Policy | + Other (Please Specify) _____ |

9. Are you considering an upgrade to your aircraft fleet in the next five years?

If yes, please indicate the following:

+ Yes + No

Aircraft Make/Model	Local Operations	Reason for Upgrade

10. Please indicate the types of facilities that are important to your use of HCD:

	High Priority	Moderate Priority	Low Priority
Runway Longer Than 4,000 feet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Aircraft Storage – T-Hangar Rental Unit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Aircraft Storage – Conventional Hangar	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Development Site	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Aircraft Storage – Transient/Overnight	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ground Transportation (Shuttle, Taxi Service, Rental Cars, Courtesy Car)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fueling Truck	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Business Center/Meeting Facilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. What airport services do you need or strongly desire to operate at HCD? Check all that apply:

- | | |
|--|--------------------------------|
| + Self-service Fueling | + Crew Rest Area |
| + Full-service Fueling / Line Services | + Conference Room Facilities |
| + Aircraft Charter | + Flight Training/Instruction |
| + Transient Aircraft Storage | + Pilot Shop |
| + Aircraft Repair/Maintenance | + Catering |
| + Rental Car | + Other (Please Specify) _____ |

12. Please provide any additional comments or concerns about the HCD airport facilities or future needs:

CONTACT INFORMATION

Please provide the following information pertaining to the individual who completed this survey.

Name: _____

Company/Affiliation: _____

Address: _____

Phone: _____

E-mail: _____

May we contact you with any specific questions about this user survey? + Yes + No

NOTE: If your company or related vendors/clients operate from HCD, we kindly request you forward this survey to these individuals.

The City of Hutchinson thanks you for completing this Airport Operator Survey! Please contact John Olson, Public Works Manager, at jolson@ci.hutchinson.mn.us with any questions.

APPENDIX B
CAPITAL IMPROVEMENT PLAN (CIP)

Capital Improvement Program Report

Minnesota Department of Transportation - Aviation Division

Hutchinson Municipal Airport - Butler Field

Report Filter - Types: All, Statuses: All

Year	Project Name	Status	FAA	State	Local	Total
All Projects						
2016						
	RUNWAY, TAXIWAY, APRON RECLAMATION (FFY 2015)	CIP	2,063,916.25	149,593.02	123,881.72	\$2,337,390.99
	SAFETY AREA GRADING IMPROVEMENTS CONSTRUCTION (FFY 2015)	CIP	499,966.20	27,775.90	27,775.90	\$555,518.00
	TAXIWAY A3 RELOCATION (FFY 2015)	CIP	294,813.00	16,378.50	16,378.50	\$327,570.00
	SubTotal:		\$2,858,695.45	\$193,747.42	\$168,036.12	\$3,220,478.99
2017						
	T-HANGAR CONSTRUCTION (HLF)	CIP	0.00	0.00	1,000,000.00	\$1,000,000.00
	T-HANGAR SITE PREPARATION	CIP	0.00	240,000.00	60,000.00	\$300,000.00
	SubTotal:		\$0.00	\$240,000.00	\$1,060,000.00	\$1,300,000.00
2018						
	NO PROJECTS PLANNED (FFY 2017)	CIP	0.00	0.00	0.00	\$0.00
	SubTotal:		\$0.00	\$0.00	\$0.00	\$0.00
2019						
	SNOW REMOVAL EQUIPMENT BUILDING-SRE (FFY 2018)	CIP	540,000.00	0.00	60,000.00	\$600,000.00
	SubTotal:		\$540,000.00	\$0.00	\$60,000.00	\$600,000.00
2020						
	ENVIRONMENTAL ASSESSMENT FOR CROSSWIND RUNWAY (FFY 2019)	CIP	144,000.00	0.00	16,000.00	\$160,000.00
	SubTotal:		\$144,000.00	\$0.00	\$16,000.00	\$160,000.00
All Projects			\$3,542,695.45	\$433,747.42	\$1,304,036.12	\$5,280,478.99

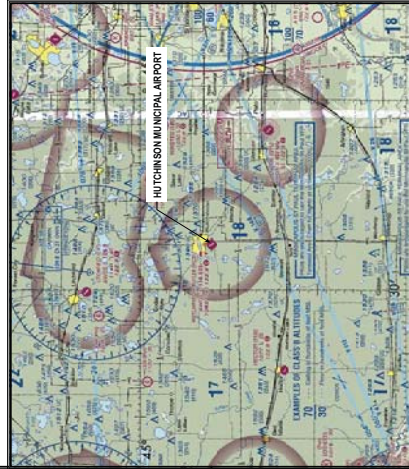
APPENDIX C
AIRPORT LAYOUT PLAN

AIRPORT LAYOUT PLAN

HUTCHINSON MUNICIPAL AIRPORT (HCD)

HUTCHINSON, MN

FAA
APPROVAL
LETTER



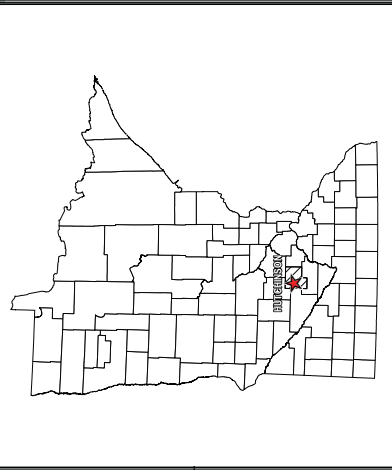
LOCATION MAP



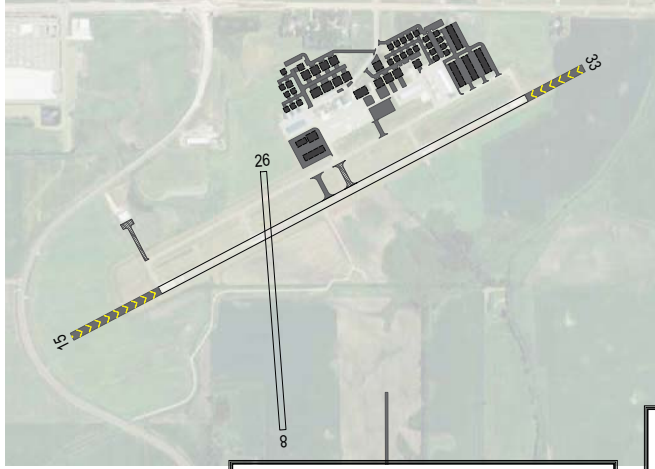
VICINITY MAP

INDEX TO SHEETS

- TITLE SHEET
- AIRPORT LAYOUT PLAN
- FAR PART 77 IMAGINARY SURFACES
- EXISTING & FUTURE RUNWAY 15 APPROACH PLAN & PROFILE
- EXISTING & FUTURE RUNWAY 33 APPROACH PLAN & PROFILE
- FUTURE RUNWAY 8 APPROACH PLAN & PROFILE
- FUTURE RUNWAY 26 APPROACH PLAN & PROFILE
- EXISTING & FUTURE BUILDING AREA PLAN
- LAND USE & ZONING
- EXHIBIT "A" AIRPORT PROPERTY INVENTORY MAP
- EXHIBIT "A" PROPERTY NOTES



MCLEOD, COUNTY MINNESOTA



FAA APPROVAL STAMP

SPONSOR APPROVAL
HUTCHINSON, MINNESOTA

APPROVED BY: _____

DATE: _____

On behalf of Bolton & Menk, Inc. the Airport Layout Plan (ALP) was prepared for the Hutchinson Municipal Airport according to the standards and specifications of the FAA. The ALP is a technical drawing that shows the layout of the airport and the proposed changes. It is a legal document that is used by the FAA to approve the airport's operations. The ALP is a technical drawing that shows the layout of the airport and the proposed changes. It is a legal document that is used by the FAA to approve the airport's operations. The ALP is a technical drawing that shows the layout of the airport and the proposed changes. It is a legal document that is used by the FAA to approve the airport's operations.

DATE: JUL 01 2025

Melissa R. Caserwood
MELISSA R. CASERWOOD

INSTRUMENT FLIGHT RULES			
COMBINED RWY 15/33 (13 KTS); RWY 26 (10.5 KTS)	98.3%	RWY 15/33	RWY 26
CROSSWINDS	10.5 KNOTS	98.48%	97.20%
13 KNOTS	50.00%	50.00%	96.82%
ALL WEATHER WIND COVERAGE			
RWY 15/33 (13 KTS); RWY 26 (10.5 KTS)	99.37%	RWY 15/33	RWY 26
CROSSWINDS	10.5 KNOTS	99.19%	98.93%
13 KNOTS	95.48%	94.59%	
SOURCE: NATIONAL COMMACTIC DATA CENTER, HUTCHINSON MUNICIPAL AIRPORT - BUTLER FIELD, HUTCHINSON, MN 56005-0001			

AIRPORT DATA TABLE

EXISTING		FUTURE	
NPIAS SERVICE LEVEL:	LOCAL AIRPORT	NPIAS SERVICE LEVEL:	LOCAL AIRPORT
MEAN MAXIMUM TEMPERATURE HOTTEST MONTH:	83°	MEAN MAXIMUM TEMPERATURE HOTTEST MONTH:	83°
AIRPORT ELEVATION (NAVD88):	1,082.0'	AIRPORT ELEVATION (NAVD88):	1,082.0'
AIRPORT REFERENCE POINT (ARP)	44° 51' 35.57" N	AIRPORT REFERENCE POINT (ARP)	44° 51' 35.57" N
COORDINATES (NAD 83)	94° 22' 57.03" W	COORDINATES (NAD 83)	94° 22' 57.03" W
AIRPORT REFERENCE CODE:	B.U.I.	AIRPORT REFERENCE CODE:	B.U.I.
AIRPORT NAME:	BEACON, VOR	AIRPORT NAME:	BEACON, VOR
MISCELLANEOUS FACILITIES:	MIRLS, PARIS REELS, WIND CONE, ANVOS	MISCELLANEOUS FACILITIES:	MIRLS, PARIS REELS, WIND CONE, ANVOS



DESIGNED BY: MMU

DATE: JULY 3, 2015

PROJECT NO: 151-100997

BOLTON & MENK



REVISIONS	DATE	BY	CHANGE

TITLE SHEET

SHEET

1

OF

11



APPROACH DEPARTURE SURFACES (APDS)

MINOT CLEAR ZONE

BUILDING RESTRICTION LINE (BRL)

RUNWAY SAFETY AREA (RSA)

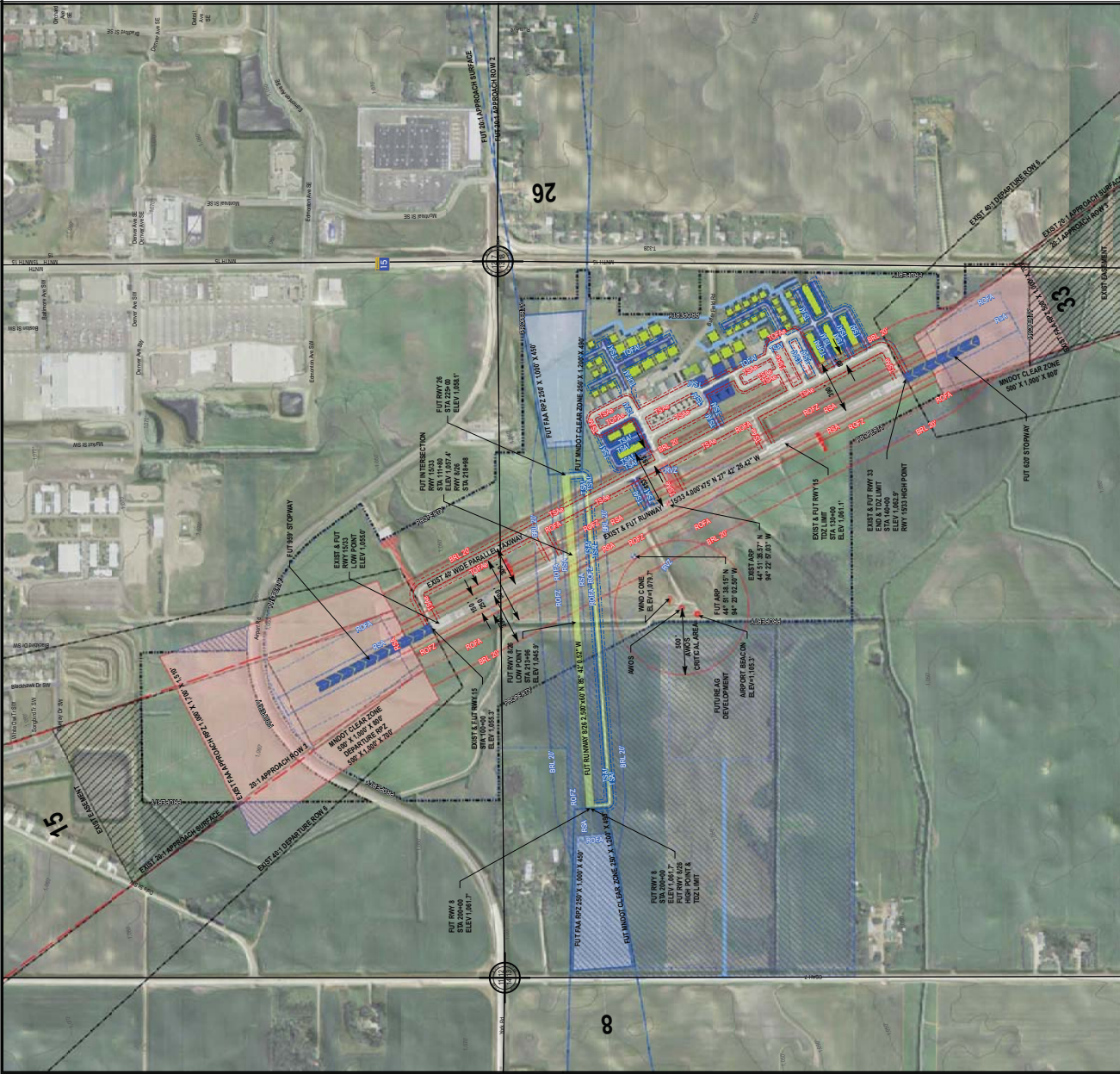
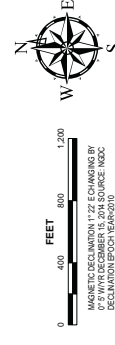
OBJECT FREE ZONE (OFZ)

