SECTION THREE

Alternatives

SECTION THREE: ALTERNATIVES

3.1 Introduction

Section Three provides an overview of the range of alternatives considered.

3.2 No Action Alternative

The "No Action Alternative" provides a basis for comparison with other project alternatives. The "No Action Alternative" assumes that:

- The City of Pella would continue to operate the Pella Municipal Airport.
- The City of Oskaloosa would continue to operate the Oskaloosa Municipal Airport.

The City of Pella initiated a project to identify a site and develop an Airport Layout Plan (ALP) for a new airport to replace the existing Pella Municipal Airport. A site near Otley, Iowa was selected. An Airport Layout Plan (ALP) was prepared and submitted to FAA for review. The FAA gave a "Conditional" approval to the *Pella Replacement Airport Layout Plan* on December 16, 2011. Reference may be made to the:

- *Pella Replacement Airport Feasibility Study* dated January 10, 2010 and accepted by the FAA on May 7, 2010.
- *Pella Replacement Airport Layout Plan* dated December 2011 and given a "Conditional" approval on December 16, 2011.

An Environmental Assessment (EA) for the proposed Pella Replacement Airport was not initiated given the renewed dialogue between the City of Oskaloosa and the City of Pella. The proposed site near Otley does not meet the site selection parameters as set forth in the 28E Agreement (see Iowa Code Chapter 28E: Joint Exercise of Government Powers) between the City of Pella, Mahaska County and the City of Oskaloosa. Therefore, the Pella Replacement Airport (near Otley) does not meet the Purpose and Need as discussed in Section 1.2.

The *Pella Replacement Airport Feasibility Study* concluded that the existing Pella Municipal Airport could not accommodate large approach Category C-II airplanes on a regular basis nor could the existing airport site support approach visibility minimums as low as ½ statute mile and a decision height as low as 200 feet above ground level.

The Oskaloosa Municipal Airport was initially developed as an auxiliary field to the Ottumwa Naval Air Station. The site is not geographically located (see Figures 4-2, E-1, and E-4) where it can accommodate aeronautical activity efficiently or provide a sustained level of service within the combined Pella and Oskaloosa Service areas. The existing site does not meet the parameters set forth in the 28E Agreement between the City of Pella, Mahaska County and the City of Oskaloosa. The existing Oskaloosa Municipal Airport does not meet the Purpose and Need as set forth in Section 1.2.

The "No Action Alternative" is not consistent with recommendations set forth in the *2010 Iowa Aviation System Plan* (See Appendix E).

> *"It is recommended that the cities of Pella and Oskaloosa increase cooperation to develop a new regional airport to replace existing airports serving these communities. A mutually agreed upon location, in proximity of both Pella and Oskaloosa, will be essential to the successful development of a new airport."*
>
> Source: *2010 Iowa Aviation System Plan* (Iowa DOT – Office of Aviation)

The "No Action Alternative" does not meet the Purpose and Need described in Section 1.2. It will serve as a baseline comparison for the "Build Alternatives"; therefore, it is retained for analysis.

3.2.1 Service from Area Airports

Service from an area airport was addressed in the *Pella Replacement Airport Feasibility Study* (April 2009). The nearest airports that can accommodate approach category C-II airplanes on a regular basis were identified as follows:

- Des Moines International Airport (51.94 miles) (100% of Fleet)
- Ottumwa Industrial Airport (45.00 miles) (75% of Fleet)
- Newton Municipal Airport (30.04 miles) (75% of Fleet)
- Ankeny Regional Airport (48.26 miles) (75% of Fleet)

The distance was measured in miles between the Pella City Hall (Pella Municipal Airport Service Area Centroid) and the system airport using the state numbered highways. The utilization of an area airport to accommodate operations by large approach category "C" airplanes that are based at the Pella Municipal Airport does not meet the purpose and need described in Section 1.2.

In May 2012, the FAA issued a report entitled: *General Aviation Airports: A National Asset.* Within the report, the Pella Municipal Airport was classified as a "Regional" airport. The Oskaloosa Municipal Airport, Ottumwa Regional Airport and Knoxville Municipal Airport were classified as "Local" airports.

3.2.2 Other Modes of Transportation

The South Central Regional Airport service area is served by other modes of transportation. The highway network (Commercial Industrial Network, CIN) provides regional accessibility to the interstate highway system (Interstate 80) via Iowa Highway 163 and U.S. Highway 63. State Highways 23 and 92 provide access to U.S. Highway 63 and Iowa Highway 163. The existing highway network will provide regional accessibility to the proposed South Central Regional Airport.

The CIN is a roadway system over 2,000 miles consisting of primary highways designated by the Iowa Department of Transportation to support economic development and diversification through transportation investments. The CIN connects the State of Iowa's regional growth areas and carries a significant percentage of the state's commercial roadway traffic. The CIN does not include the interstate highway system. The area is also served by a farm to market road network, local county roads and municipal streets. The road network serves to move passengers and various types of freight.

Rail freight service is provided by Union Pacific Railroad. The Union Pacific Railroad extends through Mahaska County and the City of Oskaloosa.

Alternative modes of transportation do not reasonably meet the purpose and need. The highway network and proposed airport do however complement each other.

3.3 Reasonable Alternative One: Site B

Site B meets the purpose and need discussed in Section 1.2 and was retained by the South Central Regional Airport Agency (SCRAA) Board as an alternate location to the preferred location.

Site B is located in Black Oak Township (T76N, R16W) and extends over all or parts of Sections 26, 35 and 36. Based on the initial concept plan, the City of Leighton is located less than three-quarter mile from the crosswind runway (See Figure 3-1).

The proposed conceptual primary runway orientation is N24° 49' 23.33" W (true). The proposed conceptual crosswind runway orientation is N32° 50' 18.092" E. Based on the runway geometry, the optimal location for terminal development is between the intersecting runways with new road access constructed from Iowa Highway 163.

The Runway Protection Zones (RPZ) extending beyond Runway 16 (primary runway) extends over Iowa Highway 163 while the RPZ beyond Runway 34 extends over 220th Street.

The FAA issued (September 27, 2012) interim guidance regarding land uses within the RPZ. Where a public roadway extends through the RPZ, approval by the National Airport Planning and Environmental Division (APP-400) is required. Moving the RPZ and Runway 16 threshold so as to place Iowa Highway 163 outside the RPZ, would

extend the Runway 34 threshold farther to the south and into an area having greater topographic relief and defined drainage ways.

Development of Alternative One - Site B will require the closure of Elba Avenue from the intersection of 205th Street/Elba Avenue south 3,000 feet to an existing farmstead. A county road (220th Street) would need to be relocated or disconnected where it intersects with the RPZ extending beyond Runway 34. Should approval from the FAA National Airport Planning and Environmental Division (APP-400) be obtained and the ultimate runway length did not extend beyond 6,000 feet, consideration may be given to a potential 220th Street relocation, rather than being disconnected. The runway length justified within the 20 year planning horizon (See *Airport Master Plan – South Central Regional Airport*, Chapter Three – Facility Requirements) is 6,700 feet. Therefore, the reasonable conclusion is that 220th Street will need to be disconnected.

Development of Alternative One - Site B will require the acquisition of one (1) farmstead and the demolition of a house and out buildings. The airport geometry, as shown in Figure 3-1, would potentially impact sixteen (16) property owners.

Site B is located within the Muchakinock Creek drainage basin. There are two (2) water courses located within the project area:

- Muchakinock Creek Tributary (41° 21’ 13.65” N, 92° 46’ 25.68” W)
- Unnamed water course (41° 20’ 11.47” N, 92° 45’ 59.33” W)

Muchakinock Creek flows southeasterly to join the Des Moines River.

The current Federal Emergency Management Agency (FEMA) identified a 100-year floodplain associated with Muchakinock Creek Tributary 11 extending through the primary runway (Runway 16/34). To meet *Executive Order 11988,* Floodplains and U.S. Department of Transportation *Order 5650.2 Floodplain Management and Protection* all airport actions must avoid floodplains if a practical alternative exists (See Figure 3-3).

The National Wetland Inventory (NWI) map did not identify a wetland on Site B. Soil maps provided by the U.S. Department of Agriculture were used to identify the location of hydric soils. Hydric soils are used as wetland indicators. The project area contained approximately 472 acres of hydric soil. In addition to NWI maps and soil maps, aerial photography was reviewed to determine if potential wetlands might exist. Four (4) potential wetland areas located within drainage swales were identified on Site B. The drainage swales are located in the northwest, central and southeast sections of the proposed site (See Figure 3-3).

The Iowa Administrative Code (IAC) 314.23 considers land a woodland if the area consists of greater than three (3) acres of forested land having at least 200 trees per acre or connected to a larger tract of forested land with the entire forest being greater than three (3) acres. There are no areas designated as a potential woodland.

Based on the review of aerial photography, critical habitat associated with endangered, threatened or special concern species is minimal. As noted, the project area is farmland that is under cultivation (See *Technical Memorandum Airport Site Selection*, Biotic Communities, Page 37).

The National Resources Conservation Service (NRCS) classifies farmland by using a Prime Land Rating system. Based on the preliminary Concept Plan, approximately 306.5 acres of prime farmland may be impacted (see *Technical Memorandum Airport Site Selection*, Table 5: Site B Soil Properties, Page 42). A map exhibit showing prime farmland was prepared for Site B (see Figure 3-2: Site B Prime Land Rating). The proposed airport development will potentially impact 306.5 acres of prime farmland.

Mahaska County adopted a County Comprehensive Land Use Plan in September 2004. The County has not adopted Land Use Zoning Regulations. Existing land uses, as shown in Figure 3-1, are devoted to agriculture. The largest concentration of people is located within the incorporated City of Leighton (Population 162 – 2010 Census year). The proposed development will have minimal impact on existing residential, commercial, industrial, public and recreational land uses within the City of Leighton. The proposed development will have an impact on agricultural farming operations.

Mahaska County has a long history of coal mining activities. There are no known surface or underground coal mines located on Alternative One - Site B.

There are no known underground gas transmission lines extending through the site. There are overhead electrical transmission lines located adjacent to Iowa Highway 163. The transmission line would likely have to be relocated. A cell tower is located adjacent and north of Iowa Highway 163. The cell tower will not impact development of instrument approach procedures (see *Technical Memorandum Airport Site Selection* – Appendix A – FAA Airspace Analysis, March 18, 2013).

There are no places listed on the National Register of Historic Places located on Site B. It should be noted that the Vander Wilt Farmstead Historic District (1345 IA-163, Black Oak Township Section 22, T26N, R17W) was considered when identifying candidate sites. There are no known registered historical or archaeological sites located on Site B (see *Technical Memorandum Airport Site Selection* – Appendix C – Mahaska County Historical Society – Historic Places).

There are no public owned parks or recreational lands located on Site B. (see *Technical Memorandum Airport Site Selection*, Page 48). The planned approaches based on runway alignments will not extend over recreational land uses located within the City of Leighton. There are no Mahaska County owned and managed recreational areas located near Site B (see *Technical Memorandum – Airport Site Selection*, Exhibit 23, Page 49).

