APPENDIX I – PRELIMINARY ENVIRONMENTAL REPORTS

INTRODUCTION

As of October 2014 several environmental documents have been compiled in support of the airport development under consideration for Dickinson Theodore Roosevelt Regional Airport. The following items are included in this appendix:

USDA Farmland Conversion Impact Rating – March 21, 2014

Class III Cultural Resource Inventory – June 2014

North Dakota State Historic Preservation Office Response – June 10, 2014

Wildlife Hazard Review – June 13, 2014

Wetland Delineation Report – September 2014

U.S. Army Corp of Engineers Response – October 17, 2014

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*		Date Of Land Evaluation Request 03/21/2014	
Name of Project Dickinson Regional Airport		Federal Agency Involved FAA	
Proposed Land Use Aeronautical		County and State Stark, North Dakota	
PART II *(To be completed by NRCS)*		Date Request Received By NRCS 3/24/2014	Person Completing Form: Stika
Does the site contain Prime, Unique, Statewide or Local Important Farmland? *(If no, the FPPA does not apply - do not complete additional parts of this form)*	YES ☑ NO ☐	Acres Irrigated 0	Average Farm Size 1004
Major Crop(s) wheat	Farmable Land In Govt. Jurisdiction Acres: 777118% 91	Amount of Farmland As Defined in FPPA Acres: 77711% 91	
Name of Land Evaluation System Used	Name of State or Local Site Assessment System	Date Land Evaluation Returned by NRCS 3/24/2014	

PART III *(To be completed by Federal Agency)*	Alternative Site Rating			
	Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	0	278	229	145
B. Total Acres To Be Converted Indirectly				
C. Total Acres In Site	669.2	947.2	898.2	814.2
PART IV *(To be completed by NRCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	0	0	0	0
B. Total Acres Statewide Important or Local Important Farmland	539	760	721	656
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted	.1	.1	.1	.1
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	29	29	29	29
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)	58	57	58	58

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(Criteria are explained in 7 CFR 658.5 b. For Corridor project use form NRCS-CPA-106)*	**Maximum Points**	Site A	Site B	Site C	Site D
1. Area In Non-urban Use	(15)	0	15	15	15
2. Perimeter In Non-urban Use	(10)	0	10	10	10
3. Percent Of Site Being Farmed	(20)	0	20	20	20
4. Protection Provided By State and Local Government	(20)	0	0	0	0
5. Distance From Urban Built-up Area	(15)	0	15	15	15
6. Distance To Urban Support Services	(15)	0	15	15	15
7. Size Of Present Farm Unit Compared To Average	(10)	0	7	7	7
8. Creation Of Non-farmable Farmland	(10)	0	0	0	0
9. Availability Of Farm Support Services	(5)	0	5	5	5
10. On-Farm Investments	(20)	0	0	0	0
11. Effects Of Conversion On Farm Support Services	(10)	0	0	0	0
12. Compatibility With Existing Agricultural Use	(10)	0	6	6	6
TOTAL SITE ASSESSMENT POINTS	160	0	93	93	93
PART VII ***(To be completed by Federal Agency)***					
Relative Value Of Farmland *(From Part V)*	100	58	57	58	58
Total Site Assessment *(From Part VI above or local site assessment)*	160	0	93	93	93
TOTAL POINTS *(Total of above 2 lines)*	260	58	150	151	151

Site Selected:	Date Of Selection	Was A Local Site Assessment Used? YES ☐ NO ☐

Reason For Selection:

Name of Federal agency representative completing this form:	Date:

(See Instructions on reverse side) **Form AD-1006 (03-02)**

STEPS IN THE PROCESSING THE FARMLAND AND CONVERSION IMPACT RATING FORM

Step 1 - Federal agencies (or Federally funded projects) involved in proposed projects that may convert farmland, as defined in the Farmland Protection Policy Act (FPPA) to nonagricultural uses, will initially complete Parts I and III of the form. For Corridor type projects, the Federal agency shall use form NRCS-CPA-106 in place of form AD-1006. The Land Evaluation and Site Assessment (LESA) process may also be accessed by visiting the FPPA website, http://fppa.nrcs.usda.gov/lesa/.