OBSTACLE FREE AREA (OFA)

RUNWAY VISIBILITY ZONE (RVZ)

AIRPORT REFERENCE POINT (ARP)

AIRPORT REFERENCE POINT (ARP)			
EXISTING		FUTURE	
LATITUDE	LONGITUDE	LATITUDE	LONGITUDE
44°51'38.15"	94°22'57.00"	44°51'38.15"	94°22'57.00"
DEVIATION FROM FADES STANDARDS			
APPROACH DATE	CASE NUMBER	MODIFICATION	DESCRIPTION
NONE REQUIRED			
OBSTACLE FREE ZONE OBJECT PENETRATIONS			
RET	DESCRIPTION	PENETRATION	ELEVATION
	NONE		





DESIGNED BY: MMU
DATE: JULY 3, 2015
PROJECT NO: 151-105997

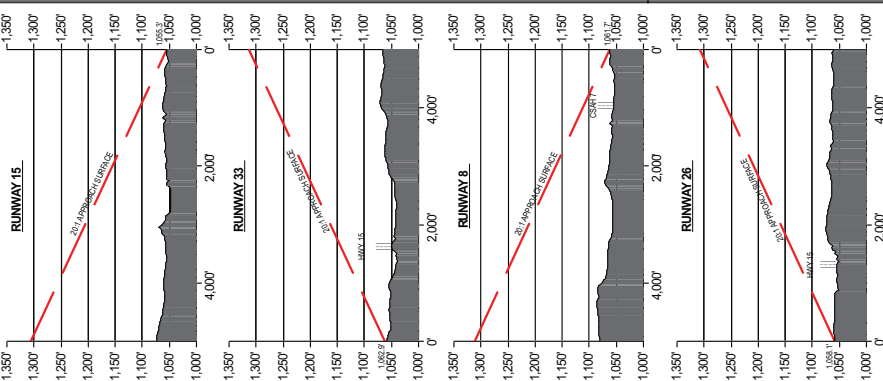


REVISIONS	DATE	BY	CHANGE

BOLTON & MENK
DESIGNED BY: MMU
DATE: JULY 3, 2015
PROJECT NO: 151-105997

FAIR PART 77 IMAGINARY SURFACES

SHEET
3
OF
11

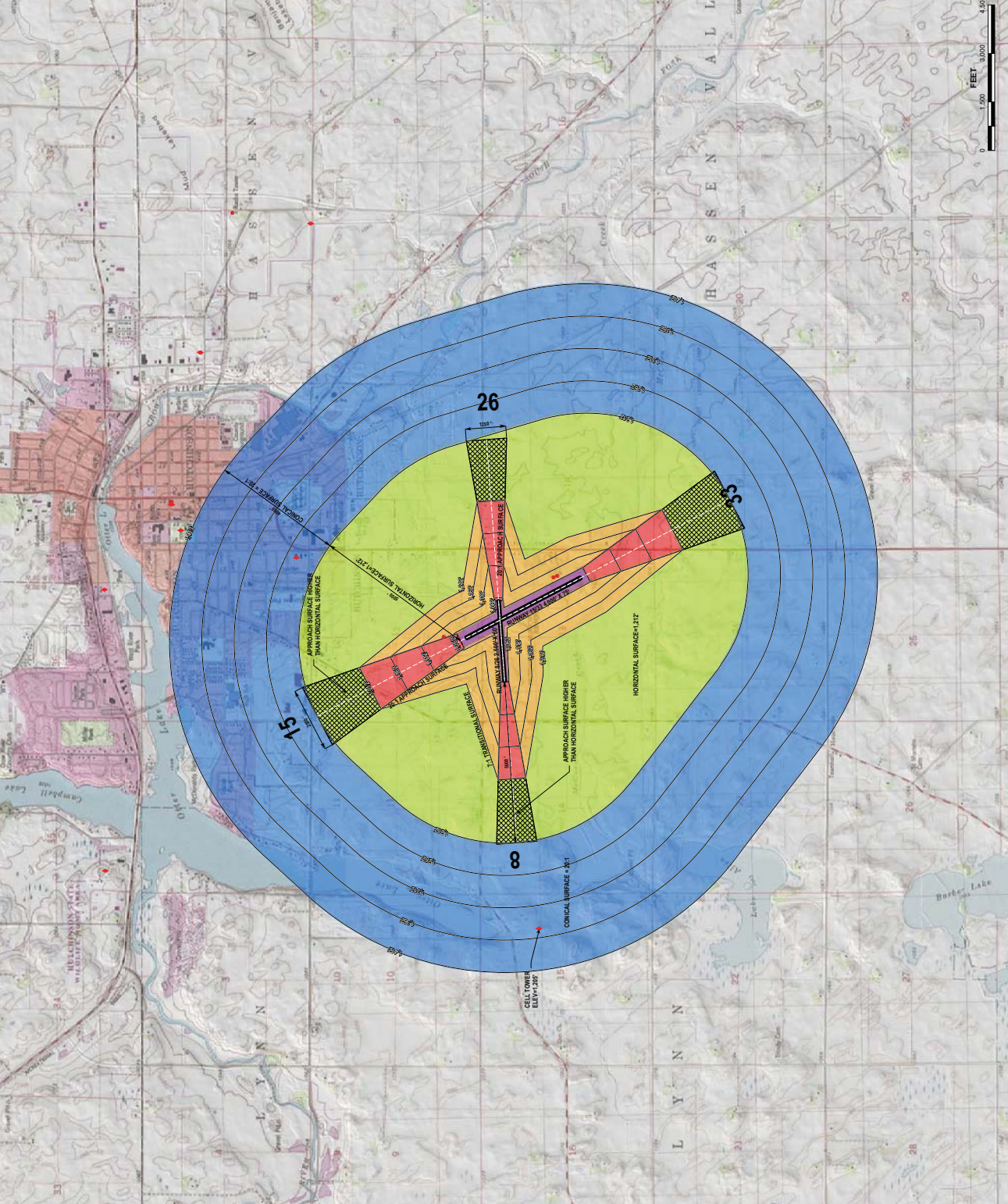


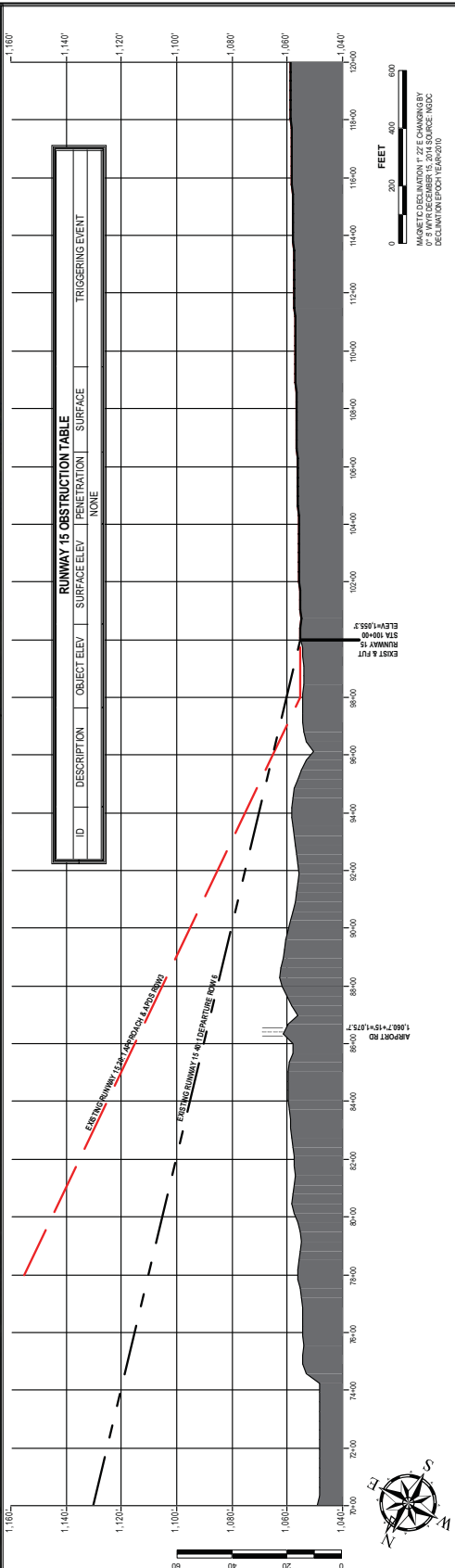
OBJECT ID	DATE	TYPE	AMBL	SURFACE	ELEVATION	DISPOSITION

- LEGEND:**
- ANTENNA STRUCTURES
 - FAA DIGITAL OBSTACLE FILE (DOF)
 - AIRSPACE CONTOURS
 - APPROACH ABOVE HORIZONTAL SURFACE
 - APPROACH SURFACE
 - CONICAL SURFACE
 - HORIZONTAL SURFACE
 - TRANSITIONAL SURFACE
 - APPROACH SURFACE
 - PRIMARY SURFACE

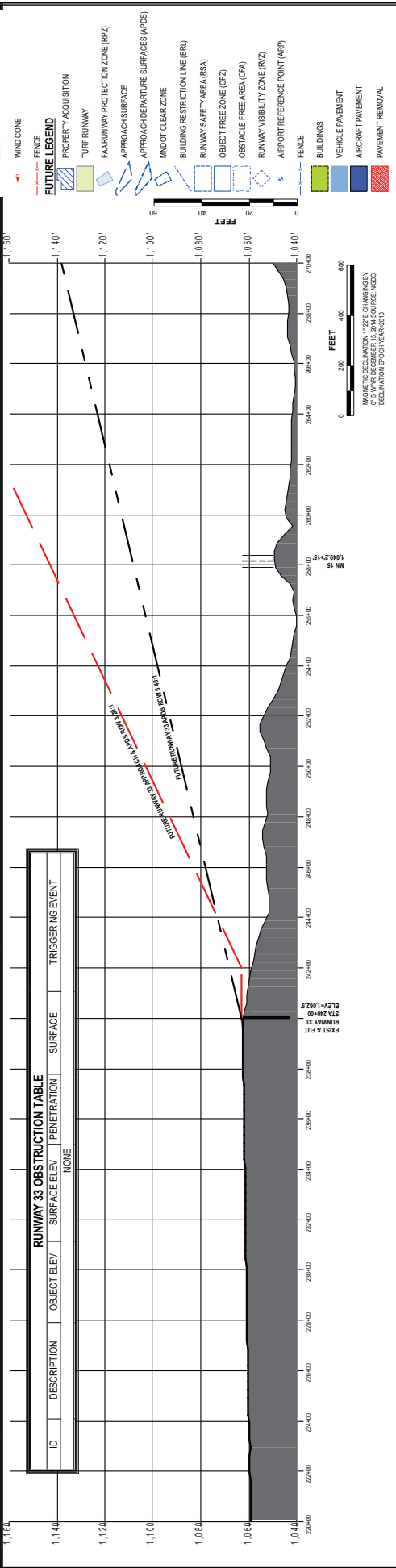


MAGNETIC DECLINATION 11° 22' E CHANGING BY
0° 5' W PER DECEMBER 15, 2014 SOURCE: INDC
DECLINATION EPOCH YEAR=2010





WIND CONE
FENCE
TURF RUNWAY
FAA RUNWAY PROTECTION ZONE (RPZ)
APPROACH SURFACE
APPROACH DEPARTURE SURFACES (ADS)
MINOOT CLEAR ZONE
BUILDING RESTRICTION LINE (BRL)
RUNWAY SAFETY AREA (RSA)
OBJECT FREE ZONE (OFZ)
OBSTACLE FREE AREA (OFA)
RUNWAY VISIBILITY ZONE (RVZ)
AIRPORT REFERENCE POINT (ARP)
FENCE
BUILDINGS
VEHICLE PAVEMENT
AIRCRAFT PAVEMENT
PAVEMENT REMOVAL