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NOTES

RUNWAY 16/34 (C-II)
100'x5,500' (7,500' ULT)
RW 34
PA- CAT 1
(Vis Min. AC 150/5300-13A)
PIR< 3/4 MILE (FAR Part 77)
RW 16
APV = 3/4 MILE BUT < 1 MILE
(Vis. Min. AC 150/5300-13A)
D(NP) > 3/4 MILE(FAR Part 77)
RUNWAY 03/21 (B-II)
75'x4,200'
RW 03
NPA 1 MILE
(Vis Min AC 150/5300-13A)
C(NP)(FAR Part 77)
RW 21
NPA 1 MILE
(Vis Min AC 150/5300-13A)
C(NP)(FAR Part 77)

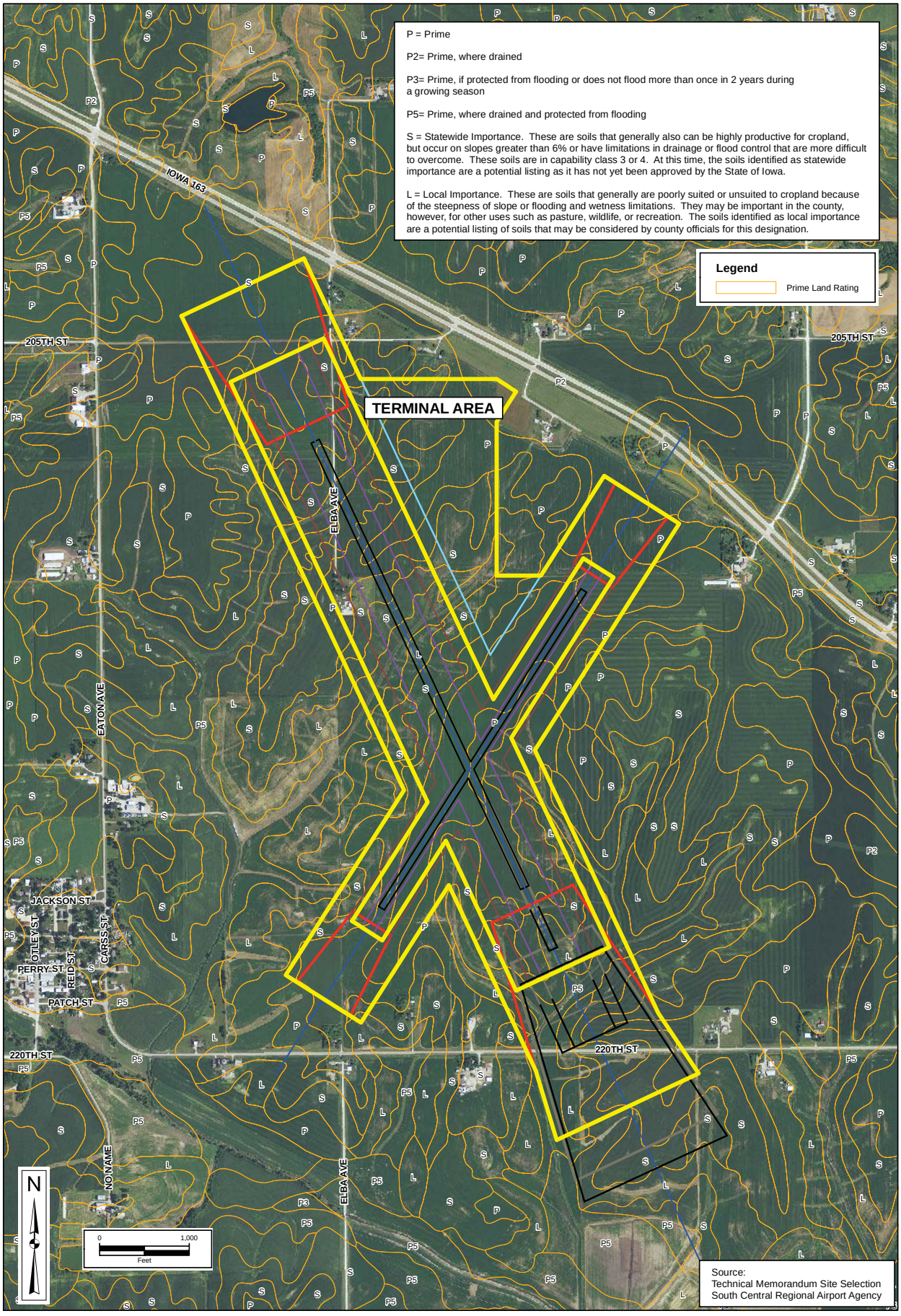
Source:
Technical Memorandum Site Selection
South Central Regional Airport
Nov. 2013

DGR ENGINEERING | SNYDER & ASSOCIATES Engineers and Planners | JS Consulting LLC

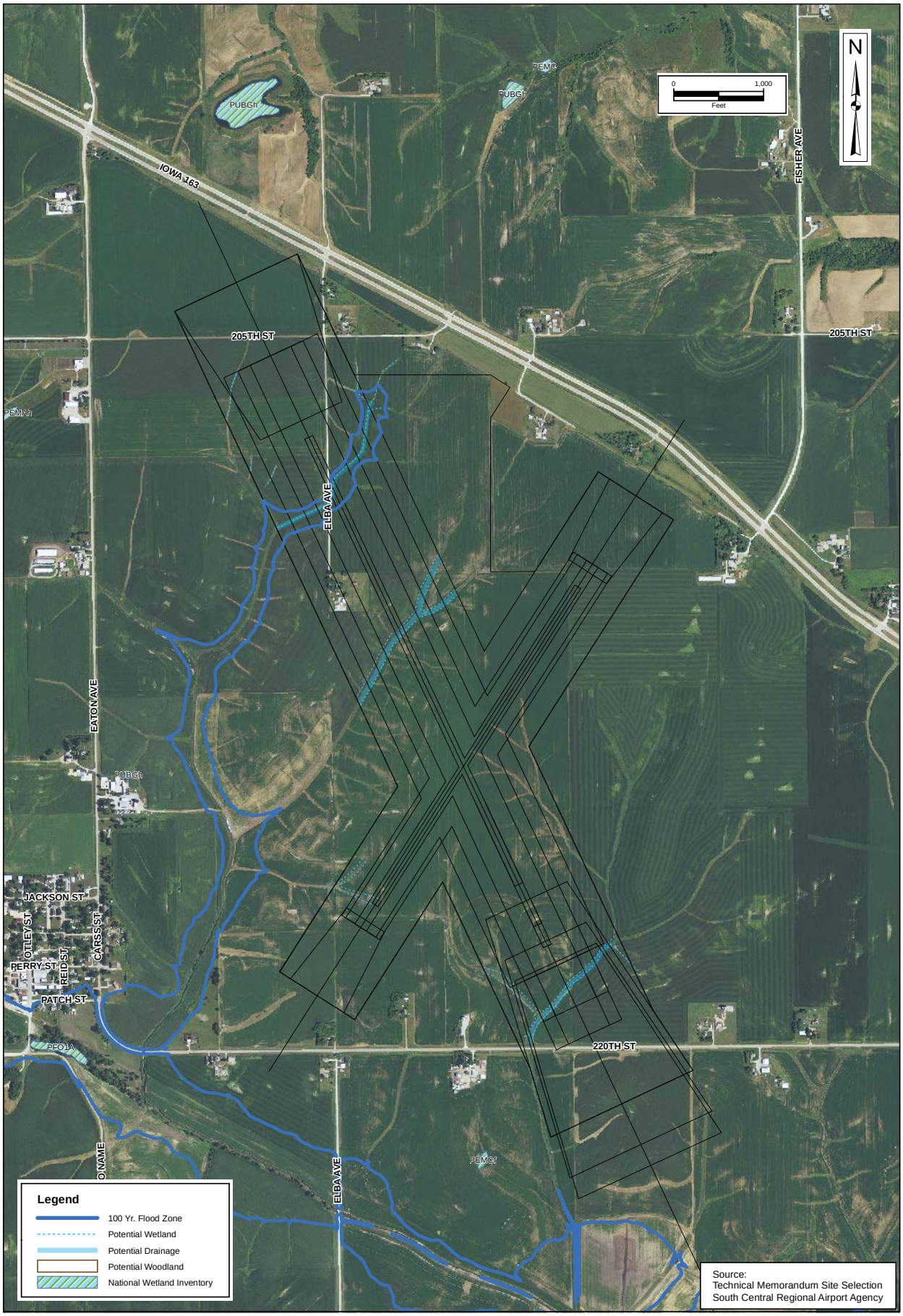
SOUTH CENTRAL REGIONAL AIRPORT
MAHASKA COUNTY, IOWA

SITE B CONCEPT PLAN
MAHASKA COUNTY, IOWA

FIGURE 3-1



DGR ENGINEERING	SNYDER & ASSOCIATES Engineers and Planners	JS Consulting LLC	SOUTH CENTRAL REGIONAL AIRPORT MAHASKA COUNTY, IOWA	SITE B SOILS PRIME LAND RATING	FIGURE 3-2



DGR ENGINEERING	SNYDER & ASSOCIATES Engineers and Planners	JS Consulting LLC	SOUTH CENTRAL REGIONAL AIRPORT MAHASKA COUNTY, IOWA	SITE B POTENTIAL ENVIRONMENTAL IMPACTS	FIGURE 3-3

3.4 Reasonable Alternative Two: Site A

Alternative Two - Site A meets the purpose and need discussed in Section 1.2 and has been selected as the preferred location by the South Central Regional Airport Agency Board.

Alternative Two - Site A is located in Madison Township, T76N, R16W, Sections 29, 32 and 33, and Garfield Township, T75N, R16W, Section 4.

As shown on the initial Concept Plan, the primary runway orientation is N38° 41' 17.88"W (True). The crosswind runway orientation is N74° 55' 29.16"E (True). The terminal area is shown as located between the intersecting runways and north of 220th Street (see Figure 3-4 – Site A Concept Plan).

The Runway Protection Zone (RPZ) located beyond the Runway 14 threshold extends over 210th Street. As discussed in Section 3.3, approval by the National Airport Planning and Environmental Division (APP-400) is required. Unlike Iowa Highway 163 (Site B), 210th Street is a gravel surfaced rural county road with lower traffic volumes. The Runway Protection Zone (RPZ) would also extend over Highland Avenue. Moving the Runway 14 threshold farther to the southeast, to place 210th Street and Highland Avenue outside the RPZ, was considered and incorporated into the Airport Layout Plan (ALP) (see *Airport Master Plan – South Central Regional Airport*, February 2015, Chapter Three – Facility Requirements and Chapter Four – Site A Alternatives).

The development of Site A will require the disconnection of 220th Street. At present, 220th Street is a gravel surface county road that extends between Iowa Highway 163 and U.S. Highway 63. Should 220th Street be disconnected, access to Iowa Highway 163 may be provided by Independence Avenue.