Step 2 - Originator (Federal Agency) will send one original copy of the form together with appropriate scaled maps indicating location(s)of project site(s), to the Natural Resources Conservation Service (NRCS) local Field Office or USDA Service Center and retain a copy for their files. (NRCS has offices in most counties in the U.S. The USDA Office Information Locator may be found at http://offices.usda.gov/scripts/ndISAPI.dll/oip_public/USA_map, or the offices can usually be found in the Phone Book under U.S. Government, Department of Agriculture. A list of field offices is available from the NRCS State Conservationist and State Office in each State.)

Step 3 - NRCS will, within 10 working days after receipt of the completed form, make a determination as to whether the site(s) of the proposed project contains prime, unique, statewide or local important farmland. (When a site visit or land evaluation system design is needed, NRCS will respond within 30 working days.

Step 4 - For sites where farmland covered by the FPPA will be converted by the proposed project, NRCS will complete Parts II, IV and V of the form.

Step 5 - NRCS will return the original copy of the form to the Federal agency involved in the project, and retain a file copy for NRCS records.

Step 6 - The Federal agency involved in the proposed project will complete Parts VI and VII of the form and return the form with the final selected site to the servicing NRCS office.

Step 7 - The Federal agency providing financial or technical assistance to the proposed project will make a determination as to whether the proposed conversion is consistent with the FPPA.

INSTRUCTIONS FOR COMPLETING THE FARMLAND CONVERSION IMPACT RATING FORM

(For Federal Agency)

Part I: When completing the "County and State" questions, list all the local governments that are responsible for local land use controls where site(s) are to be evaluated.

Part III: When completing item B (Total Acres To Be Converted Indirectly), include the following:

1. Acres not being directly converted but that would no longer be capable of being farmed after the conversion, because the conversion would restrict access to them or other major change in the ability to use the land for agriculture.
2. Acres planned to receive services from an infrastructure project as indicated in the project justification (e.g. highways, utilities planned build out capacity) that will cause a direct conversion.

Part VI: Do not complete Part VI using the standard format if a State or Local site assessment is used. With local and NRCS assistance, use the local Land Evaluation and Site Assessment (LESA).

1. Assign the maximum points for each site assessment criterion as shown in § 658.5(b) of CFR. In cases of corridor-type project such as transportation, power line and flood control, criteria #5 and #6 will not apply and will, be weighted zero, however, criterion #8 will be weighed a maximum of 25 points and criterion #11 a maximum of 25 points.

2. Federal agencies may assign relative weights among the 12 site assessment criteria other than those shown on the FPPA rule after submitting individual agency FPPA policy for review and comment to NRCS. In all cases where other weights are assigned, relative adjustments must be made to maintain the maximum total points at 160. For project sites where the total points equal or exceed 160, consider alternative actions, as appropriate, that could reduce adverse impacts (e.g. Alternative Sites, Modifications or Mitigation).

Part VII: In computing the "Total Site Assessment Points" where a State or local site assessment is used and the total maximum number of points is other than 160, convert the site assessment points to a base of 160.
Example: if the Site Assessment maximum is 200 points, and the alternative Site "A" is rated 180 points:

$$\frac{\text{Total points assigned Site A}}{\text{Maximum points possible}} = \frac{180}{200} \times 160 = 144 \text{ points for Site A}$$

For assistance in completing this form or FPPA process, contact the local NRCS Field Office or USDA Service Center.

NRCS employees, consult the FPPA Manual and/or policy for additional instructions to complete the AD-1006 form.