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DATE: JULY 3, 2015
PROJECT NO: 151-100997

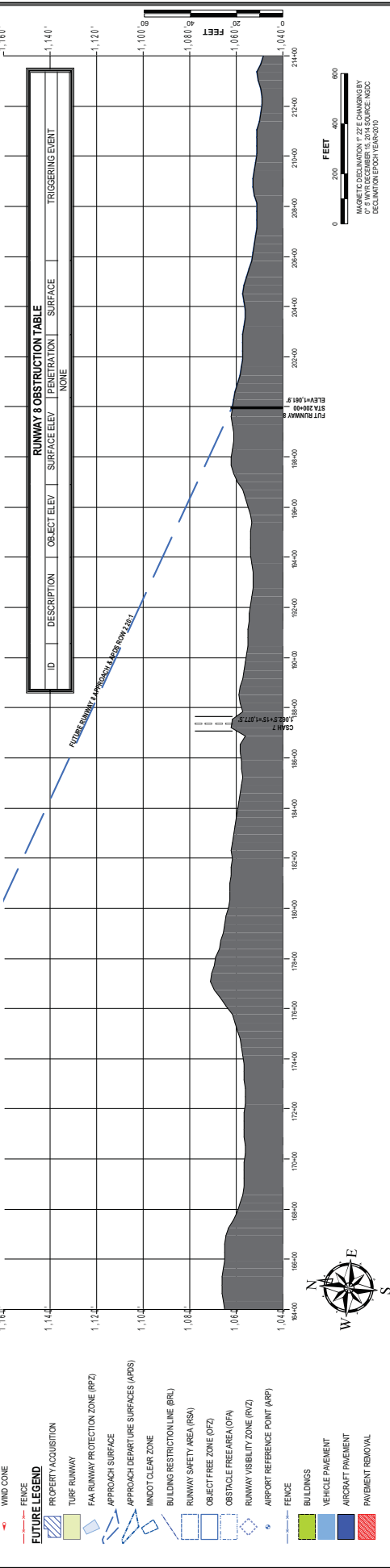


DATE	BY	CHANGE

BOLTON & MENK
DESIGNED BY MNU
DATE: JULY 3, 2015
PROJECT NO: 151-100997

FUTURE RUNWAY 8 APPROACH PLAN & PROFILE

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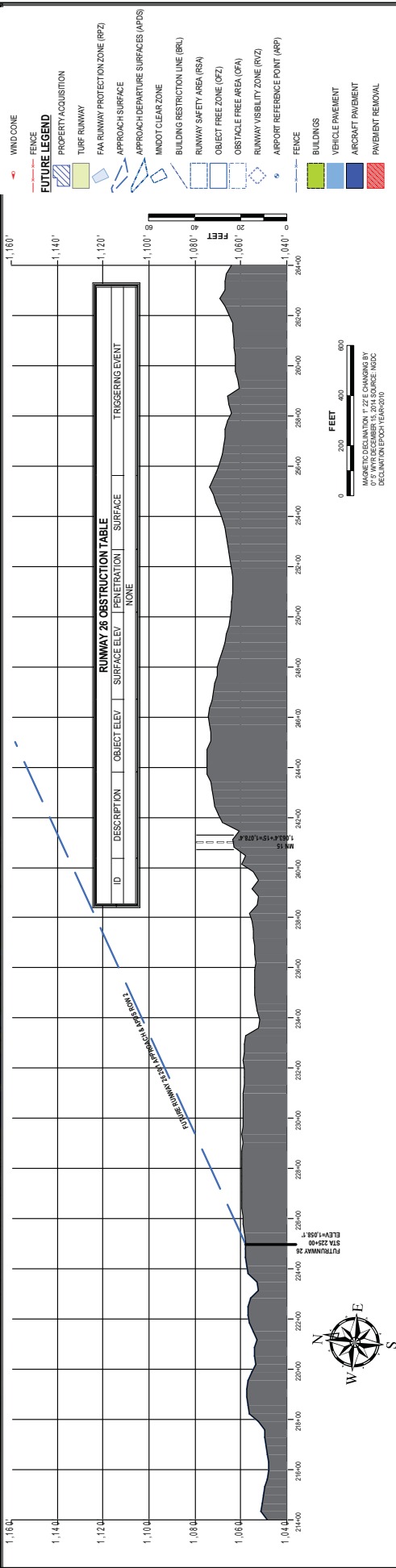
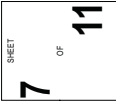


- EXISTING LEGEND**
- EXISTING PROPERTY
 - BASEMENTS
 - FMA RUNWAY PROTECTION ZONE (RPZ)
 - APPROACH SURFACE
 - APPROACH DEPARTURE SURFACES (ADDS)
 - MINDOT CLEAR ZONE
 - BUILDING RESTRICTION LINE (BRL)
 - RUNWAY SAFETY AREA (RSA)
 - OBJECT FREE ZONE (OFZ)
 - OBSTACLE FREE AREA (OFA)
 - APPROACH REFERENCE POINT (ARP)
 - APPROACH BEACON
 - APPROACH
 - APPROACH
 - APPROACH

- FUTURE LEGEND**
- PROPERTY ACQUISITION
 - TURF RUNWAY
 - FMA RUNWAY PROTECTION ZONE (RPZ)
 - APPROACH SURFACE
 - APPROACH DEPARTURE SURFACES (ADDS)
 - MINDOT CLEAR ZONE
 - BUILDING RESTRICTION LINE (BRL)
 - RUNWAY SAFETY AREA (RSA)
 - OBJECT FREE ZONE (OFZ)
 - OBSTACLE FREE AREA (OFA)
 - RUNWAY VISIBILITY ZONE (RVZ)
 - APPROACH REFERENCE POINT (ARP)
 - APPROACH
 - APPROACH
 - APPROACH



- LEGEND**
- BUILDINGS
 - VEHICLE PAVEMENT
 - AIRCRAFT PAVEMENT
 - PAVEMENT REMOVAL





1. MEMBER CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF TEXAS.

DATE: JULY 3, 2015

PROJECT NO. 151-100897



REVISIONS	DATE	BY	CHANGE

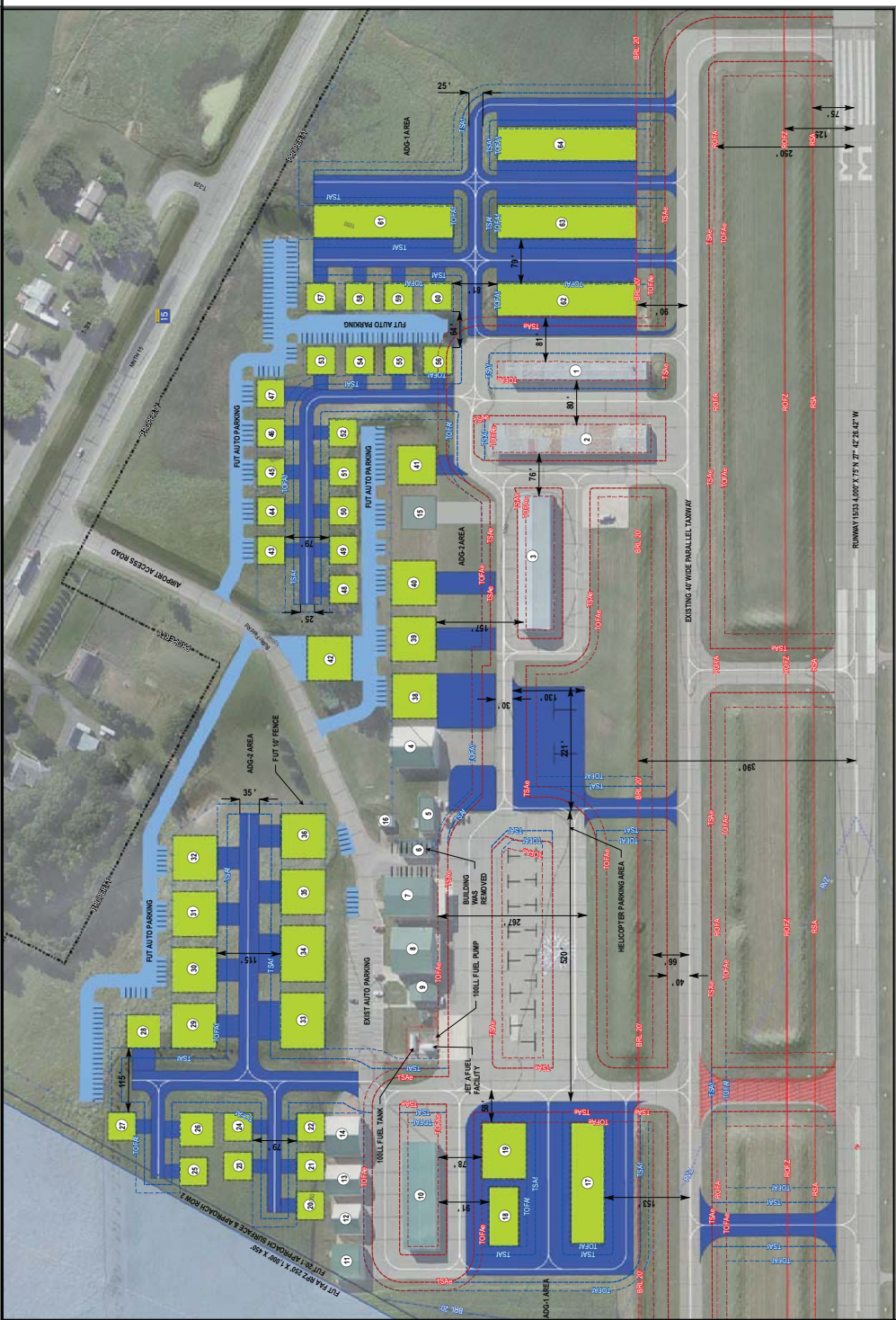
DESIGNED BY: MMU

DATE: JULY 3, 2015

FUTURE BUILDING & EXISTING AREA PLAN

ID	TOP ELEV.	DESCRIPTION	DISPOSITION
1	100.0	8-UNIT HANGAR	TO REMAIN
2	100.0	8-UNIT HANGAR	TO REMAIN
3	100.0	8-UNIT HANGAR	TO REMAIN
4	100.0	CONVENTIONAL HANGAR	TO REMAIN
5	100.0	CONVENTIONAL HANGAR	TO REMAIN
6	100.0	CONVENTIONAL HANGAR	TO REMAIN
7	100.0	CONVENTIONAL HANGAR	TO REMAIN
8	100.0	CONVENTIONAL HANGAR	TO REMAIN
9	100.0	CONVENTIONAL HANGAR	TO REMAIN
10	100.0	CONVENTIONAL HANGAR	TO REMAIN
11	100.0	CONVENTIONAL HANGAR	TO REMAIN
12	100.0	CONVENTIONAL HANGAR	TO REMAIN
13	100.0	CONVENTIONAL HANGAR	TO REMAIN
14	100.0	CONVENTIONAL HANGAR	TO REMAIN
15	100.0	CONVENTIONAL HANGAR	TO REMAIN
16	100.0	ELECTRICAL BUILDING	TO REMAIN