The initial Concept Plan (see Figure 3-4), prepared for Alternative Two - Site A, would have required the acquisition and relocation of a farmstead located within the Runway Protection Zone (RPZ) extending beyond Runway 14. By moving the Runway 14 threshold to the southeast, the farmstead is located beyond the Runway Protection Zone (RPZ) extending beyond Runway 14. The airport geometry as shown in Figure 3-4 would potentially impact twelve (12) property owners.

Nearly all of Site A drains in a northeasterly direction to the South Skunk River. The southeast area of Site A drains to the Des Moines River drainage basin. An unnamed water course is located beyond the Runway 14 threshold (41° 21' 4.67"N, 92° 44' 42.08"W).

There are no designated flood plains on Site A (see Figure 3-6).

The National Wetland Inventory (NWI) map identified one (1) freshwater pond (PUBGH). The pond (approximately 0.23 acres) is defined as a palustrine emergent unconsolidated bottom wetland that is diked. In addition to NWI maps, a review of soil maps and aerial photography was undertaken. Site A has three (3) potential wetland areas consisting of drainage ways and drainage swales in addition to the pond. Within the project area, there is potentially 390.7 acres of hydric soil.

The Iowa Department of Natural Resources (IDNR) website was used to identify potential threatened and endangered plant and animal species within the project area. Based on aerial photography, there appears to be a low risk for impacting habitat that would be associated with threatened and endangered species (see Appendix D – *Indiana Bat and Long-Eared Bat Assessment* – June 15, 2015).

The *Technical Memorandum – Airport Site Selection* summarizes soil properties for each of the candidate sites (see Table 4 – Site A Soil Properties, page 40). Figure 3-5 shows the extent of prime farmland as well as soils classified of state and local importance. There is approximately 346.1 acres of land classified as prime farmland within the project area (see Figure 3-5).

Site A is located approximately nine (9) miles from the Mahaska County Landfill. There are no known hazardous waste sites on Site A.

There are no documented above or underground coal mines within the project area.

An elevated rural water storage facility is located adjacent to 220th Street and the proposed terminal area. The elevated rural water storage facility will not impact the development of instrument approach procedures (see *Technical Memorandum - Airport Site Selection* - Appendix A – FAA Airspace Analysis - March 18, 2013). There are overhead electrical power transmission lines extending along Iowa Highway 163 and immediately west of Independence Avenue.

The Prine Cemetery is located within the project area associated with Site A. Given the location, it is possible to align the primary runway so the cemetery is located outside the area that may ultimately be acquired to accommodate airport development (see Site A – Build Alternative 3).

There are no places listed on the National Register of Historic Places located within the Site A project area. A Phase I – Archaeological Assessment was done as part of the U.S. Highway 63 Corridor Study for Mahaska and Poweshiek Counties. The report prepared by Tallgrass Historians LLC, dated November 2012, reported that there are no archaeological sites in Mahaska County that have been listed in the National Register of Historical Places. There is a previously recorded archaeological site identified in Section 32, T76N, R16W (see Section 5.10).

There are no public owned parks or recreational lands located on Site A. There are no Mahaska County owned and managed recreation areas located under the proposed approach surfaces. Recreational facilities located within the City of Oskaloosa will not be impacted.

There are no residential dwelling units, farmsteads or commercial businesses proposed for acquisition. The proposed acquisition of land will impact current agricultural practices and farming operations.

Mahaska County adopted a Comprehensive Land Use Plan in September 2004. The county has not adopted a Land Use Zoning Ordinance. The City of Oskaloosa, the nearest incorporated city to Site A, has in place a future Land Use Plan and Land Use Zoning regulations.

Three (3) "Build" Alternatives were prepared and referenced as:

- Site A: Build Alternative 1
- Site A: Build Alternative 2
- Site A: Build Alternative 3 (Proposed Action)

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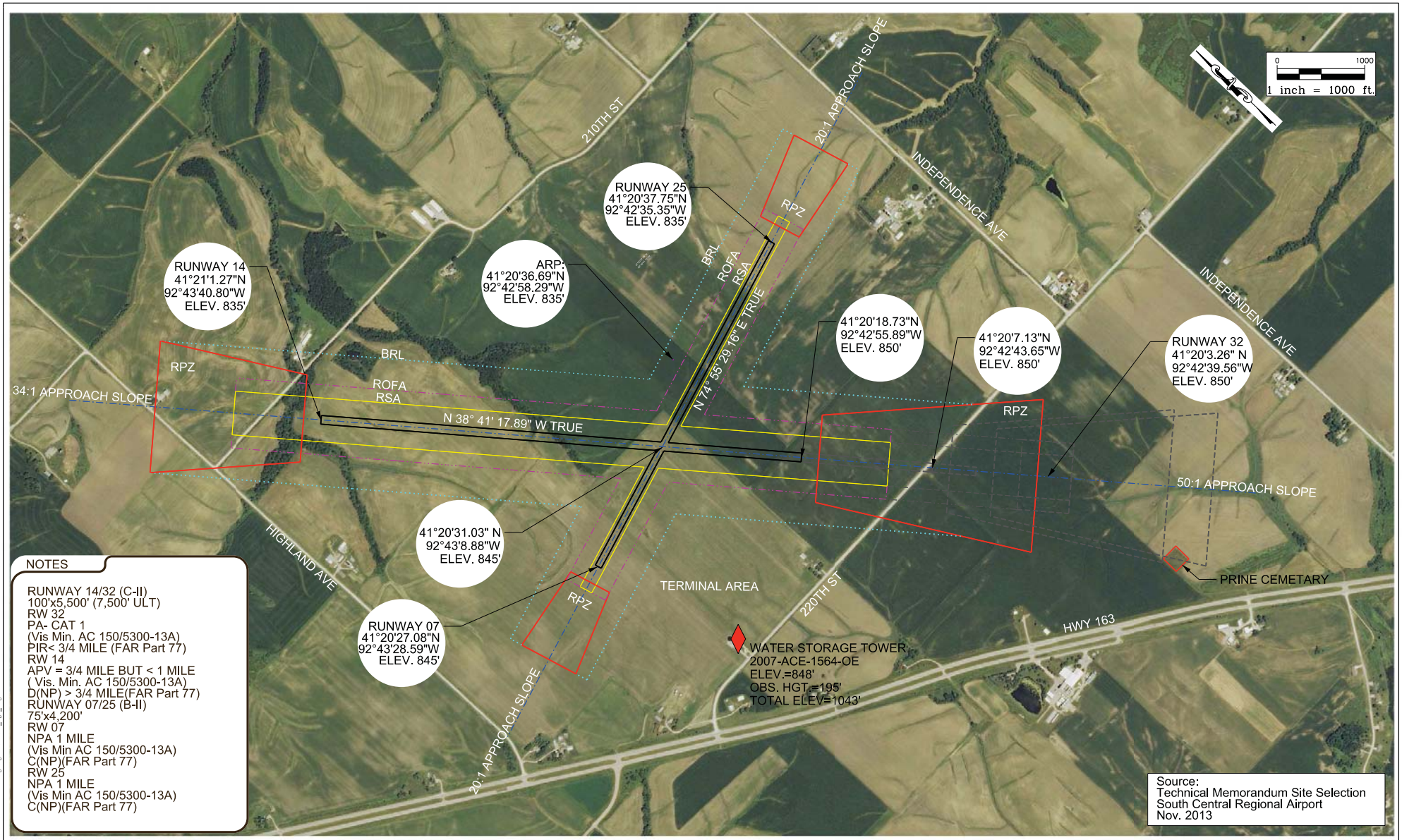


NOTES

RUNWAY 14/32 (C-II)
100'x5,500' (7,500' ULT)
RW 32
PA- CAT 1
(Vis Min. AC 150/5300-13A)
PIR< 3/4 MILE (FAR Part 77)
RW 14
APV = 3/4 MILE BUT < 1 MILE
(Vis. Min. AC 150/5300-13A)
D(NP) > 3/4 MILE(FAR Part 77)
RUNWAY 07/25 (B-II)
75'x4,200'
RW 07
NPA 1 MILE
(Vis Min AC 150/5300-13A)
C(NP)(FAR Part 77)
RW 25
NPA 1 MILE
(Vis Min AC 150/5300-13A)
C(NP)(FAR Part 77)

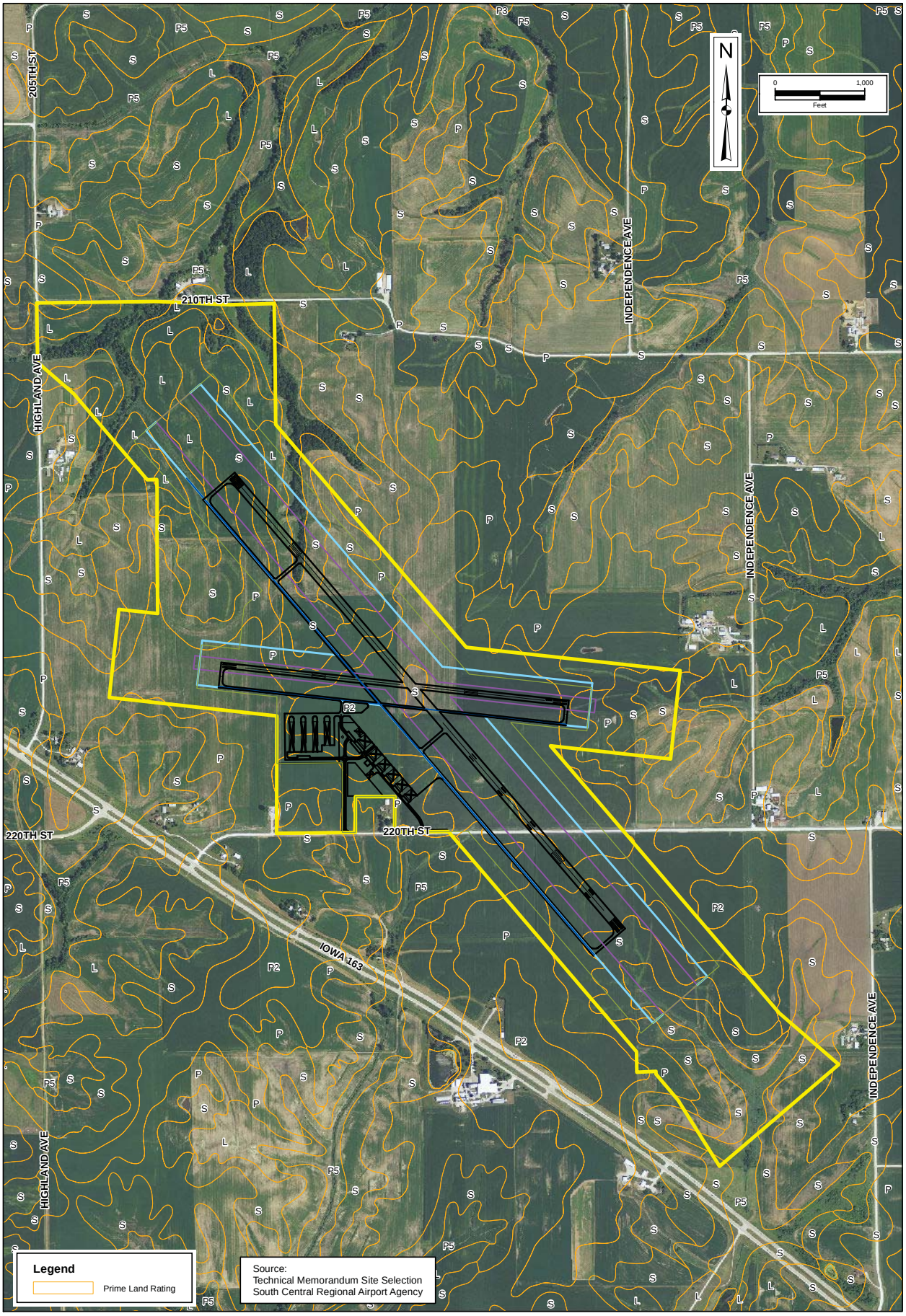
Source:
Technical Memorandum Site Selection
South Central Regional Airport
Nov. 2013