CULTURAL RESOURCES

DICKINSON THEODORE ROOSEVELT REGIONAL AIRPORT:

A CLASS III CULTURAL RESOURCE INVENTORY IN STARK COUNTY, NORTH DAKOTA

Prepared For:
Dickinson Municipal Airport Authority
Dickinson, North Dakota

Principal Investigator:
Timothy Dodson

Prepared By:
James Heideman & Corey Yates
KLJ

4585 Coleman Street
Bismarck, North Dakota 58503

REPORT OF INVESTIGATION: 1993

JUNE 2014

MANUSCRIPT DATA RECORD FORM

1. Manuscript Number:

2. SHPO Reference #:

3. Author(s):

James Heideman & Corey Yates

4. Title:

Dickinson Theodore Roosevelt Regional Airport: A Class III Cultural Resource Inventory, Stark County, North Dakota

5. Report Date:

June 2014

6. Number of Pages:

33

7. Type I, T, E, O:

I

8. Acres:

632.5 acres

9. Legal Location(s) with Historic Context Study Unit(s):

County	TWP	R	SEC	SU
Stark	T. 138 N.	R. 96 W.	4, 5, 9	#4 – HE
Stark	T. 139 N.	R. 96 W.	33	#4 – HE

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Prepared By:
James Heideman & Corey Yates
KLJ
4585 Coleman Street
Bismarck, North Dakota 58503

Report of Investigation: 1993

June 2014

ABSTRACT

The Dickinson Municipal Airport Authority contracted KLJ to conduct a Class III Cultural Resource Inventory of a proposed airfield expansion at the Dickinson Theodore Roosevelt Regional Airport, in Stark County, North Dakota. The area of potential effect for the proposed undertaking consists of 632.5 acres of property managed by the Dickinson Municipal Airport Authority. The entire 632.5 acre property was inventoried to Class III standards by KLJ archaeologists Corey Yates and James Heideman on April 21 and 22, 2014.

A Class I Literature Review of the proposed project area identified nine previously recorded cultural resources within a one-mile radius of the project area. Two of these cultural resources, sites 32SK988 and 32SK989, lie within the area of potential effect of the proposed undertaking, but are both recommended *Not Eligible* for the National Register of Historic Places.

Three previously unrecorded cultural resources were identified within the project area. 32SKx377 is an isolated find, 32SK1127 is the remains of an old VHF Omni-directional Range navigation tower pad that is no longer in use and site 32SK1128 is an old road bed that is no longer active. Sites 32SK1127 and 32SK1128 are recommended *Not Eligible* for inclusion in the National Register of Historic Places Isolated find 32SKx377 is also *Not Eligible* for the National Register of Historic Places. As none of the cultural resources are recommended *Eligible* for the National Register of Historic Places and the unlikelihood that any significant cultural properties will be identified, KLJ recommends a finding of *No Historic Properties Affected* for the proposed project as inventoried, mapped, photographed, and described herein.

TABLE OF CONTENTS

TABLE OF TABLES

TABLE OF FIGURES

INTRODUCTION

The Dickinson Municipal Airport Authority contracted KLJ to conduct a Class III Cultural Resource Inventory for the Dickinson Theodore Roosevelt Regional Airport located in Stark County, North Dakota. The area of potential effect (APE) for the proposed project consists of a 632.5 acre area that includes lands within the fenced airfield as well as additional property outside of the fence to the south and southwest of the airfield.

A Class I Literature review of the proposed project area identified nine cultural resources within a one-mile radius. Two of these cultural resources, sites 32SK988 and 32SK989, are located within the project APE and both are recommended *Not Eligible* for the National Register of Historic Places (NRHP). There have also been 13 previous inventories conducted within a one-mile radius of the APE.

A Class III inventory of the entire APE was conducted by KLJ archaeologists Corey Yates and James Heideman on April 21 and 22, 2014. A total of 632.5 acres were inventoried to Class III standards.

During the inventory, both of the previously recorded cultural resources mentioned above were revisited. A previously unrecorded portion of site 39SK988 was identified and recorded during the revisit. Additionally, three previously unrecorded cultural resources were recorded during the course of fieldwork. The results of the findings of the inventory are discussed in detail in the ***RESULTS*** and ***SUMMARY AND MANAGEMENT RECOMMENDATIONS*** section of this report. All of the site forms illustrations, maps, field notes, and photographic records relevant to the undertaking are on file at the KLJ office in Bismarck, North Dakota.