ID	TOP ELEV.	DESCRIPTION	DISPOSITION
17	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
18	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
19	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
20	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
21	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
22	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
23	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
24	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
25	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
26	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
27	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
28	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
29	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
30	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
31	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
32	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
33	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
34	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
35	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
36	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
37	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
38	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
39	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
40	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
41	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
42	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
43	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
44	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
45	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
46	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
47	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
48	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
49	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
50	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
51	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
52	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
53	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
54	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
55	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
56	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
57	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
58	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
59	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
60	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
61	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
62	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
63	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED
64	100.0	8-UNIT HANGAR	TO BE CONSTRUCTED



EXISTING LEGEND

- PROPERTY ACQUISITION
- TURF RUNWAY
- RAI RUNWAY PROTECTION ZONE (RPZ)
- APPROACH SURFACE
- APPROACH DEPARTURE SURFACES (APDS)
- INDOT CLEAR ZONE
- BUILDING RESTRICTION LINE (BRL)
- RUNWAY VISIBILITY ZONE (RVZ)
- APPROACH REFERENCE POINT (ARP)
- FENCE
- BUILDINGS
- VEHICLE PAVEMENT
- AIRCRAFT PAVEMENT
- PAVEMENT REMOVAL

FUTURE LEGEND

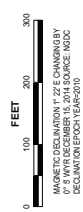
- PROPERTY ACQUISITION
- TURF RUNWAY
- RAI RUNWAY PROTECTION ZONE (RPZ)
- APPROACH SURFACE
- APPROACH DEPARTURE SURFACES (APDS)
- INDOT CLEAR ZONE
- BUILDING RESTRICTION LINE (BRL)
- RUNWAY VISIBILITY ZONE (RVZ)
- APPROACH REFERENCE POINT (ARP)
- FENCE
- BUILDINGS
- VEHICLE PAVEMENT
- AIRCRAFT PAVEMENT
- PAVEMENT REMOVAL

EXISTING LEGEND

- PROPERTY ACQUISITION
- TURF RUNWAY
- RAI RUNWAY PROTECTION ZONE (RPZ)
- APPROACH SURFACE
- APPROACH DEPARTURE SURFACES (APDS)
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- FENCE
- BUILDINGS
- VEHICLE PAVEMENT
- AIRCRAFT PAVEMENT
- PAVEMENT REMOVAL

FUTURE LEGEND

- PROPERTY ACQUISITION
- TURF RUNWAY
- RAI RUNWAY PROTECTION ZONE (RPZ)
- APPROACH SURFACE
- APPROACH DEPARTURE SURFACES (APDS)
- INDOT CLEAR ZONE
- BUILDING RESTRICTION LINE (BRL)
- RUNWAY VISIBILITY ZONE (RVZ)
- APPROACH REFERENCE POINT (ARP)
- FENCE
- BUILDINGS
- VEHICLE PAVEMENT
- AIRCRAFT PAVEMENT
- PAVEMENT REMOVAL





DATE: JULY 3, 2015
DESIGNED BY: MMU
PROJECT NO: 151-100997



REVISIONS	DATE	BY	CHANGE

DESIGNED BY: MMU
DATE: JULY 3, 2015
PROJECT NO: 151-100997

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OF
11
SHEET

HUTCHINSON MUNICIPAL AIRPORT ZONING ORDINANCE ADOPTED BY THE HUTCHINSON MUNICIPAL AIRPORT ZONING BOARD: 194

- B. Use Restrictions:
- 1) Any structure or use shall be subject to the following restrictions set forth in Subsection 3 (B) which shall be deemed to be a part of the zoning ordinance and shall be enforceable as such.
 - 2) Zone A: Subject to the following restrictions set forth in Subsection 3 (B) and to the general restrictions contained in subsection (B) (1) items designated as Zone A shall contain no buildings, structures, or uses which are not permitted in Zone A.
 - 3) Zone B: Subject to the following restrictions set forth in Subsection 3 (B) and to the general restrictions contained in subsection (B) (1) items designated as Zone B shall contain no buildings, structures, or uses which are not permitted in Zone B.
 - 4) Zone C: Subject to the following restrictions set forth in Subsection 3 (B) and to the general restrictions contained in subsection (B) (1) items designated as Zone C shall contain no buildings, structures, or uses which are not permitted in Zone C.
- C. Boundary Line: The boundary line between the various zones shall be as shown on the map and shall be subject to change by the Airport Zoning Board.

INNER WIDTH	OUTER WIDTH	LENGTH	INNER WIDTH	OUTER WIDTH
EXIST & FUTURE	15	2,667	200	2,667
	35	2,667	500	2,667
	35	2,667	1,300	2,667
	35	2,667	1,300	2,667
	35	2,667	1,300	2,667
	35	2,667	1,300	2,667
	35	2,667	1,300	2,667
	35	2,667	1,300	2,667
	35	2,667	1,300	2,667
	35	2,667	1,300	2,667

LAND USE LEGEND:

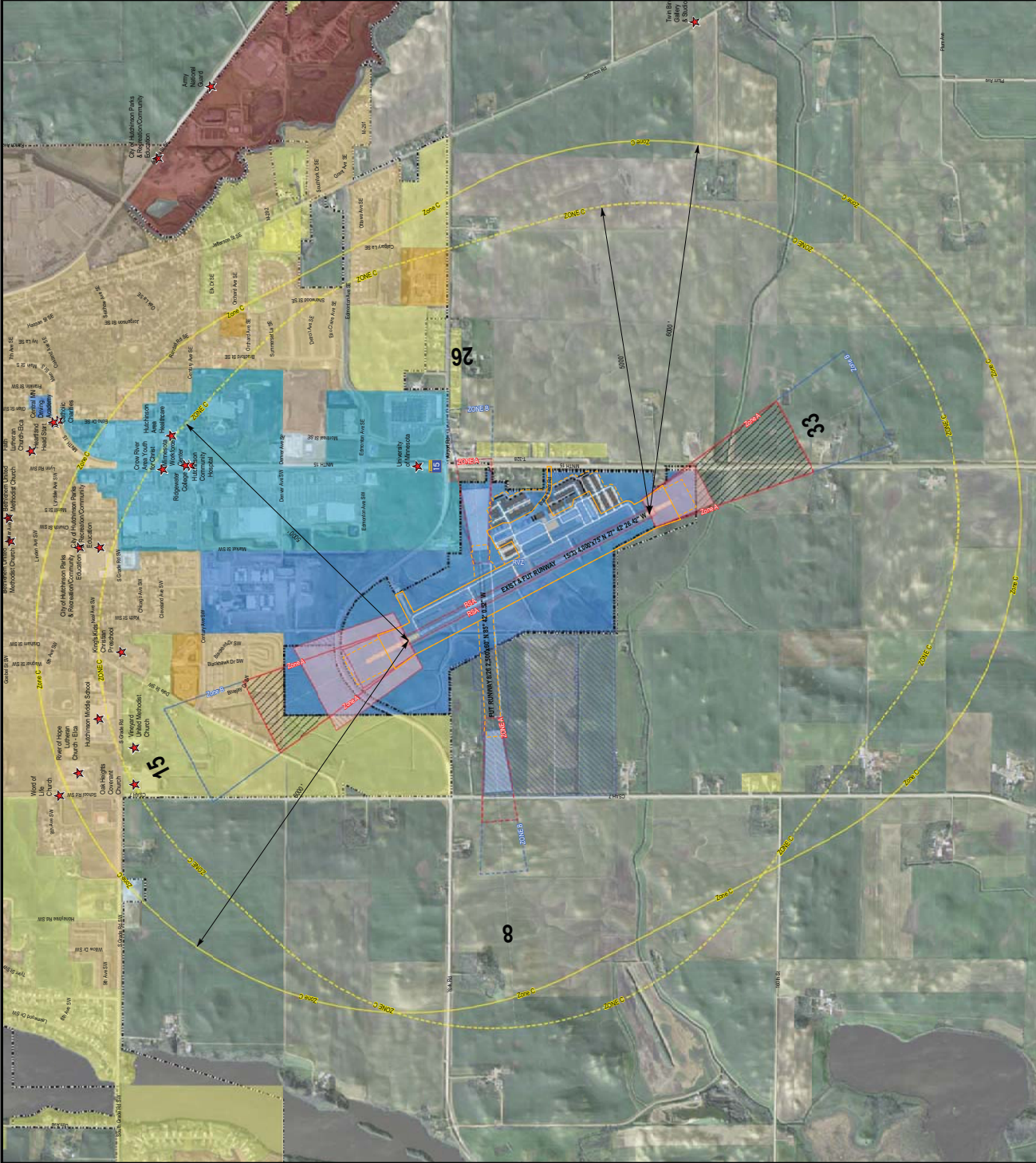
- AUTOMOTIVE SERVICE COMMERCIAL
- CENTRAL COMMERCIAL
- CONDITIONAL COMMERCIAL
- FRINGE COMMERCIAL
- INDUSTRIAL COMMERCIAL
- GATEWAY
- HEAVY INDUSTRY
- LIGHT INDUSTRIAL PARK
- MANUFACTURED HOME PARK
- HIGH DENSITY RESIDENTIAL
- MEDIUM DENSITY RESIDENTIAL
- SINGLE FAMILY RESIDENTIAL
- MIXED USE DISTRICT
- NEIGHBORHOOD CONVENIENCE COMMERCIAL
- AGRICULTURAL
- R1 RESIDENTIAL

LEGEND:

- AIRPORT PROPERTY
- HUTCHINSON CITY LIMITS
- PROPERTY ACQUISITION
- EASEMENTS
- INSTITUTIONS
- EXIST CROP RESTRICTION LINE
- FUT CROP RESTRICTION LINE
- FAIRWAY PROTECTION ZONE (RPZ)
- FAIRWAY PROTECTION ZONE (RPZ)
- SAFETY ZONE A EXIST
- SAFETY ZONE B EXIST
- SAFETY ZONE C EXIST
- SAFETY ZONE A FUT
- SAFETY ZONE B FUT
- SAFETY ZONE C FUT
- RUNWAY VISIBILITY ZONE (RVZ)