DGR ENGINEERING | SNYDER & ASSOCIATES Engineers and Planners | JS Consulting LLC

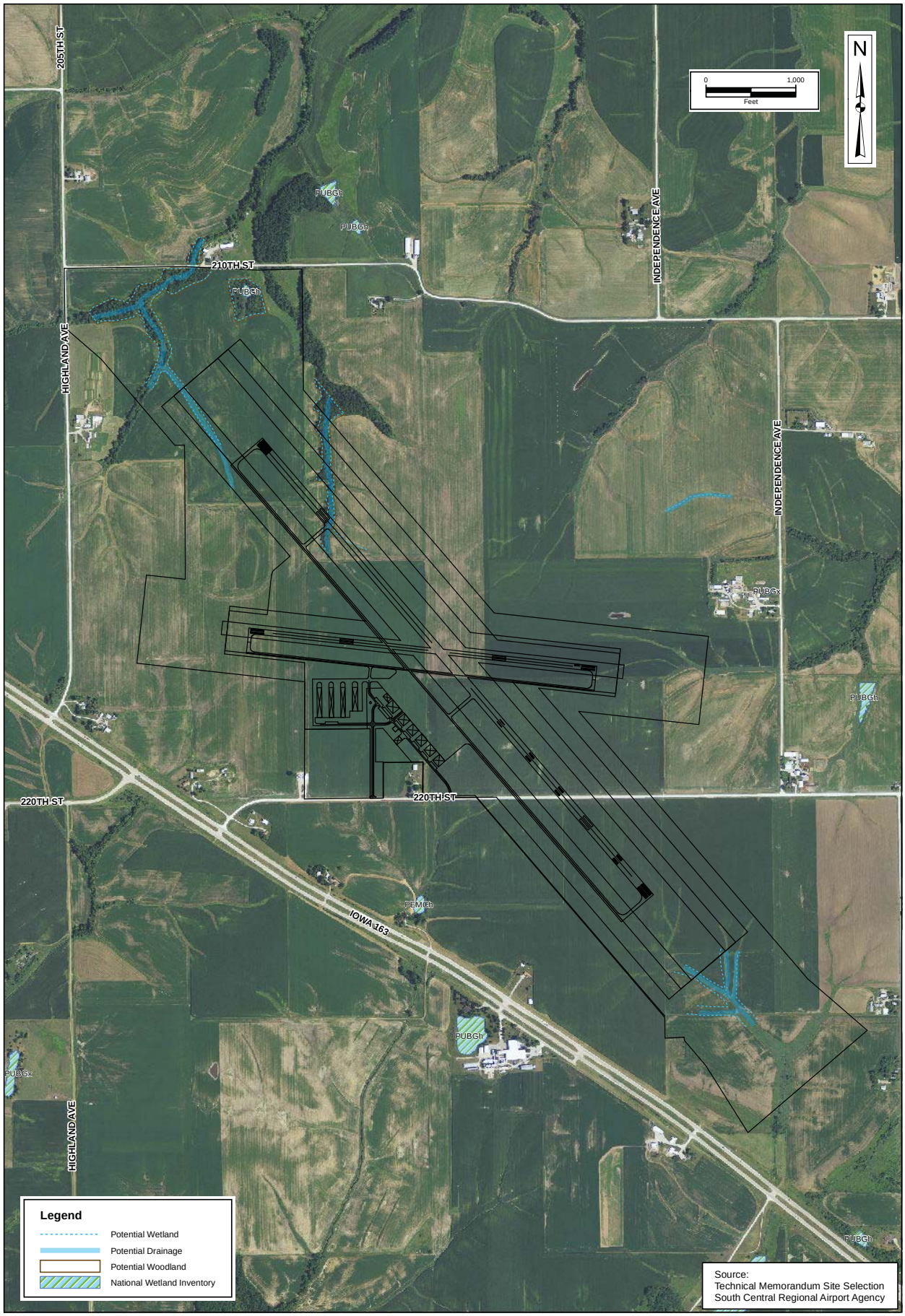
SOUTH CENTRAL REGIONAL AIRPORT
MAHASKA COUNTY, IOWA

SITE A CONCEPT PLAN
MAHASKA COUNTY, IOWA

FIGURE
3-4



DGR ENGINEERING	SNYDER & ASSOCIATES Engineers and Planners	JS Consulting LLC	SOUTH CENTRAL REGIONAL AIRPORT MAHASKA COUNTY, IOWA	SITE A SOIL PRIME LAND RATING	FIGURE 3-5



DGR ENGINEERING	SNYDER & ASSOCIATES Engineers and Planners	JS Consulting LLC	SOUTH CENTRAL REGIONAL AIRPORT MAHASKA COUNTY, IOWA	SITE A POTENTIAL ENVIRONMENTAL IMPACTS	FIGURE 3-6

3.4.1 Site A: Build Alternative 1

Site A Build Alternative 1 shows the primary runway (Runway 14/32) oriented N85° 31' 12.58"W (see Figure 3-7). The orientation provides optimum wind coverage when considering site conditions. If the primary runway were constructed in phases, the minimum length that may be considered is 5,500 feet. A runway 5,500 feet in length would not accommodate the two (2) design airplanes (Gulfstream 200 and Learjet 45XR) on a regular basis (see *Airport Master Plan – South Central Regional Airport* – February 2015, Page 3-7).

The proposed crosswind runway (Runway 7/25) provides supplemental wind coverage to the primary runway. The crosswind runway (oriented N75° 55' 29.16"E) is intended to serve small airplanes with a wingspan under 79 feet and an approach speed under 121 knots (see *Airport Master Plan – South Central Regional Airport* – February 2015, page 3-12).

Site A Build Alternative 1 identifies an area southeast of Runway 14/32 and Runway 7/25 for the ultimate development of the terminal area with access provided from Iowa Highway 163 via 220th Street. Build Alternative 1 would require the disconnection of 220th Street and potentially impact Prine Cemetery.

Site A Build Alternative 1 represents a minimum level of development and would not accommodate the design aircraft (Gulfstream 200 or Learjet 45XR) on a regular basis when temperatures exceeded 90 degrees and/or the pavement was wet. Therefore, Site A Build Alternative 1 does not meet the purpose and need as described in Section 1.2.

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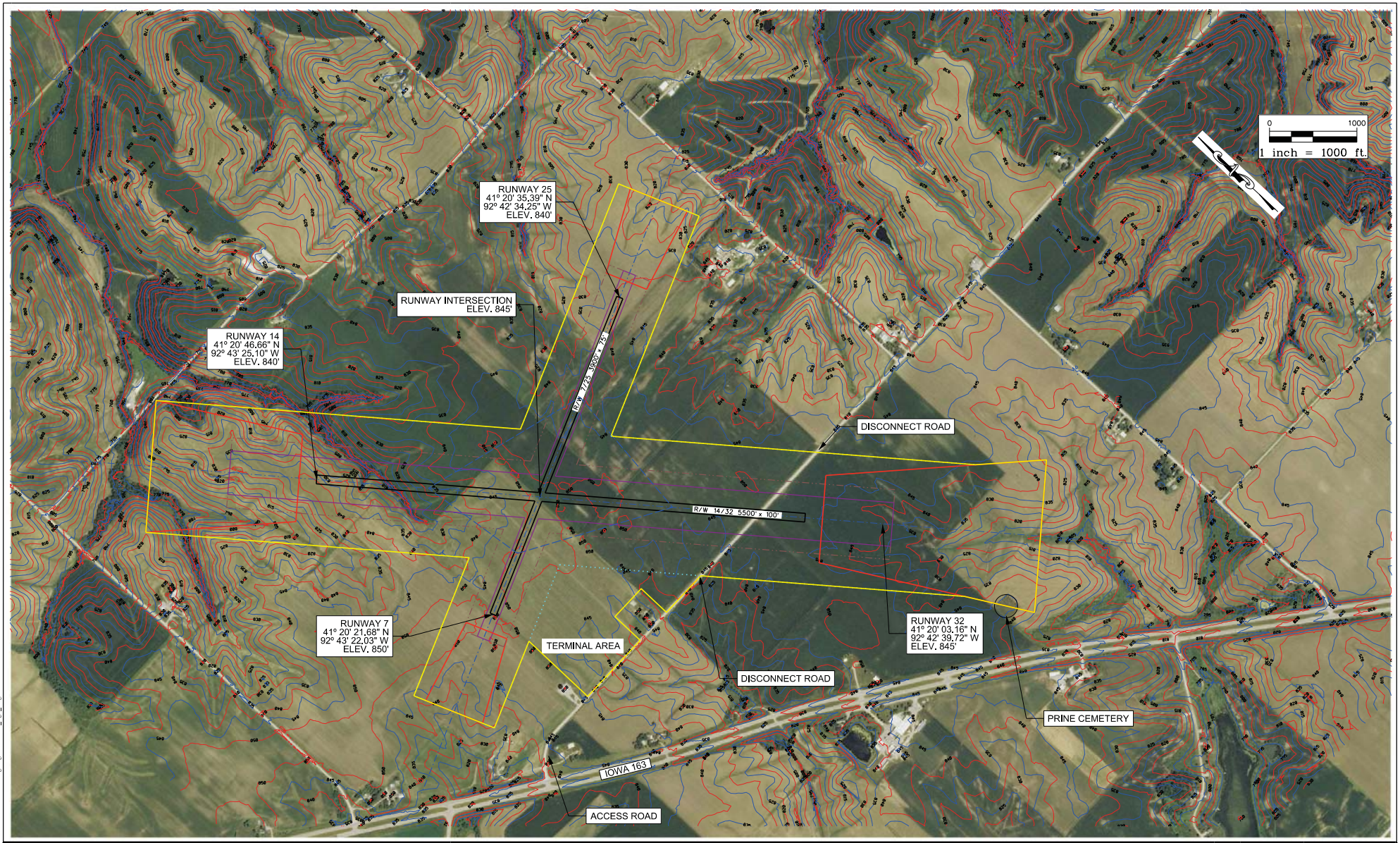

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DGR ENGINEERING	SNYDER & ASSOCIATES Engineers and Planners	JS Consulting LLC	SOUTH CENTRAL REGIONAL AIRPORT MAHASKA COUNTY, IOWA	SITE A BUILD ALTERNATIVE 1	FIGURE 3-7

3.4.2 Site A: Build Alternative 2

Site A Build Alternative 2 differs from Alternative 1 in that it provides for a primary runway no less than 6,500 feet in length. It also shows a different crosswind runway orientation (see Figure 3-8).