Table 1: Legal Location of Proposed Project in Stark County

Township	Range	Sections
T. 138 N	R. 96 E	4, 5, 9
T. 139 N	R. 96 E	33

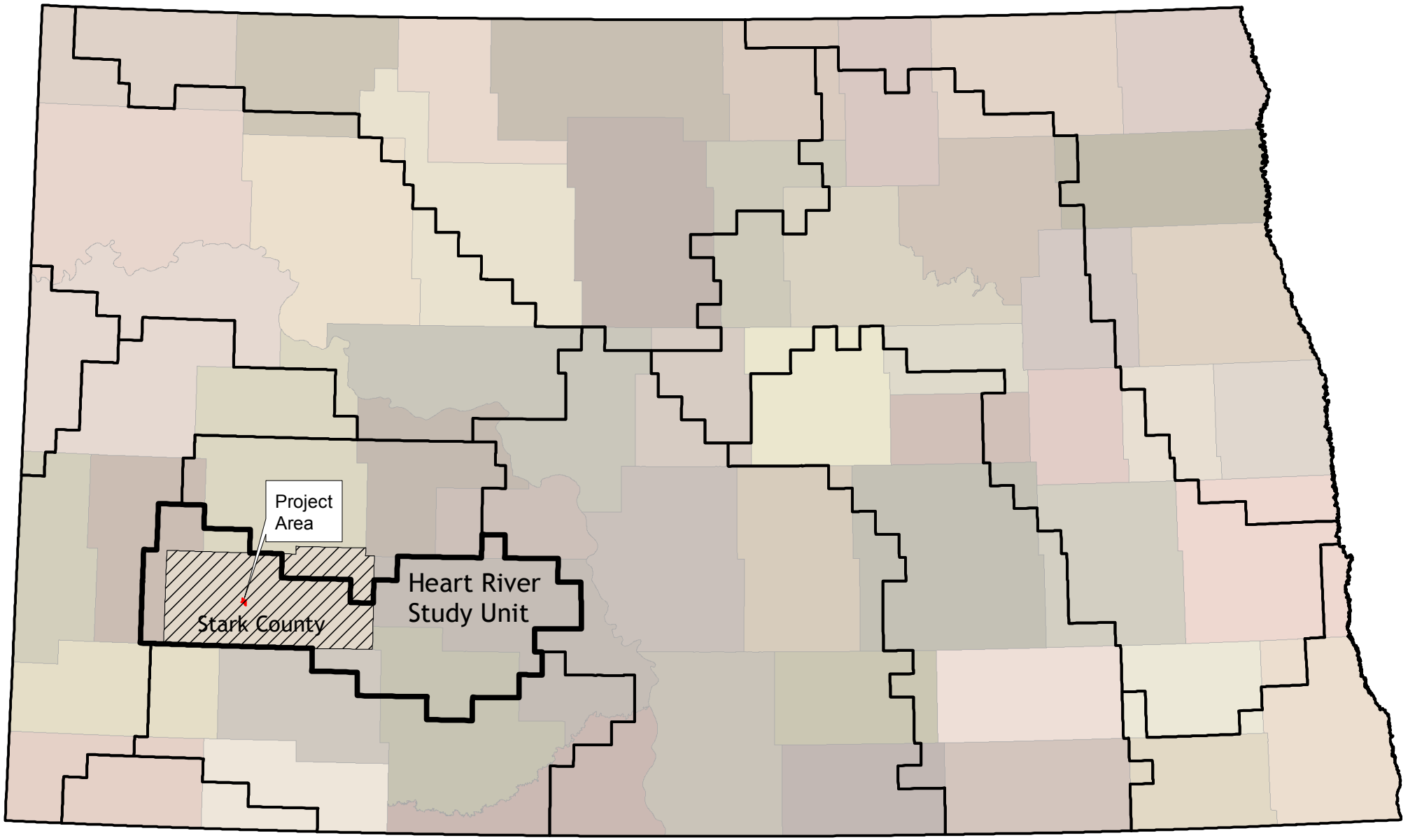


Figure 1

Dickinson Theodore Roosevelt Regional Airport Project Area, ND County and Archaeological Study Unit Location Map