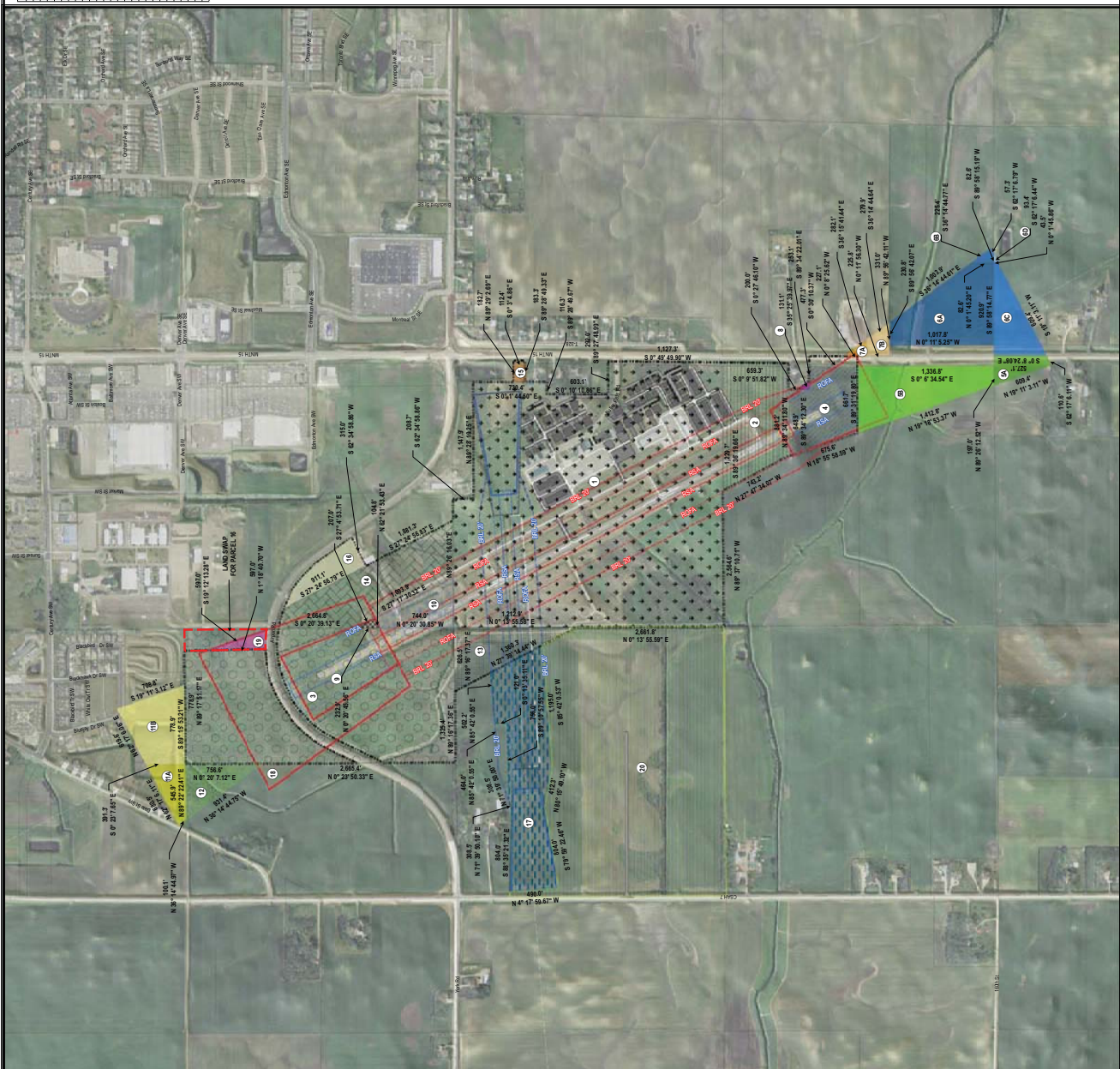
AIRPORT ZONING DIMENSIONS

INNER WIDTH	OUTER WIDTH	LENGTH	INNER WIDTH	OUTER WIDTH
EXIST & FUTURE	15	2,667	200	2,667
	35	2,667	500	2,667
	35	2,667	1,300	2,667
	35	2,667	1,300	2,667
	35	2,667	1,300	2,667
	35	2,667	1,300	2,667
	35	2,667	1,300	2,667
	35	2,667	1,300	2,667
	35	2,667	1,300	2,667
	35	2,667	1,300	2,667





NOTE: FOR ADDITIONAL INFORMATION SEE SHEET 11.
PARCEL 3 WAS LATER PURCHASED IN FEE AS PART OF PARCEL 14.
THE TOTAL ACRES FOR PARCELS 1 AND 2 REPRESENTS THE
= 3.74 ACRES OF PARCEL 3 WAS A LAND SWAP FOR PARCEL 16. THE
TOTAL ACRES LISTED FOR PARCEL 3 REPRESENTS ACRES OF ACTUAL
AIRPORT PROPERTY.





REVISIONS

DATE	BY	CHANGE

REVISIONS

REVISIONS

DATE	BY	CHANGE

REVISIONS

DESIGNED BY: MMU

DATE: JULY 3, 2015

PROJECT NO: 151-105997

NO.

BOLTON & MENK

PROPERTY NOTES

EXHIBIT "A"

<div>Parcel 1:</div> <div>TYPE: NONE</div> <div>RESTRICTIONS: NONE</div> <div>PREVIOUS OWNER: NONE</div> <div>AREA: 1.44 ACRES</div> <div>ACROSS: 477.04 FEET</div> <div>DEPT: CITY OF HUTCHINSON</div> <div>PA (P&N 24-148-120)</div> <div>Parcel 2:</div> <div>TYPE: NONE</div> <div>RESTRICTIONS: NONE</div> <div>PREVIOUS OWNER: NONE</div> <div>AREA: 1.10 ACRES</div> <div>ACROSS: 311.00 FEET</div> <div>DEPT: CITY OF HUTCHINSON</div> <div>PA (P&N 24-148-120)</div> <div>Parcel 3:</div> <div>TYPE: NONE</div> <div>RESTRICTIONS: NONE</div> <div>PREVIOUS OWNER: NONE</div> <div>AREA: 1.10 ACRES</div> <div>ACROSS: 311.00 FEET</div> <div>DEPT: CITY OF HUTCHINSON</div> <div>PA (P&N 24-148-120)</div> <div>Parcel 4:</div> <div>TYPE: NONE</div> <div>RESTRICTIONS: NONE</div> <div>PREVIOUS OWNER: NONE</div> <div>AREA: 1.10 ACRES</div> <div>ACROSS: 311.00 FEET</div> <div>DEPT: CITY OF HUTCHINSON</div> <div>PA (P&N 24-148-120)</div> <div>Parcel 5:</div> <div>TYPE: NONE</div> <div>RESTRICTIONS: NONE</div> <div>PREVIOUS OWNER: NONE</div> <div>AREA: 1.10 ACRES</div> <div>ACROSS: 311.00 FEET</div> <div>DEPT: CITY OF HUTCHINSON</div> <div>PA (P&N 24-148-120)</div> <div>Parcel 6:</div> <div>TYPE: NONE</div> <div>RESTRICTIONS: NONE</div> <div>PREVIOUS OWNER: NONE</div> <div>AREA: 1.10 ACRES</div> <div>ACROSS: 311.00 FEET</div> <div>DEPT: CITY OF HUTCHINSON</div> <div>PA (P&N 24-148-120)</div> <div>Parcel 7:</div> <div>TYPE: NONE</div> <div>RESTRICTIONS: NONE</div> <div>PREVIOUS OWNER: NONE</div> <div>AREA: 1.10 ACRES</div> <div>ACROSS: 311.00 FEET</div> <div>DEPT: CITY OF HUTCHINSON</div> <div>PA (P&N 24-148-120)</div> <div>Parcel 8:</div> <div>TYPE: NONE</div> <div>RESTRICTIONS: NONE</div> <div>PREVIOUS OWNER: NONE</div> <div>AREA: 1.10 ACRES</div> <div>ACROSS: 311.00 FEET</div> <div>DEPT: CITY OF HUTCHINSON</div> <div>PA (P&N 24-148-120)</div> <div>Parcel 9:</div> <div>TYPE: NONE</div> <div>RESTRICTIONS: NONE</div> <div>PREVIOUS OWNER: NONE</div> <div>AREA: 1.10 ACRES</div> <div>ACROSS: 311.00 FEET</div> <div>DEPT: CITY OF HUTCHINSON</div> <div>PA (P&N 24-148-120)</div> <div>Parcel 10:</div> <div>TYPE: NONE</div> <div>RESTRICTIONS: NONE</div> <div>PREVIOUS OWNER: NONE</div> <div>AREA: 1.10 ACRES</div> <div>ACROSS: 311.00 FEET</div> <div>DEPT: CITY OF HUTCHINSON</div> <div>PA (P&N 24-148-120)</div> <div>Parcel 11:</div> <div>TYPE: NONE</div> <div>RESTRICTIONS: NONE</div> <div>PREVIOUS OWNER: NONE</div> <div>AREA: 1.10 ACRES</div> <div>ACROSS: 311.00 FEET</div> <div>DEPT: CITY OF HUTCHINSON</div> <div>PA (P&N 24-148-120)</div> <div>Parcel 12:</div> <div>TYPE: NONE</div> <div>RESTRICTIONS: NONE</div> <div>PREVIOUS OWNER: NONE</div> <div>AREA: 1.10 ACRES</div> <div>ACROSS: 311.00 FEET</div> <div>DEPT: CITY OF HUTCHINSON</div> <div>PA (P&N 24-148-120)</div>
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APPENDIX D
FEDERAL GRANT ASSURANCES



ASSURANCES

Airport Sponsors

A. General.

1. These assurances shall be complied with in the performance of grant agreements for airport development, airport planning, and noise compatibility program grants for airport sponsors.
2. These assurances are required to be submitted as part of the project application by sponsors requesting funds under the provisions of Title 49, U.S.C., subtitle VII, as amended. As used herein, the term "public agency sponsor" means a public agency with control of a public-use airport; the term "private sponsor" means a private owner of a public-use airport; and the term "sponsor" includes both public agency sponsors and private sponsors.
3. Upon acceptance of this grant offer by the sponsor, these assurances are incorporated in and become part of this grant agreement.

B. Duration and Applicability.

1. **Airport development or Noise Compatibility Program Projects Undertaken by a Public Agency Sponsor.**

The terms, conditions and assurances of this grant agreement shall remain in full force and effect throughout the useful life of the facilities developed or equipment acquired for an airport development or noise compatibility program project, or throughout the useful life of the project items installed within a facility under a noise compatibility program project, but in any event not to exceed twenty (20) years from the date of acceptance of a grant offer of Federal funds for the project. However, there shall be no limit on the duration of the assurances regarding Exclusive Rights and Airport Revenue so long as the airport is used as an airport. There shall be no limit on the duration of the terms, conditions, and assurances with respect to real property acquired with federal funds. Furthermore, the duration of the Civil Rights assurance shall be specified in the assurances.

2. **Airport Development or Noise Compatibility Projects Undertaken by a Private Sponsor.**

The preceding paragraph 1 also applies to a private sponsor except that the useful life of project items installed within a facility or the useful life of the facilities developed or equipment acquired under an airport development or noise compatibility program project shall be no less than ten (10) years from the date of acceptance of Federal aid for the project.

3. Airport Planning Undertaken by a Sponsor.

Unless otherwise specified in this grant agreement, only Assurances 1, 2, 3, 5, 6, 13, 18, 25, 30, 32, 33, and 34 in Section C apply to planning projects. The terms, conditions, and assurances of this grant agreement shall remain in full force and effect during the life of the project; there shall be no limit on the duration of the assurances regarding Airport Revenue so long as the airport is used as an airport.

C. Sponsor Certification.

The sponsor hereby assures and certifies, with respect to this grant that:

1. General Federal Requirements.

It will comply with all applicable Federal laws, regulations, executive orders, policies, guidelines, and requirements as they relate to the application, acceptance and use of Federal funds for this project including but not limited to the following:

Federal Legislation

- a. Title 49, U.S.C., subtitle VII, as amended.
- b. Davis-Bacon Act - 40 U.S.C. 276(a), et seq.¹
- c. Federal Fair Labor Standards Act - 29 U.S.C. 201, et seq.
- d. Hatch Act – 5 U.S.C. 1501, et seq.²
- e. Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 Title 42 U.S.C. 4601, et seq.^{1 2}
- f. National Historic Preservation Act of 1966 - Section 106 - 16 U.S.C. 470(f).¹
- g. Archeological and Historic Preservation Act of 1974 - 16 U.S.C. 469 through 469c.¹
- h. Native Americans Grave Repatriation Act - 25 U.S.C. Section 3001, et seq.
- i. Clean Air Act, P.L. 90-148, as amended.
- j. Coastal Zone Management Act, P.L. 93-205, as amended.
- k. Flood Disaster Protection Act of 1973 - Section 102(a) - 42 U.S.C. 4012a.¹
- l. Title 49, U.S.C., Section 303, (formerly known as Section 4(f))
- m. Rehabilitation Act of 1973 - 29 U.S.C. 794.
- n. Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252) (prohibits discrimination on the basis of race, color, national origin);
- o. Americans with Disabilities Act of 1990, as amended, (42 U.S.C. § 12101 et seq.), prohibits discrimination on the basis of disability).
- p. Age Discrimination Act of 1975 - 42 U.S.C. 6101, et seq.
- q. American Indian Religious Freedom Act, P.L. 95-341, as amended.
- r. Architectural Barriers Act of 1968 -42 U.S.C. 4151, et seq.¹
- s. Power plant and Industrial Fuel Use Act of 1978 - Section 403- 2 U.S.C. 8373.¹
- t. Contract Work Hours and Safety Standards Act - 40 U.S.C. 327, et seq.¹
- u. Copeland Anti-kickback Act - 18 U.S.C. 874.1
- v. National Environmental Policy Act of 1969 - 42 U.S.C. 4321, et seq.¹
- w. Wild and Scenic Rivers Act, P.L. 90-542, as amended.
- x. Single Audit Act of 1984 - 31 U.S.C. 7501, et seq.²
- y. Drug-Free Workplace Act of 1988 - 41 U.S.C. 702 through 706.

- z. The Federal Funding Accountability and Transparency Act of 2006, as amended (Pub. L. 109-282, as amended by section 6202 of Pub. L. 110-252).