While the primary runway (Runway 14/32 orientation N85° 31' 12.58"W) remains the same, an additional 1,000 feet was placed on the Runway 32 end to provide an ultimate length of 6,500 feet. A runway 6,500 feet in length would accommodate the design aircraft Gulfstream 200 when the runway pavement was dry and temperatures were within 60 to 70 degrees Fahrenheit and there was no wind.

As with Build Alternative 1, a precision instrument approach was recommended for Runway 32 with a vertical approach procedure recommended for Runway 14.

The rationale for placing additional length on Runway 32 was based on existing topography and land uses. In either scenario, 220th Street would have to be disconnected. There are no residential and/or business relocations anticipated. The topography beyond Runway 32 would better accommodate the Runway Safety Area (RSA), Runway Obstacle Free Zone (ROFZ), and Runway Object Free Area (ROFA), existing land uses, power transmission line and the desired approach. Placing the additional 1,000 feet of runway length on Runway 14 would require significantly more grading and encroaches more into the two existing drainage ways located south of 210th Street.

An effort was made on Site A - Alternatives 1 and 2 to locate the threshold of each runway so that no part of the required Runway Protection Zones (RPZ) would extend across an existing road.

The crosswind runway alignment (S83° 45' 40.84"E) shown in Build Alternative 2 would require less grading than the alignment shown in Build Alternative 1. The alignment shown in Build Alternative 2 would appear to be less disruptive to farming operations while providing adequate wind coverage. The crosswind runway, as shown in Figure 3-8, is intended to be constructed to the same length and width as that proposed in Build Alternative 1.

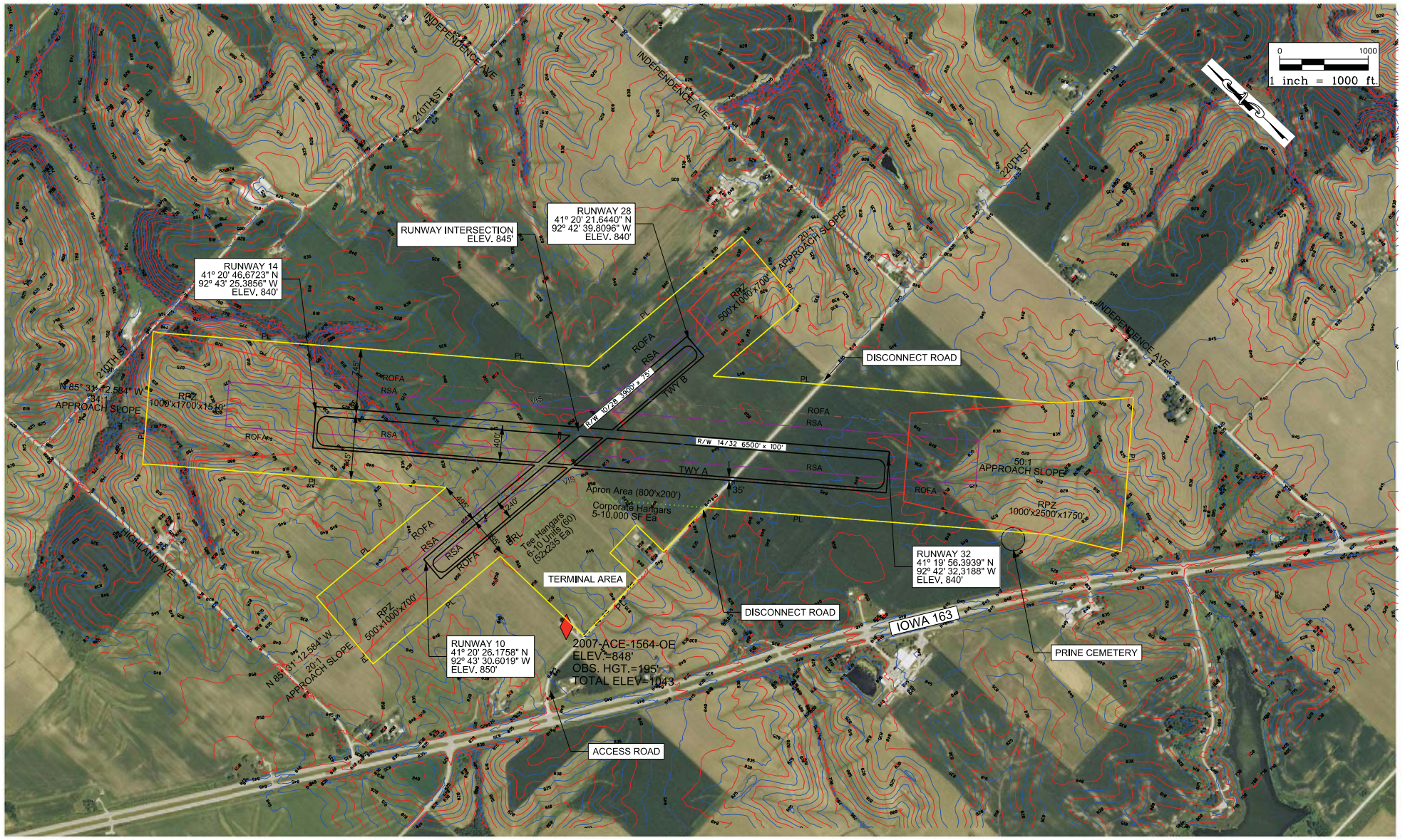
A non-precision instrument approach procedure (NPA-1 mile) is recommended to Runways 10 and 28.

Runway threshold and edge lighting improvements recommended in Build Alternative 1 would also be applicable in Build Alternative 2. An Approach Light System (ALS) could be installed on Runway 32 with the only difference being the approach mast would be higher to compensate for the terrain that slopes away from Runway 32.

The terminal area is shown as located west of Runway 14/32 and south of Runway 10/28. As in Build Alternative 1, access is provided from Iowa Highway 163 via 220th Street.

Build Alternative 2 may potentially impact the Prine Cemetery. Build Alternative 2 would also require the disconnection of 220th Street.

Based on comments from airport users, a third alternative was developed. The primary concern was that a runway 6,500 feet in length would not accommodate the Gulf Stream 200 when temperatures exceeded 70 degrees and/or the runway pavement was wet. The proposed length would not accommodate the design aircraft on a regular basis. Therefore, Site A Build Alternative 2 did not meet the purpose and need as described in Section 1.2. Build Alternative 2 was discarded from further consideration.



DGR ENGINEERING	SNYDER & ASSOCIATES Engineers and Planners	JS Consulting LLC	SOUTH CENTRAL REGIONAL AIRPORT MAHASKA COUNTY, IOWA	SITE A BUILD ALTERNATIVE 2	FIGURE 3-8

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3.4.3 Site A: Build Alternative 3 (Proposed Action)

Site A Build Alternative 3 incorporates comments from a "users" group meeting (April 16, 2014). Several comments were made regarding the primary runway and the use of a clearway to provide additional takeoff distance beyond the 6,500 feet of runway.

The concept of using a clearway was found to be acceptable and could be applied to Runway 14 to provide a computed takeoff distance of 7,000 feet. Where a clearway is used, the Runway Safety Area (RSA) is increased by the length of the clearway. Given a 500 foot clearway, a Runway Safety Area 1,500 feet in length, would be required. The same safety requirement would be applied to Runway 32. After review by the FAA Flight Standards and the Airports Division, it was concluded that while the concept was acceptable, it would not provide a significant cost savings since the grading with an extended Runway Safety Area (RSA) would have to be provided.

Application of the clearway was also discussed with the Flight Departments operating the two (2) most demanding aircraft that will use the airport on a regular basis. It was generally agreed that since the additional safety area had to be graded, having pavement useable in both directions was desired and should be evaluated.

Airport users concluded that a primary runway (Runway 14/32) 6,700 feet in length would provide an acceptable level of service at present and into the foreseeable future.

The Runway 14/32 orientation, as shown in Build Alternative 2, was moved approximately 1° 33' to the west so as to place an existing residential structure located north of 210th Street outside the Runway Protection Zone (RPZ) (see Figure 3-9).

Given the proposed ultimate length of 6,700 feet, the approach/departure standards were applied to each runway end. There were no known penetrations to the approach and departure surfaces (Threshold Siting Surfaces (TSS)).

The Runway Protection Zone (RPZ) is shown as beginning 200 feet from the thresholds associated with Runway 10, 28, 14 and 32.

Runway 10	250' x 1,000' x 450'	(Approach & Departure)
Runway 28	250' x 1,000' x 450'	(Approach & Departure)
Runway 14	1,000' x 1,700' x 1,510'	(Approach)
	500' x 1,700' x 1,010'	(Departure)
Runway 28	1,000' x 2,500' x 1,750'	(Approach)
	500' x 1,700' x 1,010'	(Departure)

Interim guidance on land uses within the Runway Protection Zone (RPZ) identifies a public road as being an incompatible land use. Reference may be made to FAA Memorandum entitled: *Interim Guidance on Land Uses within a Runway Protection Zone* (September 27, 2012) regarding the approval process.

There are no public roads extending through the Runway Protection Zones (RPZ).