Miles
0 50
Kilometers
0 80
Project Area
N

Appendix I - Preliminary Environmental Reports
Map Scale:1:2,200,000

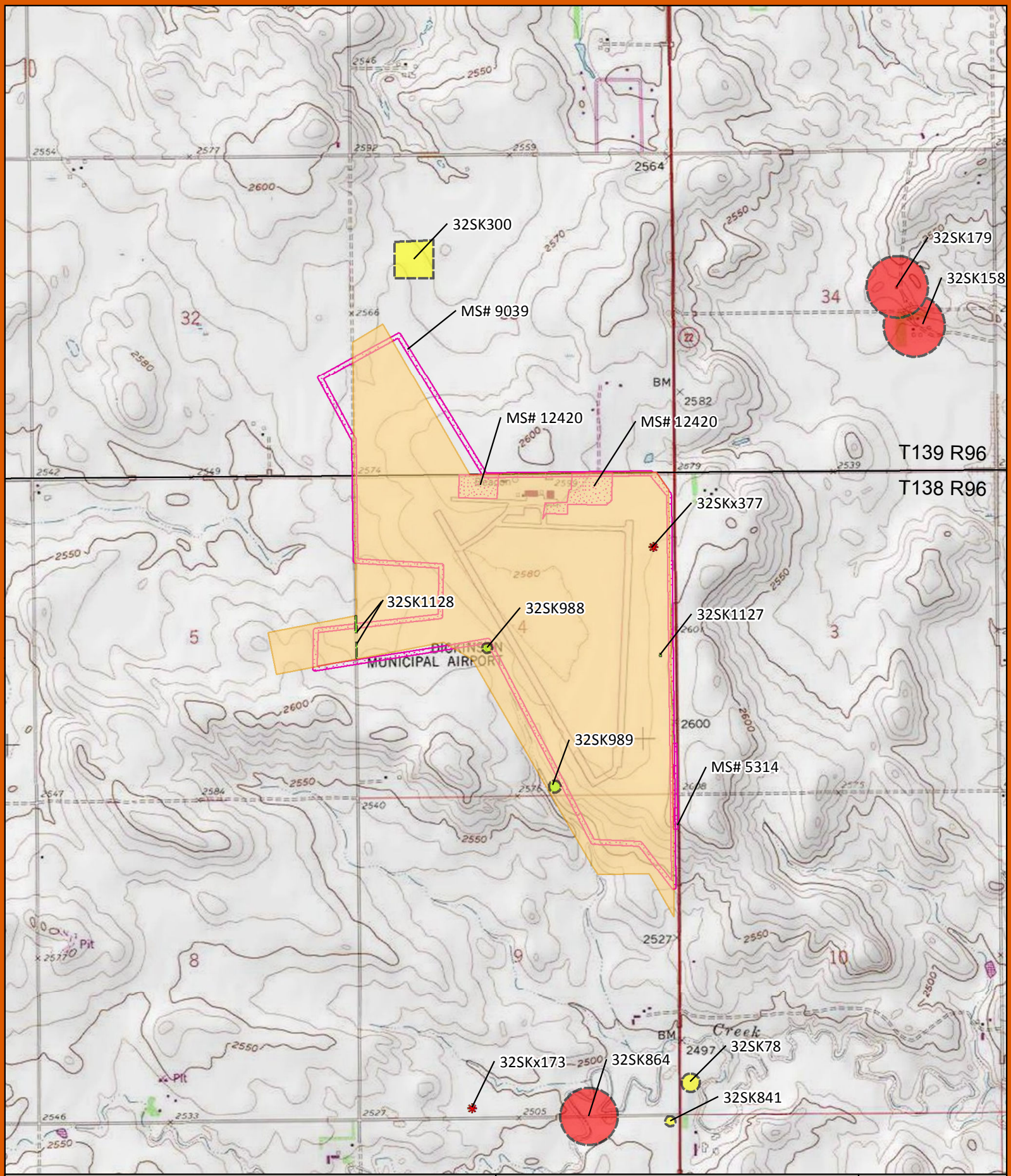


Figure 2

Dickinson Theodore Roosevelt Regional Airport Topographic Map

Isolated Find
Eligible
Unevaluated
Previous Inventory
Not Eligible
Class III Inventory