Executive Orders

- a. Executive Order 11246 - Equal Employment Opportunity¹
- b. Executive Order 11990 - Protection of Wetlands
- c. Executive Order 11998 – Flood Plain Management
- d. Executive Order 12372 - Intergovernmental Review of Federal Programs
- e. Executive Order 12699 - Seismic Safety of Federal and Federally Assisted New Building Construction¹
- f. Executive Order 12898 - Environmental Justice

Federal Regulations

- a. 2 CFR Part 180 - OMB Guidelines to Agencies on Governmentwide Debarment and Suspension (Nonprocurement).
- b. 2 CFR Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards. [OMB Circular A-87 Cost Principles Applicable to Grants and Contracts with State and Local Governments, and OMB Circular A-133 - Audits of States, Local Governments, and Non-Profit Organizations].^{4, 5, 6}
- c. 2 CFR Part 1200 – Nonprocurement Suspension and Debarment
- d. 14 CFR Part 13 - Investigative and Enforcement Procedures 14 CFR Part 16 - Rules of Practice For Federally Assisted Airport Enforcement Proceedings.
- e. 14 CFR Part 150 - Airport noise compatibility planning.
- f. 28 CFR Part 35- Discrimination on the Basis of Disability in State and Local Government Services.
- g. 28 CFR § 50.3 - U.S. Department of Justice Guidelines for Enforcement of Title VI of the Civil Rights Act of 1964.
- h. 29 CFR Part 1 - Procedures for predetermination of wage rates.¹
- i. 29 CFR Part 3 - Contractors and subcontractors on public building or public work financed in whole or part by loans or grants from the United States.¹
- j. 29 CFR Part 5 - Labor standards provisions applicable to contracts covering federally financed and assisted construction (also labor standards provisions applicable to non-construction contracts subject to the Contract Work Hours and Safety Standards Act).¹
- k. 41 CFR Part 60 - Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor (Federal and federally assisted contracting requirements).¹
- l. 49 CFR Part 18 - Uniform administrative requirements for grants and cooperative agreements to state and local governments.³
- m. 49 CFR Part 20 - New restrictions on lobbying.
- n. 49 CFR Part 21 – Nondiscrimination in federally-assisted programs of the Department of Transportation - effectuation of Title VI of the Civil Rights Act of 1964.
- o. 49 CFR Part 23 - Participation by Disadvantage Business Enterprise in Airport Concessions.

- p. 49 CFR Part 24 – Uniform Relocation Assistance and Real Property Acquisition for Federal and Federally Assisted Programs.^{1 2}
- q. 49 CFR Part 26 – Participation by Disadvantaged Business Enterprises in Department of Transportation Programs.
- r. 49 CFR Part 27 – Nondiscrimination on the Basis of Handicap in Programs and Activities Receiving or Benefiting from Federal Financial Assistance.¹
- s. 49 CFR Part 28 – Enforcement of Nondiscrimination on the Basis of Handicap in Programs or Activities conducted by the Department of Transportation.
- t. 49 CFR Part 30 - Denial of public works contracts to suppliers of goods and services of countries that deny procurement market access to U.S. contractors.
- u. 49 CFR Part 32 – Governmentwide Requirements for Drug-Free Workplace (Financial Assistance)
- v. 49 CFR Part 37 – Transportation Services for Individuals with Disabilities (ADA).
- w. 49 CFR Part 41 - Seismic safety of Federal and federally assisted or regulated new building construction.

Specific Assurances

Specific assurances required to be included in grant agreements by any of the above laws, regulations or circulars are incorporated by reference in this grant agreement.

Footnotes to Assurance C.1.

¹ These laws do not apply to airport planning sponsors.

² These laws do not apply to private sponsors.

³ 49 CFR Part 18 and 2 CFR Part 200 contain requirements for State and Local Governments receiving Federal assistance. Any requirement levied upon State and Local Governments by this regulation and circular shall also be applicable to private sponsors receiving Federal assistance under Title 49, United States Code.

⁴ On December 26, 2013 at 78 FR 78590, the Office of Management and Budget (OMB) issued the Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards in 2 CFR Part 200. 2 CFR Part 200 replaces and combines the former Uniform Administrative Requirements for Grants (OMB Circular A-102 and Circular A-110 or 2 CFR Part 215 or Circular) as well as the Cost Principles (Circulars A-21 or 2 CFR part 220; Circular A-87 or 2 CFR part 225; and A-122, 2 CFR part 230). Additionally it replaces Circular A-133 guidance on the Single Annual Audit. In accordance with 2 CFR section 200.110, the standards set forth in Part 200 which affect administration of Federal awards issued by Federal agencies become effective once implemented by Federal agencies or when any future amendment to this Part becomes final. Federal agencies, including the Department of Transportation, must implement the policies and procedures applicable to Federal awards by promulgating a regulation to be effective by December 26, 2014 unless different provisions are required by statute or approved by OMB.

⁵ Cost principles established in 2 CFR part 200 subpart E must be used as guidelines for determining the eligibility of specific types of expenses.

⁶ Audit requirements established in 2 CFR part 200 subpart F are the guidelines for audits.

2. Responsibility and Authority of the Sponsor.

a. Public Agency Sponsor:

It has legal authority to apply for this grant, and to finance and carry out the proposed project; that a resolution, motion or similar action has been duly adopted or passed as an official act of the applicant's governing body authorizing the filing of the application, including all understandings and assurances contained therein, and directing and authorizing the person identified as the official representative of the applicant to act in connection with the application and to provide such additional information as may be required.

b. Private Sponsor:

It has legal authority to apply for this grant and to finance and carry out the proposed project and comply with all terms, conditions, and assurances of this grant agreement. It shall designate an official representative and shall in writing direct and authorize that person to file this application, including all understandings and assurances contained therein; to act in connection with this application; and to provide such additional information as may be required.

3. Sponsor Fund Availability.

It has sufficient funds available for that portion of the project costs which are not to be paid by the United States. It has sufficient funds available to assure operation and maintenance of items funded under this grant agreement which it will own or control.

4. Good Title.

- a. It, a public agency or the Federal government, holds good title, satisfactory to the Secretary, to the landing area of the airport or site thereof, or will give assurance satisfactory to the Secretary that good title will be acquired.
- b. For noise compatibility program projects to be carried out on the property of the sponsor, it holds good title satisfactory to the Secretary to that portion of the property upon which Federal funds will be expended or will give assurance to the Secretary that good title will be obtained.

5. Preserving Rights and Powers.

- a. It will not take or permit any action which would operate to deprive it of any of the rights and powers necessary to perform any or all of the terms, conditions, and assurances in this grant agreement without the written approval of the Secretary, and will act promptly to acquire, extinguish or modify any outstanding rights or claims of right of others which would interfere with such performance by the sponsor. This shall be done in a manner acceptable to the Secretary.

- b. It will not sell, lease, encumber, or otherwise transfer or dispose of any part of its title or other interests in the property shown on Exhibit A to this application or, for a noise compatibility program project, that portion of the property upon which Federal funds have been expended, for the duration of the terms, conditions, and assurances in this grant agreement without approval by the Secretary. If the transferee is found by the Secretary to be eligible under Title 49, United States Code, to assume the obligations of this grant agreement and to have the power, authority, and financial resources to carry out all such obligations, the sponsor shall insert in the contract or document transferring or disposing of the sponsor's interest, and make binding upon the transferee all of the terms, conditions, and assurances contained in this grant agreement.
- c. For all noise compatibility program projects which are to be carried out by another unit of local government or are on property owned by a unit of local government other than the sponsor, it will enter into an agreement with that government. Except as otherwise specified by the Secretary, that agreement shall obligate that government to the same terms, conditions, and assurances that would be applicable to it if it applied directly to the FAA for a grant to undertake the noise compatibility program project. That agreement and changes thereto must be satisfactory to the Secretary. It will take steps to enforce this agreement against the local government if there is substantial non-compliance with the terms of the agreement.
- d. For noise compatibility program projects to be carried out on privately owned property, it will enter into an agreement with the owner of that property which includes provisions specified by the Secretary. It will take steps to enforce this agreement against the property owner whenever there is substantial non-compliance with the terms of the agreement.
- e. If the sponsor is a private sponsor, it will take steps satisfactory to the Secretary to ensure that the airport will continue to function as a public-use airport in accordance with these assurances for the duration of these assurances.
- f. If an arrangement is made for management and operation of the airport by any agency or person other than the sponsor or an employee of the sponsor, the sponsor will reserve sufficient rights and authority to insure that the airport will be operated and maintained in accordance Title 49, United States Code, the regulations and the terms, conditions and assurances in this grant agreement and shall insure that such arrangement also requires compliance therewith.
- g. Sponsors of commercial service airports will not permit or enter into any arrangement that results in permission for the owner or tenant of a property used as a residence, or zoned for residential use, to taxi an aircraft between that property and any location on airport. Sponsors of general aviation airports entering into any arrangement that results in permission for the owner of residential real property adjacent to or near the airport must comply with the requirements of Sec. 136 of Public Law 112-95 and the sponsor assurances.

6. Consistency with Local Plans.

The project is reasonably consistent with plans (existing at the time of submission of this application) of public agencies that are authorized by the State in which the project is located to plan for the development of the area surrounding the airport.

7. Consideration of Local Interest.

It has given fair consideration to the interest of communities in or near where the project may be located.

8. Consultation with Users.

In making a decision to undertake any airport development project under Title 49, United States Code, it has undertaken reasonable consultations with affected parties using the airport at which project is proposed.

9. Public Hearings.

In projects involving the location of an airport, an airport runway, or a major runway extension, it has afforded the opportunity for public hearings for the purpose of considering the economic, social, and environmental effects of the airport or runway location and its consistency with goals and objectives of such planning as has been carried out by the community and it shall, when requested by the Secretary, submit a copy of the transcript of such hearings to the Secretary. Further, for such projects, it has on its management board either voting representation from the communities where the project is located or has advised the communities that they have the right to petition the Secretary concerning a proposed project.

10. Metropolitan Planning Organization.

In projects involving the location of an airport, an airport runway, or a major runway extension at a medium or large hub airport, the sponsor has made available to and has provided upon request to the metropolitan planning organization in the area in which the airport is located, if any, a copy of the proposed amendment to the airport layout plan to depict the project and a copy of any airport master plan in which the project is described or depicted.

11. Pavement Preventive Maintenance.

With respect to a project approved after January 1, 1995, for the replacement or reconstruction of pavement at the airport, it assures or certifies that it has implemented an effective airport pavement maintenance-management program and it assures that it will use such program for the useful life of any pavement constructed, reconstructed or repaired with Federal financial assistance at the airport. It will provide such reports on pavement condition and pavement management programs as the Secretary determines may be useful.

12. Terminal Development Prerequisites.

For projects which include terminal development at a public use airport, as defined in Title 49, it has, on the date of submittal of the project grant application, all the safety equipment required for certification of such airport under section 44706 of Title 49, United States Code, and all the security equipment required by rule or regulation, and

has provided for access to the passenger enplaning and deplaning area of such airport to passengers enplaning and deplaning from aircraft other than air carrier aircraft.

13. Accounting System, Audit, and Record Keeping Requirements.

- a. It shall keep all project accounts and records which fully disclose the amount and disposition by the recipient of the proceeds of this grant, the total cost of the project in connection with which this grant is given or used, and the amount or nature of that portion of the cost of the project supplied by other sources, and such other financial records pertinent to the project. The accounts and records shall be kept in accordance with an accounting system that will facilitate an effective audit in accordance with the Single Audit Act of 1984.
- b. It shall make available to the Secretary and the Comptroller General of the United States, or any of their duly authorized representatives, for the purpose of audit and examination, any books, documents, papers, and records of the recipient that are pertinent to this grant. The Secretary may require that an appropriate audit be conducted by a recipient. In any case in which an independent audit is made of the accounts of a sponsor relating to the disposition of the proceeds of a grant or relating to the project in connection with which this grant was given or used, it shall file a certified copy of such audit with the Comptroller General of the United States not later than six (6) months following the close of the fiscal year for which the audit was made.

14. Minimum Wage Rates.

It shall include, in all contracts in excess of \$2,000 for work on any projects funded under this grant agreement which involve labor, provisions establishing minimum rates of wages, to be predetermined by the Secretary of Labor, in accordance with the Davis-Bacon Act, as amended (40 U.S.C. 276a-276a-5), which contractors shall pay to skilled and unskilled labor, and such minimum rates shall be stated in the invitation for bids and shall be included in proposals or bids for the work.

15. Veteran's Preference.

It shall include in all contracts for work on any project funded under this grant agreement which involve labor, such provisions as are necessary to insure that, in the employment of labor (except in executive, administrative, and supervisory positions), preference shall be given to Vietnam era veterans, Persian Gulf veterans, Afghanistan-Iraq war veterans, disabled veterans, and small business concerns owned and controlled by disabled veterans as defined in Section 47112 of Title 49, United States Code. However, this preference shall apply only where the individuals are available and qualified to perform the work to which the employment relates.