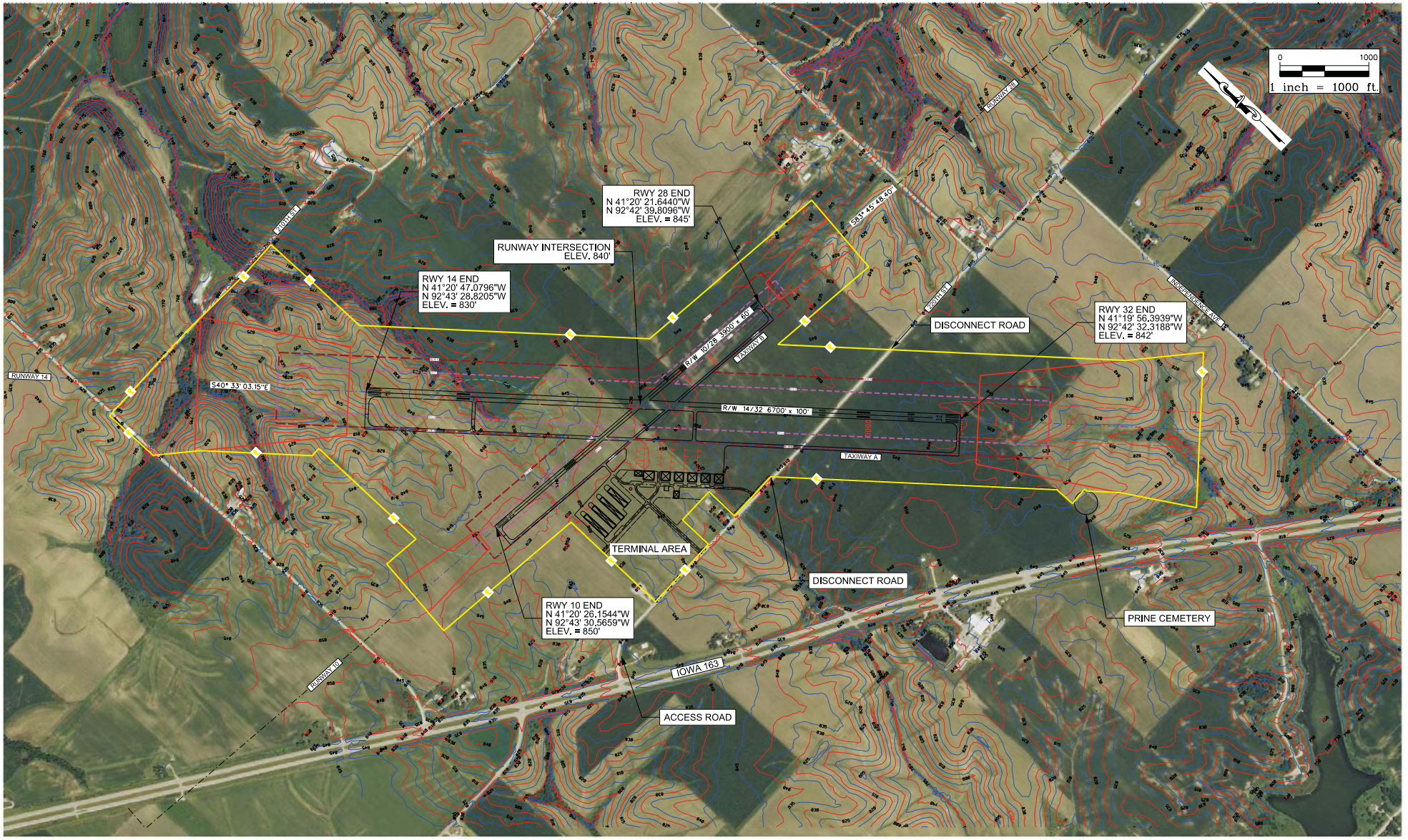
Proposed, as in Build Alternative 1 and 2, is a precision instrument approach (PA-CAT I) to Runway 32 with visibility minimums down to ½ mile forward visibility and a 200 foot decision height. As in Build Alternatives 1 and 2, an approach light system is recommended. A vertically guided approach (APV $\geq$ ¾ mile) was recommended for Runway 14. Non-precision approaches (NPA) are recommended for each end of the crosswind runway.

Build Alternative 3 depicts the crosswind runway being constructed to an ultimate length of 3,900 feet and width of 60 feet. Runway 10/28 should be designed to accommodate Approach Category A and B airplanes with a wingspan less than 49 feet (A-I and B-I). Based on usage by A-I and B-I airplanes, a taxiway 25 feet in width is recommended (see *Airport Master Plan – South Central Regional Airport*, February 2015, page 3-34).

Site A-Build Alternative 3 was selected by the South Central Regional Airport Agency for continued evaluation and development of the Airport Layout Plan (see Appendix E).

As shown in Site A Build Alternative 1, 2 and 3, the most logical location for a terminal area was near the intersection of the primary and crosswind runways, with vehicle access provided from Iowa Highway 163 via 220th Street. There was no consideration given to locating the terminal area elsewhere on Site A.

Site A Build Alternative 3 meets the purpose and need as described in Section 1.2.



Plot Date: 10/14/2015
Scale: 1:1000
Model: FIG 4-4
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DGR ENGINEERING	SNYDER & ASSOCIATES Engineers and Planners	JS Consulting LLC	SOUTH CENTRAL REGIONAL AIRPORT MAHASKA COUNTY, IOWA	SITE A BUILD ALTERNATIVE 3	FIGURE 3-9

3.4.4 Site A: Terminal Area Build Alternative

The terminal area concept plan was presented to the airport users group in April 2014 (see Figure 3-10). Several recommendations were made by those in attendance and are as follows:

- Provide vehicle parking for tee hangar tenants.
- Create an open space area adjacent to the apron.
- Locate the FBO Facility adjacent to the proposed terminal building.
- Provide a heated hangar that may be used for overnight itinerant aircraft storage.
- Provide a sidewalk to facilitate pedestrian movement from the vehicle parking areas to the terminal building.
- Provide security fencing and additional gate locations with access control.

Several comments that were taken into consideration included the following:

- Fuel trucks would most likely be used to upload fuel to aircraft.
- Above ground fuel storage may not necessarily be located adjacent to the apron.
- One or more of the tee hangar structures should be sized to accommodate cabin class airplanes.

Vehicle access to the proposed terminal area is provided by an airport access road extending north from 220th Street. Envisioned within the terminal area is the ultimate development of the following infrastructure components:

- Three (3) 14-unit tee hangar structures
  - 42 aircraft
  - Clear door: 41’-6” x 12’-0”

- One (1) 10-unit tee hangar structure
  - 10 aircraft (cabin class twins)
  - Clear door: 47’-6” x 14’-0”

- FBO Maintenance/Storage Hangar
  - 4 to 6 aircraft
  - 14,000 SF

- Aircraft Storage Hangar
  - 5 to 10 aircraft
  - 10,000 SF +/- (heated overnight itinerant use)

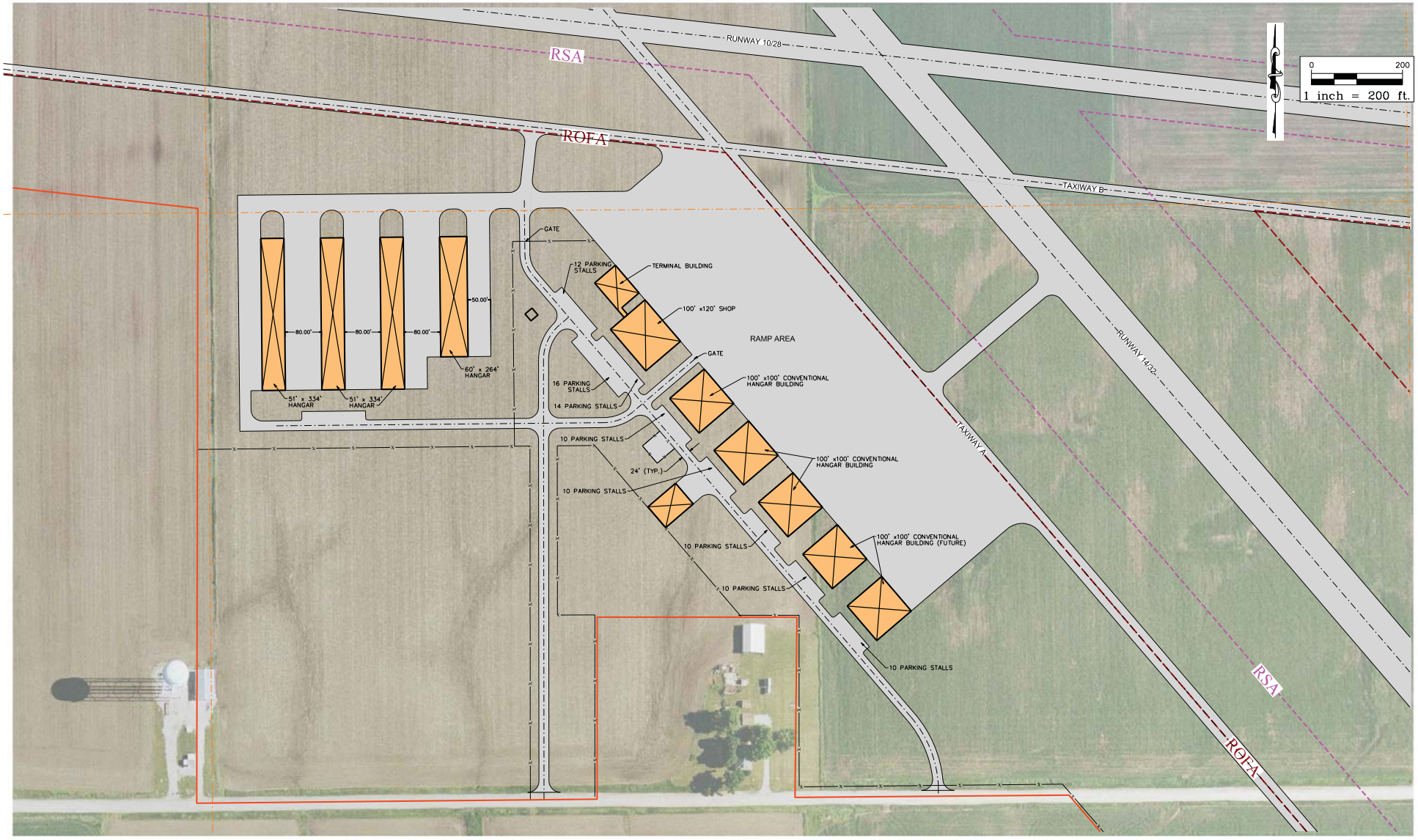
- Four (4) Large Box Hangars
  - 2 to 6 aircraft each
  - 10,000 SF +/-
  - May be constructed by the private sector

- Terminal Building
  - 4,800 SF +/-

- Airport Maintenance Equipment Storage
  - 4,800 SF +/- (60’ x 80’)

- Vehicle Parking
  - As needed
  - 50 to 90 stalls

The terminal area concept meets the purpose and need as described in Section 1.2.



DGR ENGINEERING	SNYDER & ASSOCIATES Engineers and Planners	JS Consulting LLC	SOUTH CENTRAL REGIONAL AIRPORT MAHASKA COUNTY, IOWA	TERMINAL CONCEPT ALT 1	FIGURE 3-10

Plot Date: 10/20/2015
Scale: 1:200
Model: ALP-LAYOUT
File: C:\Projects\205 South Central RAA\02\dgn\figures\EA\EA_fig3_10.dgn

3.5 Pella Municipal Airport: Release and Closure

The Pella Municipal Airport is owned, maintained and operated by the City of Pella. The airport is located on 109 acres of land owned in fee title by the City of Pella.

By accepting federal assistance under the FAA Airport Improvement Program (AIP), the City has agreed to grant assurances set forth in the grant agreements. The City will request a release from its federal obligations at the time the proposed replacement airport is operational.

Revenue from the disposal of the 109 acres and the airport assets will be reinvested in the proposed South Central Regional Airport. Some assets (for example snow removal equipment) will be transferred to the South Central Regional Airport.

The Pella Municipal Airport is located within the City of Pella. The City has experienced a 55.2 percent increase in population from 1970 to 2010. Based on a 0.5 percent growth rate, the City population is projected to increase to 11,550 by 2035. If the City was able to sustain the growth rate (1.39%) experienced from 1960 to 2010, the population would reach 14,097.

The City adopted a new Comprehensive Plan in August 2014 (see City of Pella Comprehensive Plan – 2014). Figure 3-11 depicts existing land uses as of 2014. The existing Pella Municipal Airport is located west of Iowa Highway 163, south of Washington Street and north of Idaho Drive. Existing residents and a golf course (Bos Landen) are located west of the airport. A commercial node is located around the Iowa Highway 163/Washington Street interchange. Residential development extends along the Idaho Drive corridor south of the airport.