Meters
0 600
Feet
0 2,000

Appendix I - Preliminary Environmental Reports

1:24,000

ENVIRONMENTAL SETTING

The Heart River Study Unit (HESU) is located in the southwest portion of North Dakota (Figure 3). The study unit is bounded by the Knife River Study Unit to the north, the Southern Missouri River Study Unit to the east, the Cannonball River Study Unit to the south, and the Little Missouri River Study Unit to the west (SHSND 2008). The project APE consists of relatively flat to gently rolling plain topography with vegetation composed primarily of mixed prairie grass. A general overview of the HESU is provided below.

Geographic Formation and Topography

The HESU is located with the Northwestern Great Plains ecoregion (USDI 2001). The ecoregion was largely unaffected by the continental glaciation of the Pleistocene. This ecoregion covers the entirety of the Missouri Plateau section of the Great Plains. It is a semiarid rolling plain containing shale, siltstone and sandstone with some buttes and badlands. The Heart River winds through this study unit and is fed by the major tributaries of the Green River, Russian Spring Creek, Antelope Creek, Big Muddy Creek, and Sweetbriar Creek.

The HESU is located in two sub-ecoregions, the Missouri Plateau and the River Breaks regions (USDI 2001). Most of the HESU is located within the Missouri Plateau region. The Missouri Plateau region is located to the west of the Missouri River. This area is a large stretch of rolling hill plains with the isolated sandstone buttes.

The River Breaks region is located along the west side of the Missouri River. A small eastern portion of the HESU is located within this ecoregion. The area formed around the Missouri river and its major tributaries. It consists of broken terraces, dissected hills, and uplands that border major rivers and floodplains.

Prehistory

The Paleo-Indian Period dates from approximately 9,000 B.C. to 5,500 B.C. This period encompasses the first people who migrated into North America. The period is characterized by exploitation of now extinct Mega Fauna during the Pleistocene, such as mammoths and mastodons. There are over two dozen documented Paleo-Indian locations within the HESU, although intact Paleo-Indian sites have rarely been identified.

The Archaic Period dates from the end of the Paleo-Indian to about 500 B.C. It is divided into three sub-periods: the Early Archaic, Middle Archaic, and Late Archaic. These sub-periods are characterized by a shift in subsistence patterns. Though sites from all three stages have been documented within the HESU, sites from the Middle and Late Archaic periods are more common.

The Plains Woodland Period dates between 500 B.C. to A. D. 1,000. It is also divided in three sub-periods: Early Woodland, Middle Woodland and Late Woodland. This period is characterized by the development of mound burial mortuary ceremonialism, the production of ceramic vessels, the development of the bow and arrow, and increased usage of seedy and grassy plants. Early Woodland sites are rarely identified within the HESU, although there are several sites dating to the Middle and Late Woodland periods.

The Plains Village Period dates from approximately A.D. 1,000 to A.D. 1,780. This period is characterized by a combined lifeway of horticultural and hunter-gatherer aspects within North Dakota. During this period, people were able to produce dependable storable food surplus that led to more permanently situated earthlodge villages.

At the end of the Plains Village Period, European diseases started to decimate these village communities. There are a number of Plains Village sites identified within the HESU.