16. Conformity to Plans and Specifications.

It will execute the project subject to plans, specifications, and schedules approved by the Secretary. Such plans, specifications, and schedules shall be submitted to the Secretary prior to commencement of site preparation, construction, or other performance under this grant agreement, and, upon approval of the Secretary, shall be incorporated into this grant agreement. Any modification to the approved plans,

specifications, and schedules shall also be subject to approval of the Secretary, and incorporated into this grant agreement.

17. Construction Inspection and Approval.

It will provide and maintain competent technical supervision at the construction site throughout the project to assure that the work conforms to the plans, specifications, and schedules approved by the Secretary for the project. It shall subject the construction work on any project contained in an approved project application to inspection and approval by the Secretary and such work shall be in accordance with regulations and procedures prescribed by the Secretary. Such regulations and procedures shall require such cost and progress reporting by the sponsor or sponsors of such project as the Secretary shall deem necessary.

18. Planning Projects.

In carrying out planning projects:

- a. It will execute the project in accordance with the approved program narrative contained in the project application or with the modifications similarly approved.
- b. It will furnish the Secretary with such periodic reports as required pertaining to the planning project and planning work activities.
- c. It will include in all published material prepared in connection with the planning project a notice that the material was prepared under a grant provided by the United States.
- d. It will make such material available for examination by the public, and agrees that no material prepared with funds under this project shall be subject to copyright in the United States or any other country.
- e. It will give the Secretary unrestricted authority to publish, disclose, distribute, and otherwise use any of the material prepared in connection with this grant.
- f. It will grant the Secretary the right to disapprove the sponsor's employment of specific consultants and their subcontractors to do all or any part of this project as well as the right to disapprove the proposed scope and cost of professional services.
- g. It will grant the Secretary the right to disapprove the use of the sponsor's employees to do all or any part of the project.
- h. It understands and agrees that the Secretary's approval of this project grant or the Secretary's approval of any planning material developed as part of this grant does not constitute or imply any assurance or commitment on the part of the Secretary to approve any pending or future application for a Federal airport grant.

19. Operation and Maintenance.

- a. The airport and all facilities which are necessary to serve the aeronautical users of the airport, other than facilities owned or controlled by the United States, shall be operated at all times in a safe and serviceable condition and in accordance with the minimum standards as may be required or prescribed by applicable Federal,

state and local agencies for maintenance and operation. It will not cause or permit any activity or action thereon which would interfere with its use for airport purposes. It will suitably operate and maintain the airport and all facilities thereon or connected therewith, with due regard to climatic and flood conditions. Any proposal to temporarily close the airport for non-aeronautical purposes must first be approved by the Secretary. In furtherance of this assurance, the sponsor will have in effect arrangements for-

- 1) Operating the airport's aeronautical facilities whenever required;
 - 2) Promptly marking and lighting hazards resulting from airport conditions, including temporary conditions; and
 - 3) Promptly notifying airmen of any condition affecting aeronautical use of the airport. Nothing contained herein shall be construed to require that the airport be operated for aeronautical use during temporary periods when snow, flood or other climatic conditions interfere with such operation and maintenance. Further, nothing herein shall be construed as requiring the maintenance, repair, restoration, or replacement of any structure or facility which is substantially damaged or destroyed due to an act of God or other condition or circumstance beyond the control of the sponsor.
- b. It will suitably operate and maintain noise compatibility program items that it owns or controls upon which Federal funds have been expended.

20. Hazard Removal and Mitigation.

It will take appropriate action to assure that such terminal airspace as is required to protect instrument and visual operations to the airport (including established minimum flight altitudes) will be adequately cleared and protected by removing, lowering, relocating, marking, or lighting or otherwise mitigating existing airport hazards and by preventing the establishment or creation of future airport hazards.

21. Compatible Land Use.

It will take appropriate action, to the extent reasonable, including the adoption of zoning laws, to restrict the use of land adjacent to or in the immediate vicinity of the airport to activities and purposes compatible with normal airport operations, including landing and takeoff of aircraft. In addition, if the project is for noise compatibility program implementation, it will not cause or permit any change in land use, within its jurisdiction, that will reduce its compatibility, with respect to the airport, of the noise compatibility program measures upon which Federal funds have been expended.

22. Economic Nondiscrimination.

- a. It will make the airport available as an airport for public use on reasonable terms and without unjust discrimination to all types, kinds and classes of aeronautical activities, including commercial aeronautical activities offering services to the public at the airport.
- b. In any agreement, contract, lease, or other arrangement under which a right or privilege at the airport is granted to any person, firm, or corporation to conduct or

to engage in any aeronautical activity for furnishing services to the public at the airport, the sponsor will insert and enforce provisions requiring the contractor to-

- 1) furnish said services on a reasonable, and not unjustly discriminatory, basis to all users thereof, and
 - 2) charge reasonable, and not unjustly discriminatory, prices for each unit or service, provided that the contractor may be allowed to make reasonable and nondiscriminatory discounts, rebates, or other similar types of price reductions to volume purchasers.
- c. Each fixed-based operator at the airport shall be subject to the same rates, fees, rentals, and other charges as are uniformly applicable to all other fixed-based operators making the same or similar uses of such airport and utilizing the same or similar facilities.
 - d. Each air carrier using such airport shall have the right to service itself or to use any fixed-based operator that is authorized or permitted by the airport to serve any air carrier at such airport.
 - e. Each air carrier using such airport (whether as a tenant, non-tenant, or subtenant of another air carrier tenant) shall be subject to such nondiscriminatory and substantially comparable rules, regulations, conditions, rates, fees, rentals, and other charges with respect to facilities directly and substantially related to providing air transportation as are applicable to all such air carriers which make similar use of such airport and utilize similar facilities, subject to reasonable classifications such as tenants or non-tenants and signatory carriers and non-signatory carriers. Classification or status as tenant or signatory shall not be unreasonably withheld by any airport provided an air carrier assumes obligations substantially similar to those already imposed on air carriers in such classification or status.
 - f. It will not exercise or grant any right or privilege which operates to prevent any person, firm, or corporation operating aircraft on the airport from performing any services on its own aircraft with its own employees [including, but not limited to maintenance, repair, and fueling] that it may choose to perform.
 - g. In the event the sponsor itself exercises any of the rights and privileges referred to in this assurance, the services involved will be provided on the same conditions as would apply to the furnishing of such services by commercial aeronautical service providers authorized by the sponsor under these provisions.
 - h. The sponsor may establish such reasonable, and not unjustly discriminatory, conditions to be met by all users of the airport as may be necessary for the safe and efficient operation of the airport.
 - i. The sponsor may prohibit or limit any given type, kind or class of aeronautical use of the airport if such action is necessary for the safe operation of the airport or necessary to serve the civil aviation needs of the public.

23. Exclusive Rights.

It will permit no exclusive right for the use of the airport by any person providing, or intending to provide, aeronautical services to the public. For purposes of this paragraph, the providing of the services at an airport by a single fixed-based operator shall not be construed as an exclusive right if both of the following apply:

- a. It would be unreasonably costly, burdensome, or impractical for more than one fixed-based operator to provide such services, and
- b. If allowing more than one fixed-based operator to provide such services would require the reduction of space leased pursuant to an existing agreement between such single fixed-based operator and such airport. It further agrees that it will not, either directly or indirectly, grant or permit any person, firm, or corporation, the exclusive right at the airport to conduct any aeronautical activities, including, but not limited to charter flights, pilot training, aircraft rental and sightseeing, aerial photography, crop dusting, aerial advertising and surveying, air carrier operations, aircraft sales and services, sale of aviation petroleum products whether or not conducted in conjunction with other aeronautical activity, repair and maintenance of aircraft, sale of aircraft parts, and any other activities which because of their direct relationship to the operation of aircraft can be regarded as an aeronautical activity, and that it will terminate any exclusive right to conduct an aeronautical activity now existing at such an airport before the grant of any assistance under Title 49, United States Code.

24. Fee and Rental Structure.

It will maintain a fee and rental structure for the facilities and services at the airport which will make the airport as self-sustaining as possible under the circumstances existing at the particular airport, taking into account such factors as the volume of traffic and economy of collection. No part of the Federal share of an airport development, airport planning or noise compatibility project for which a grant is made under Title 49, United States Code, the Airport and Airway Improvement Act of 1982, the Federal Airport Act or the Airport and Airway Development Act of 1970 shall be included in the rate basis in establishing fees, rates, and charges for users of that airport.

25. Airport Revenues.

- a. All revenues generated by the airport and any local taxes on aviation fuel established after December 30, 1987, will be expended by it for the capital or operating costs of the airport; the local airport system; or other local facilities which are owned or operated by the owner or operator of the airport and which are directly and substantially related to the actual air transportation of passengers or property; or for noise mitigation purposes on or off the airport. The following exceptions apply to this paragraph:
 - 1) If covenants or assurances in debt obligations issued before September 3, 1982, by the owner or operator of the airport, or provisions enacted before September 3, 1982, in governing statutes controlling the owner or operator's financing, provide for the use of the revenues from any of the airport owner or

operator's facilities, including the airport, to support not only the airport but also the airport owner or operator's general debt obligations or other facilities, then this limitation on the use of all revenues generated by the airport (and, in the case of a public airport, local taxes on aviation fuel) shall not apply.

- 2) If the Secretary approves the sale of a privately owned airport to a public sponsor and provides funding for any portion of the public sponsor's acquisition of land, this limitation on the use of all revenues generated by the sale shall not apply to certain proceeds from the sale. This is conditioned on repayment to the Secretary by the private owner of an amount equal to the remaining unamortized portion (amortized over a 20-year period) of any airport improvement grant made to the private owner for any purpose other than land acquisition on or after October 1, 1996, plus an amount equal to the federal share of the current fair market value of any land acquired with an airport improvement grant made to that airport on or after October 1, 1996.
 - 3) Certain revenue derived from or generated by mineral extraction, production, lease, or other means at a general aviation airport (as defined at Section 47102 of title 49 United States Code), if the FAA determines the airport sponsor meets the requirements set forth in Sec. 813 of Public Law 112-95.
- b. As part of the annual audit required under the Single Audit Act of 1984, the sponsor will direct that the audit will review, and the resulting audit report will provide an opinion concerning, the use of airport revenue and taxes in paragraph (a), and indicating whether funds paid or transferred to the owner or operator are paid or transferred in a manner consistent with Title 49, United States Code and any other applicable provision of law, including any regulation promulgated by the Secretary or Administrator.
 - c. Any civil penalties or other sanctions will be imposed for violation of this assurance in accordance with the provisions of Section 47107 of Title 49, United States Code.

26. Reports and Inspections.

It will:

- a. submit to the Secretary such annual or special financial and operations reports as the Secretary may reasonably request and make such reports available to the public; make available to the public at reasonable times and places a report of the airport budget in a format prescribed by the Secretary;
- b. for airport development projects, make the airport and all airport records and documents affecting the airport, including deeds, leases, operation and use agreements, regulations and other instruments, available for inspection by any duly authorized agent of the Secretary upon reasonable request;
- c. for noise compatibility program projects, make records and documents relating to the project and continued compliance with the terms, conditions, and assurances of this grant agreement including deeds, leases, agreements, regulations, and other instruments, available for inspection by any duly authorized agent of the Secretary upon reasonable request; and

- d. in a format and time prescribed by the Secretary, provide to the Secretary and make available to the public following each of its fiscal years, an annual report listing in detail:
 - 1) all amounts paid by the airport to any other unit of government and the purposes for which each such payment was made; and
 - 2) all services and property provided by the airport to other units of government and the amount of compensation received for provision of each such service and property.

27. Use by Government Aircraft.

It will make available all of the facilities of the airport developed with Federal financial assistance and all those usable for landing and takeoff of aircraft to the United States for use by Government aircraft in common with other aircraft at all times without charge, except, if the use by Government aircraft is substantial, charge may be made for a reasonable share, proportional to such use, for the cost of operating and maintaining the facilities used. Unless otherwise determined by the Secretary, or otherwise agreed to by the sponsor and the using agency, substantial use of an airport by Government aircraft will be considered to exist when operations of such aircraft are in excess of those which, in the opinion of the Secretary, would unduly interfere with use of the landing areas by other authorized aircraft, or during any calendar month that –

- a. Five (5) or more Government aircraft are regularly based at the airport or on land adjacent thereto; or
- b. The total number of movements (counting each landing as a movement) of Government aircraft is 300 or more, or the gross accumulative weight of Government aircraft using the airport (the total movement of Government aircraft multiplied by gross weights of such aircraft) is in excess of five million pounds.