The Future Land Use Plan adopted by the City is depicted in Figure 3-12. The plan shows the existing airport site being ultimately developed for low, medium and high density residential uses.

- Low Density Single Family Residential
  - Density is 1 to 4 units per acres, although these areas may include some single family attached with density up to 6 units per acre.
- Medium Density Residential
  - Density is 4 to 12 units per acre.
- High Density Residential
  - Density is 12 units per acre

The Future Land Use Plan envisions medium and high density residential development being developed on approximately one-third of the airport site (area between Washington Street and the existing airport terminal area). Low density residential development is envisioned over the remaining airport site.

As noted in Figure 3-12, a framework for streets and open space is shown. A collector street is shown extending along the west side of the existing airport with termini at Washington Street and Idaho Drive. This street will collect traffic from the local residential streets.

The proposed development will be provided with municipal services including:

- Sanitary Sewer
- Storm water/sewer
- Water
- Fire & EMS Services
- Law Enforcement
- Parks/Recreation

The Comprehensive Plan addresses environmentally sensitive areas and identifies such areas that should not be developed for high intensity uses and that may be preserved as open space.

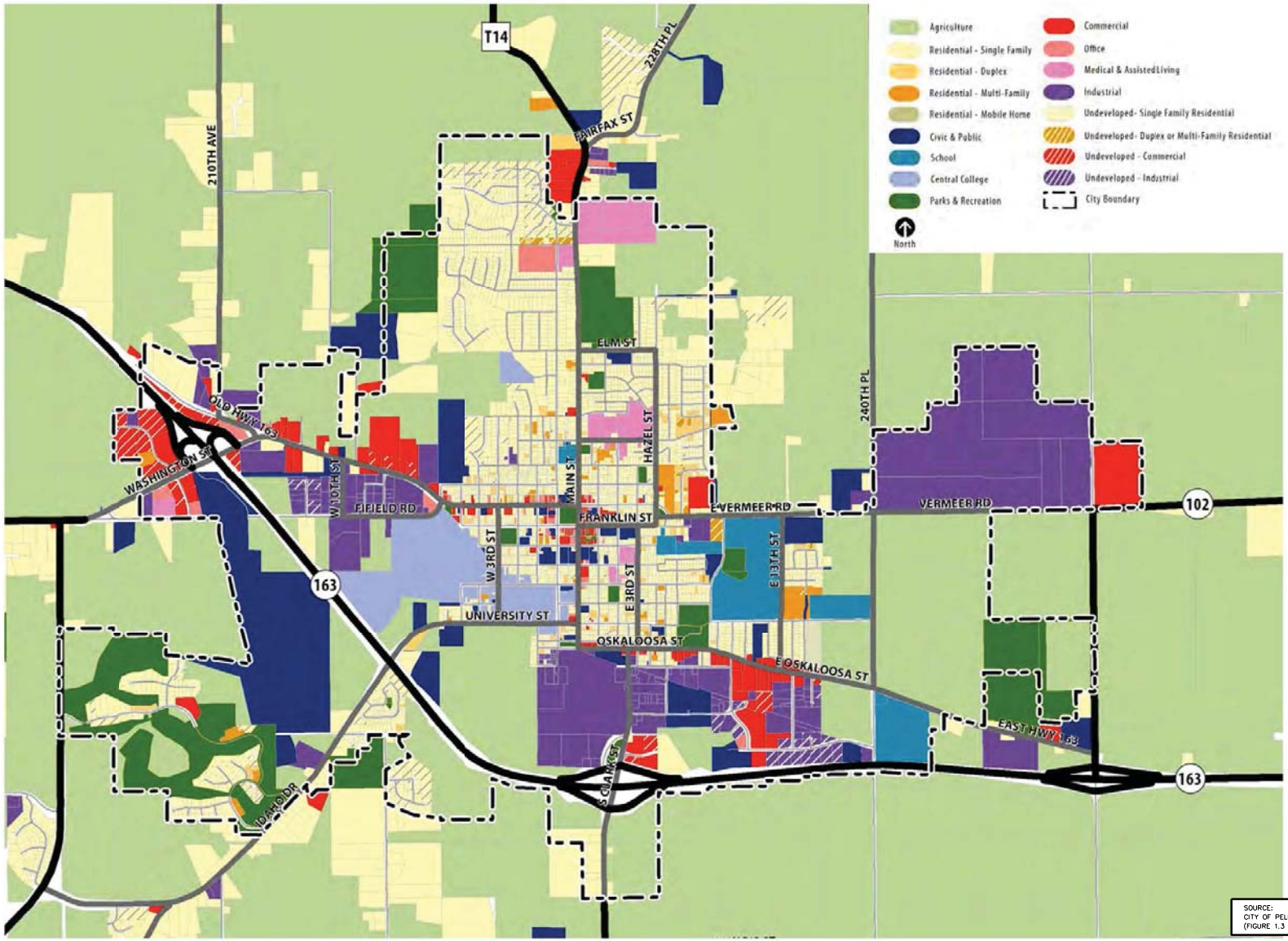
The ultimate closure of the airport will provide an opportunity to "in fill" the area between Iowa Highway 163 and the existing Bos Landen Development. More specifically, the development opportunity for non-airport uses will take advantage of the municipal infrastructure and minimize urban encroachment into areas more suited for agricultural use.

The existing terminal building will be converted to other uses while the aircraft storage buildings and fuel system will be removed.

The City of Pella has adopted site plan, subdivision and land use zoning regulations. Future development of the existing airport will be subject to such regulations the City of Pella has adopted.

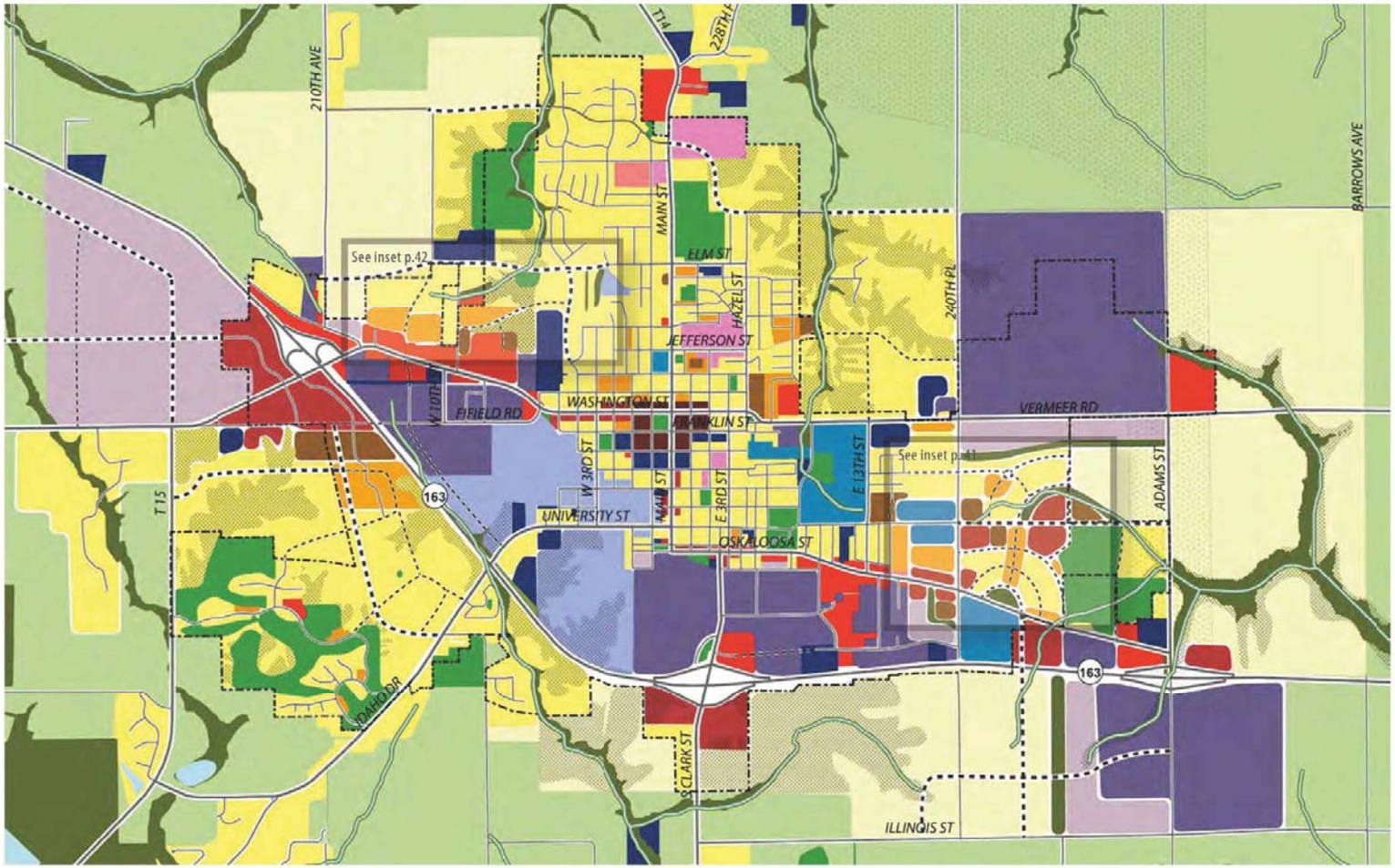
The closure of the Pella Municipal Airport will eliminate potential land use conflicts with adjacent residential uses and provide an opportunity to develop land uses that are consistent with the land use compatibility matrix set forth in the Pella Comprehensive Plan.

The release from federal obligations and closure of the Pella Municipal Airport meets the project purpose and need as described in Section 1.2.



SOURCE:
CITY OF PELLA COMPREHENSIVE PLAN
(FIGURE 1.3 – PELLA EXISTING LAND USE, 2014)

DGR ENGINEERING	SNYDER & ASSOCIATES Engineers and Planners	JS Consulting LLC	SOUTH CENTRAL REGIONAL AIRPORT MAHASKA COUNTY, IOWA	CITY OF PELLA COMPREHENSIVE PLAN EXISTING LAND USE, 2014	FIGURE 3-11



SOURCE:
CITY OF PELLA COMPREHENSIVE PLAN
(FIGURE 1.6a – PELLA EXISTING LAND USE MAP)

DGR ENGINEERING	SNYDER & ASSOCIATES Engineers and Planners	JS Consulting LLC	SOUTH CENTRAL REGIONAL AIRPORT MAHASKA COUNTY, IOWA	CITY OF PELLA COMPREHENSIVE PLAN FUTURE LAND USE MAP	FIGURE 3-12

3.6 Oskaloosa Municipal Airport: Release and Closure

The Oskaloosa Municipal Airport is located in rural Mahaska County approximately 13.5 miles from Oskaloosa Central Business District. The airport is owned, operated, and maintained by the City of Oskaloosa.