Fauna

Historically, the HESU grasslands were populated with bison (*Bison bison*), elk (*Cervus elaphus*), pronghorn antelope (*Antilocapra americana*), mule deer (*Odocoileus hemionus*), and white-tail deer (*Odocoileus virginianus*). Within the woodland areas beaver (*Castor canadensis*), raccoon (*Procyon lotor*), and other furbearing animals are common. The Heart River and its tributaries are home to several species of fish and mussels. Pike (*Esox lucius*), walleye (*Sander vitreus*) and catfish (*Ictalurus punctatus)* are the main species of fish that inhabit the region.

Currently, bison no longer inhabit the HESU due to over-hunting and modern development. Significant portions of the natural habitats have been destroyed by modern agriculture and pastoral practices. Much of the native fauna have continued to inhabit areas within the HESU, but in reduced numbers and territory.

Flora

The HESU consists mostly of a grassland environment made up of blue grama (*Bouteloua gracilis*), western wheatgrass (*Pascopyrum smithii*), needlegrass (*Nassella pulchra*), little bluestem (*Schizachyrium scoparium*) and Indian breadroot (*Psoralea esculenta*). The transitional zone between the grassland and the river is populated with cottonwoods (*Populus deltoides*), American elm (*Ulmus americana*), box elder (*Acer negundo*), green ash (*Fraxinus pennsylvanicus*), quaking aspen (*Populus tremuloides*), Rocky Mountain red cedar (*Juniperus scopulorum*), burr oak (*Quercus macrocarpa*), paper birch *(Betula papyrifera*), juneberry (*Amelanchier alnifolia*), chokecherry (*Prunus virginiana*), and buffaloberry (*Shepherdia argentea*).

A large part of the grasslands have been developed to be used for both agricultural and pastoral purposes. Currently, land within the HESU is used as agricultural fields and for cattle grazing. The dominate crop grown is spring wheat with barley, oats, and sunflowers.

RESEARCH GOALS/EVALUATION OF RESEARCH

Following the mandated policies implementing the National Historic Preservation Act (NHPA [Public Law 89-665]), as amended, this proposed project was inventoried to locate any historic properties within the APE. An additional goal of the inventory was to allow the Dickinson Municipal Airport Authority to plan the proposed undertaking to avoid any historic properties and, if not possible, to test, evaluate, and if necessary, mitigate impacts to historic properties within the proposed project area prior to construction. The goal of the inventory has been achieved; two previously recorded cultural resources that are recommended *Not Eligible* for the NRHP are located within the project APE. Both cultural resources, sites 32SK988 and 32SK989, were revisited and a new portion of site 39SK988 was identified and recorded. Additionally, three previously unrecorded cultural resources were encountered within the APE. Sites 32SK1127 and 32SK1128, and isolated find 32SKx377 are also recommended *Not Eligible* for inclusion in the NRHP.

LITERATURE REVIEW

A Class I Literature Review of the State Historical Society of North Dakota (SHSND) site and manuscript files was conducted by KLJ on January 16, 2014. The review indicated that nine previously recorded cultural resources are located within a one-mile radius of the project area. The majority of the cultural resources identified by the literature review are architectural sites. There are also two historic dump sites and two archaeological sites containing lithic materials. The two historic dumps, sites 32SK988 and 32SK989, are located within the project APE. No other previously recorded cultural resources are located within the APE of the proposed undertaking.

The literature review also revealed that 13 previous inventories have been conducted within a one mile radius of the project area.

The details of the literature review are presented in ***Appendix A*** in tabular form.

FIELD METHODS/CONDITIONS

The Class III Cultural Resources Inventory is an intensive, systematic, detailed field inspection done by, or under the direction/supervision of professional architectural historians, historians, archaeologists, and/or other appropriate specialists. The goal of this inventory effort is to make systematic efforts to identify all historic properties within the APE that might qualify for the NRHP and/or the North Dakota State Historic Sites Registry, and to record information sufficient to enable their evaluation or to indicate what further work is necessary to accomplish their evaluation (SHSND 2006:15).