28. Land for Federal Facilities.

It will furnish without cost to the Federal Government for use in connection with any air traffic control or air navigation activities, or weather-reporting and communication activities related to air traffic control, any areas of land or water, or estate therein, or rights in buildings of the sponsor as the Secretary considers necessary or desirable for construction, operation, and maintenance at Federal expense of space or facilities for such purposes. Such areas or any portion thereof will be made available as provided herein within four months after receipt of a written request from the Secretary.

29. Airport Layout Plan.

- a. It will keep up to date at all times an airport layout plan of the airport showing
 - 1) boundaries of the airport and all proposed additions thereto, together with the boundaries of all offsite areas owned or controlled by the sponsor for airport purposes and proposed additions thereto;
 - 2) the location and nature of all existing and proposed airport facilities and structures (such as runways, taxiways, aprons, terminal buildings, hangars and

roads), including all proposed extensions and reductions of existing airport facilities;

- 3) the location of all existing and proposed nonaviation areas and of all existing improvements thereon; and
 - 4) all proposed and existing access points used to taxi aircraft across the airport's property boundary. Such airport layout plans and each amendment, revision, or modification thereof, shall be subject to the approval of the Secretary which approval shall be evidenced by the signature of a duly authorized representative of the Secretary on the face of the airport layout plan. The sponsor will not make or permit any changes or alterations in the airport or any of its facilities which are not in conformity with the airport layout plan as approved by the Secretary and which might, in the opinion of the Secretary, adversely affect the safety, utility or efficiency of the airport.
- b. If a change or alteration in the airport or the facilities is made which the Secretary determines adversely affects the safety, utility, or efficiency of any federally owned, leased, or funded property on or off the airport and which is not in conformity with the airport layout plan as approved by the Secretary, the owner or operator will, if requested, by the Secretary (1) eliminate such adverse effect in a manner approved by the Secretary; or (2) bear all costs of relocating such property (or replacement thereof) to a site acceptable to the Secretary and all costs of restoring such property (or replacement thereof) to the level of safety, utility, efficiency, and cost of operation existing before the unapproved change in the airport or its facilities except in the case of a relocation or replacement of an existing airport facility due to a change in the Secretary's design standards beyond the control of the airport sponsor.

30. Civil Rights.

It will promptly take any measures necessary to ensure that no person in the United States shall, on the grounds of race, creed, color, national origin, sex, age, or disability be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination in any activity conducted with, or benefiting from, funds received from this grant.

- a. Using the definitions of activity, facility and program as found and defined in §§ 21.23 (b) and 21.23 (e) of 49 CFR § 21, the sponsor will facilitate all programs, operate all facilities, or conduct all programs in compliance with all non-discrimination requirements imposed by, or pursuant to these assurances.
- b. Applicability
 - 1) Programs and Activities. If the sponsor has received a grant (or other federal assistance) for any of the sponsor's program or activities, these requirements extend to all of the sponsor's programs and activities.
 - 2) Facilities. Where it receives a grant or other federal financial assistance to construct, expand, renovate, remodel, alter or acquire a facility, or part of a facility, the assurance extends to the entire facility and facilities operated in connection therewith.

- 3) Real Property. Where the sponsor receives a grant or other Federal financial assistance in the form of, or for the acquisition of real property or an interest in real property, the assurance will extend to rights to space on, over, or under such property.

c. Duration.

The sponsor agrees that it is obligated to this assurance for the period during which Federal financial assistance is extended to the program, except where the Federal financial assistance is to provide, or is in the form of, personal property, or real property, or interest therein, or structures or improvements thereon, in which case the assurance obligates the sponsor, or any transferee for the longer of the following periods:

- 1) So long as the airport is used as an airport, or for another purpose involving the provision of similar services or benefits; or
- 2) So long as the sponsor retains ownership or possession of the property.

d. Required Solicitation Language. It will include the following notification in all solicitations for bids, Requests For Proposals for work, or material under this grant agreement and in all proposals for agreements, including airport concessions, regardless of funding source:

“The **(Name of Sponsor)**, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises and airport concession disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.”

e. Required Contract Provisions.

- 1) It will insert the non-discrimination contract clauses requiring compliance with the acts and regulations relative to non-discrimination in Federally-assisted programs of the DOT, and incorporating the acts and regulations into the contracts by reference in every contract or agreement subject to the non-discrimination in Federally-assisted programs of the DOT acts and regulations.
- 2) It will include a list of the pertinent non-discrimination authorities in every contract that is subject to the non-discrimination acts and regulations.
- 3) It will insert non-discrimination contract clauses as a covenant running with the land, in any deed from the United States effecting or recording a transfer of real property, structures, use, or improvements thereon or interest therein to a sponsor.
- 4) It will insert non-discrimination contract clauses prohibiting discrimination on the basis of race, color, national origin, creed, sex, age, or handicap as a

covenant running with the land, in any future deeds, leases, license, permits, or similar instruments entered into by the sponsor with other parties:

- a) For the subsequent transfer of real property acquired or improved under the applicable activity, project, or program; and
 - b) For the construction or use of, or access to, space on, over, or under real property acquired or improved under the applicable activity, project, or program.
- f. It will provide for such methods of administration for the program as are found by the Secretary to give reasonable guarantee that it, other recipients, sub-recipients, sub-grantees, contractors, subcontractors, consultants, transferees, successors in interest, and other participants of Federal financial assistance under such program will comply with all requirements imposed or pursuant to the acts, the regulations, and this assurance.
- g. It agrees that the United States has a right to seek judicial enforcement with regard to any matter arising under the acts, the regulations, and this assurance.

31. Disposal of Land.

- a. For land purchased under a grant for airport noise compatibility purposes, including land serving as a noise buffer, it will dispose of the land, when the land is no longer needed for such purposes, at fair market value, at the earliest practicable time. That portion of the proceeds of such disposition which is proportionate to the United States' share of acquisition of such land will be, at the discretion of the Secretary, (1) reinvested in another project at the airport, or (2) transferred to another eligible airport as prescribed by the Secretary. The Secretary shall give preference to the following, in descending order, (1) reinvestment in an approved noise compatibility project, (2) reinvestment in an approved project that is eligible for grant funding under Section 47117(e) of title 49 United States Code, (3) reinvestment in an approved airport development project that is eligible for grant funding under Sections 47114, 47115, or 47117 of title 49 United States Code, (4) transferred to an eligible sponsor of another public airport to be reinvested in an approved noise compatibility project at that airport, and (5) paid to the Secretary for deposit in the Airport and Airway Trust Fund. If land acquired under a grant for noise compatibility purposes is leased at fair market value and consistent with noise buffering purposes, the lease will not be considered a disposal of the land. Revenues derived from such a lease may be used for an approved airport development project that would otherwise be eligible for grant funding or any permitted use of airport revenue.
- b. For land purchased under a grant for airport development purposes (other than noise compatibility), it will, when the land is no longer needed for airport purposes, dispose of such land at fair market value or make available to the Secretary an amount equal to the United States' proportionate share of the fair market value of the land. That portion of the proceeds of such disposition which is proportionate to the United States' share of the cost of acquisition of such land will, (1) upon application to the Secretary, be reinvested or transferred to another

eligible airport as prescribed by the Secretary. The Secretary shall give preference to the following, in descending order: (1) reinvestment in an approved noise compatibility project, (2) reinvestment in an approved project that is eligible for grant funding under Section 47117(e) of title 49 United States Code, (3) reinvestment in an approved airport development project that is eligible for grant funding under Sections 47114, 47115, or 47117 of title 49 United States Code, (4) transferred to an eligible sponsor of another public airport to be reinvested in an approved noise compatibility project at that airport, and (5) paid to the Secretary for deposit in the Airport and Airway Trust Fund.

- c. Land shall be considered to be needed for airport purposes under this assurance if (1) it may be needed for aeronautical purposes (including runway protection zones) or serve as noise buffer land, and (2) the revenue from interim uses of such land contributes to the financial self-sufficiency of the airport. Further, land purchased with a grant received by an airport operator or owner before December 31, 1987, will be considered to be needed for airport purposes if the Secretary or Federal agency making such grant before December 31, 1987, was notified by the operator or owner of the uses of such land, did not object to such use, and the land continues to be used for that purpose, such use having commenced no later than December 15, 1989.
- d. Disposition of such land under (a) (b) or (c) will be subject to the retention or reservation of any interest or right therein necessary to ensure that such land will only be used for purposes which are compatible with noise levels associated with operation of the airport.

32. Engineering and Design Services.

It will award each contract, or sub-contract for program management, construction management, planning studies, feasibility studies, architectural services, preliminary engineering, design, engineering, surveying, mapping or related services with respect to the project in the same manner as a contract for architectural and engineering services is negotiated under Title IX of the Federal Property and Administrative Services Act of 1949 or an equivalent qualifications-based requirement prescribed for or by the sponsor of the airport.

33. Foreign Market Restrictions.

It will not allow funds provided under this grant to be used to fund any project which uses any product or service of a foreign country during the period in which such foreign country is listed by the United States Trade Representative as denying fair and equitable market opportunities for products and suppliers of the United States in procurement and construction.

34. Policies, Standards, and Specifications.

It will carry out the project in accordance with policies, standards, and specifications approved by the Secretary including but not limited to the advisory circulars listed in the Current FAA Advisory Circulars for AIP projects, dated _____ (the latest approved version as of this grant offer) and included in this grant, and in accordance

with applicable state policies, standards, and specifications approved by the Secretary.

35. Relocation and Real Property Acquisition.

- a. It will be guided in acquiring real property, to the greatest extent practicable under State law, by the land acquisition policies in Subpart B of 49 CFR Part 24 and will pay or reimburse property owners for necessary expenses as specified in Subpart B.
- b. It will provide a relocation assistance program offering the services described in Subpart C and fair and reasonable relocation payments and assistance to displaced persons as required in Subpart D and E of 49 CFR Part 24.
- c. It will make available within a reasonable period of time prior to displacement, comparable replacement dwellings to displaced persons in accordance with Subpart E of 49 CFR Part 24.

36. Access By Intercity Buses.

The airport owner or operator will permit, to the maximum extent practicable, intercity buses or other modes of transportation to have access to the airport; however, it has no obligation to fund special facilities for intercity buses or for other modes of transportation.

37. Disadvantaged Business Enterprises.

The sponsor shall not discriminate on the basis of race, color, national origin or sex in the award and performance of any DOT-assisted contract covered by 49 CFR Part 26, or in the award and performance of any concession activity contract covered by 49 CFR Part 23. In addition, the sponsor shall not discriminate on the basis of race, color, national origin or sex in the administration of its DBE and ACDBE programs or the requirements of 49 CFR Parts 23 and 26. The sponsor shall take all necessary and reasonable steps under 49 CFR Parts 23 and 26 to ensure nondiscrimination in the award and administration of DOT-assisted contracts, and/or concession contracts. The sponsor's DBE and ACDBE programs, as required by 49 CFR Parts 26 and 23, and as approved by DOT, are incorporated by reference in this agreement. Implementation of these programs is a legal obligation and failure to carry out its terms shall be treated as a violation of this agreement. Upon notification to the sponsor of its failure to carry out its approved program, the Department may impose sanctions as provided for under Parts 26 and 23 and may, in appropriate cases, refer the matter for enforcement under 18 U.S.C. 1001 and/or the Program Fraud Civil Remedies Act of 1936 (31 U.S.C. 3801).

38. Hangar Construction.

If the airport owner or operator and a person who owns an aircraft agree that a hangar is to be constructed at the airport for the aircraft at the aircraft owner's expense, the airport owner or operator will grant to the aircraft owner for the hangar a long term lease that is subject to such terms and conditions on the hangar as the airport owner or operator may impose.

39. Competitive Access.

- a. If the airport owner or operator of a medium or large hub airport (as defined in section 47102 of title 49, U.S.C.) has been unable to accommodate one or more requests by an air carrier for access to gates or other facilities at that airport in order to allow the air carrier to provide service to the airport or to expand service at the airport, the airport owner or operator shall transmit a report to the Secretary that-
 - 1) Describes the requests;
 - 2) Provides an explanation as to why the requests could not be accommodated; and
 - 3) Provides a time frame within which, if any, the airport will be able to accommodate the requests.
- b. Such report shall be due on either February 1 or August 1 of each year if the airport has been unable to accommodate the request(s) in the six month period prior to the applicable due date.