The 620 acre site (see Figure 3-14) was an auxiliary airfield to the Ottumwa Naval Air Station. The federal government, upon closure of the Ottumwa Naval Air Station, declared the auxiliary field as surplus federal property and transferred the site to the Federal General Services Administration for disposal. The City of Oskaloosa acquired the property by quit claim deed on March 5, 1959.

The Oskaloosa Municipal Airport is included in the National Plan of Integrated Airport Systems (NPIAS) and is obligated to federal assurances set forth in various airport related agreements between the City and federal government.

The City of Oskaloosa will request a release from its airport related federal obligations. The City may initially request a release for approximately 330 acres while the proposed South Central Regional Airport is being constructed. The City will continue to operate and maintain the airport until such time the proposed airport becomes operational. Upon closure of the existing airport, the City will request a release for the balance of the 620 acres and dispose the remaining airport assets.

The rural character is represented by family farms along with expanding multi-generational farm operations. The predominate soil type is Mahaska-Taintor silt clay loam, considered suitable for row crops. Of the 620 acres (613 net taxable acres), 521 acres are tillable. The remaining acreages supports two runways, aircraft apron, aircraft maintenance and storage facilities, residential structure, vehicle access and parking facilities.

The existing split level single family structure was constructed in 1975 and has approximately 1,790 square feet of living space. The structure is currently rented and would have some appeal as a residence for employers of a large grain farming operation or to a commuter resident.

The tee type hangars may be used for storage although their size and structural conditions are limiting factors. The aircraft maintenance hangar and adjoining office area would have fair to average utility as a farm office and machinery maintenance shop for a large farm operator.

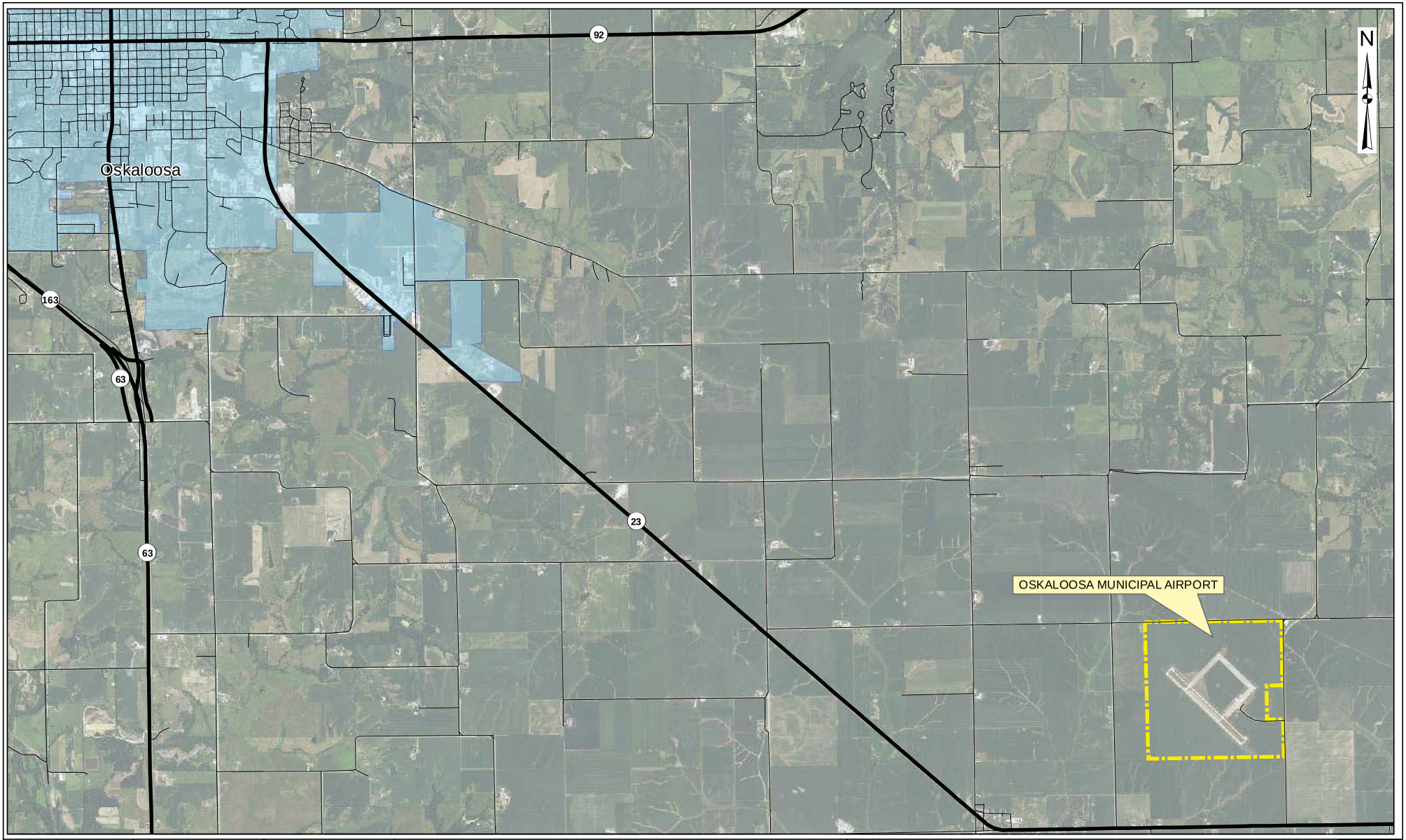
The paved surfaces have limited agricultural utility. The paved area may be used for on-site grain storage and/or equipment storage. Since livestock feeding is generally vertically integrated and consolidated into large confinement operations, the existing pavement has, at present, limited agricultural utility. Given the location of the airport to large urban communities, there is limited opportunity to utilize the paved areas for non-agricultural uses.

The highest and best use of the airport site is for agricultural row crops. The Mahaska-Taintor soils are highly productive. The site is not located in a flood-prone area and is well drained. Mahaska-Taintor soils comprise 94 percent of the 521 tillable acres. These soils have a corn suitability rating (CRS) of 88 to 97. The weighted average CRS value for the entire 521 acres is 88.7 placing this site among some of the most productive soils in Iowa.

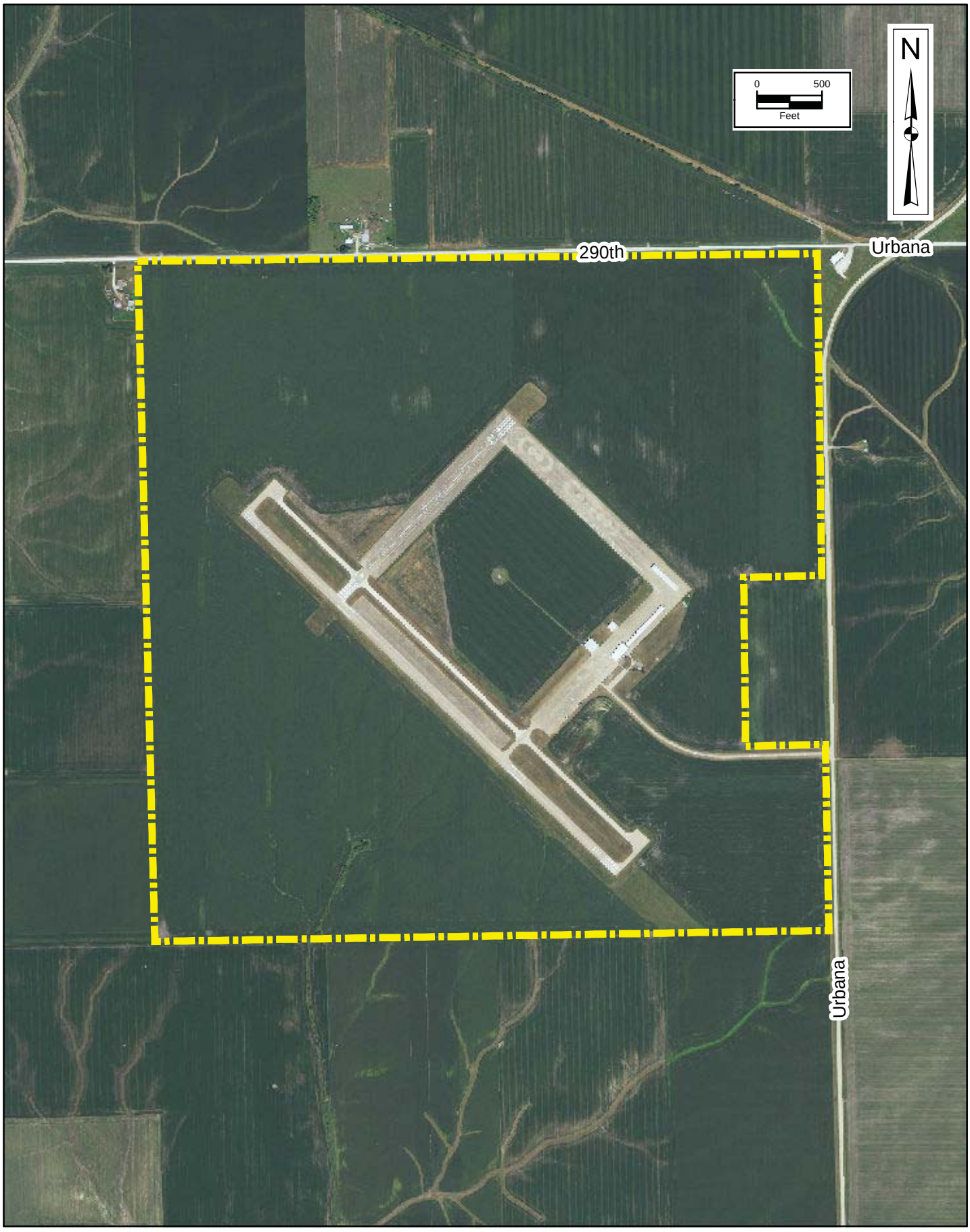
Removing the airport's environmental footprint will complement the rural family farm character of the area. Figure 3-13 shows existing land use patterns within the airport environs. Mahaska County adopted a County Comprehensive Plan in 2004 (see Section 4.8). The county has not adopted land use zoning regulations.

Revenue from disposal of the airport assets will be available to the City of Oskaloosa and reinvested in the proposed South Central Regional Airport. Given the multi-jurisdictional structure of the South Central Regional Airport, the operational and maintenance burden will be less while having an airport facility capable of accommodating aeronautical demand generated by users within the City of Oskaloosa. Travel distance and time will be reduced thereby contributing to reduction in vehicle emissions.

The release from its federal obligations and closure meets the project purpose and need.



DGR ENGINEERING	Snyder & Associates Engineers and Planners	JS Consulting LLC	OSKALOOSA AIRPORT PROXIMITY MAP CITY OF OSKALOOSA	SOUTH CENTRAL REGIONAL AIRPORT MAHASKA COUNTY, IOWA	FIGURE 3-13



DGR ENGINEERING	SNYDER & ASSOCIATES Engineers and Planners	JS Consulting LLC	SOUTH CENTRAL REGIONAL AIRPORT MAHASKA COUNTY, IOWA OSKALOOSA MUNICIPAL AIRPORT (PEA) PROPERTY	FIGURE 3-14

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