A Class III inventory of the entire 632.5 acre project area was conducted by KLJ archaeologists Corey Yates and James Heideman between April 21 and 22, 2014. Field conditions during the inventory were windy and generally sunny with periods of overcast skies and cool temperatures. The project APE was inventoried using a systematic survey with transects spaced no more than 20 meters apart. Ground surface visibility (GSV) ranged from 0 to 100 percent based on vegetation density and disturbance level. On average GSV was around 25 percent. Areas with the highest visibility were those that were impacted by construction activities or had been subject to erosion. Vegetation within the project area consisted almost exclusively of mixed prairie grass and thistle. Areas surrounding the runways and taxiways contained non-native manicured grass.

RESULTS

Previously Recorded Cultural Resources

Two previously recorded cultural resources are located within the project APE. Both are recommended *Not Eligible* for the NRHP and were revisited as a part of the Class III inventory for this project. A previously unrecorded portion of site 32SK988 was identified and recorded. No changes were noted at site 32SK989. The details of these sites are discussed below.

Site 32SK988

Site 32SK988 was first recorded in 2004 by Derek Sondeland and John G. Morrison. This site is composed of three features: two small historic material scatters and a concrete culvert with a cut/stacked rock wall. The northern material scatter is a dump located at the head of a drainage system above a concrete culvert. The dump consists of a wide variety of historic and modern materials including glass, plastic, rubber, a metal drum, church key cans, oil cans, rags, and miscellaneous metal fragments.

The concrete culvert is located at the bottom of the drainage, which drains the adjacent airfield. Cut and stacked rock walls line both sides of the drainage from the culvert downstream for approximately 20 meters. The wall is approximately 1 to 1.25 meters high at the culvert and slowly tapers down to approximately 0.2 meters further downstream.

A cultural material scatter containing several large pieces of concrete, rubber tires, and a piece of metal is located south of the culvert was identified and recorded during the site revisit. The concrete is possibly the remnants of a foundation or used to be part of the culvert.

Currently the site retains good integrity of location. The site was previously recommended as *Not Eligible* for the NRHP. As the site is neither unique nor is likely to provide additional information about local, state, or national history, KLJ agrees with the previous recommendation of *Not Eligible* for the NRHP and no avoidance is required.

Figure 3: Overview of newly recorded portion of site 39SK988, view to the east-southeast.

Figure 4: Close-up of concrete pieces within the newly recorded portion of site 39SK988.

Figure 5

32SK988
Updated Site Map

Updated Site Boundary

Newly Recorded Feature

Meters
0 50
Feet
0 160

1:1,900

Site 32SK989

The site consists of a wide variety of historic and modern cultural materials, and has between 50 and 60 rock piles. The site is located on a hill slope between the airport fence and an intermittent stream bed.

The site contains more than 100 artifacts including metal fragments, wood, glass, plastic, ceramics, plastic and cloth covered wire, and concrete blocks.

The site retains good integrity of location. The site was previously recommended as *Not Eligible* for the NRHP. As the site is neither a unique nor is likely to provide additional information about local, state, or national history, KLJ agrees with the previous recommendation of *Not Eligible* for the NRHP and no avoidance is required.

Figure 6: Overview of site 32SK989, view to the southeast.

Newly Recorded Cultural Resources

Three previously unrecorded cultural resources were identified during the course of field work. All of the sites are recommended *Not Eligible* for inclusion to the NRHP and are discussed below in detail.

Site 32SKx377

This prehistoric isolated find is located in a highly disturbed area within the fenced airfield of the Dickinson Theodore Roosevelt Regional Airport. Situated southeast of the airport terminal, the cultural resource is just south of the property fence and airport parking lot. The area is highly disturbed by vehicle traffic related to construction activities which has removed all vegetation within the immediate area. Vegetation in surrounding areas consisted of mixed prairie grass.

The isolated find contains two flakes: one dark brown Knife River Flint tertiary flake and one gray chert secondary flake. No other cultural materials were located in the surrounding areas. Due to the high level of disturbance in the area, the setting and the feeling associated with the isolated find have been comprised. All integrity has been lost aside from location and material.

This isolated find is not associated with and important events or persons in local, state, or national history and therefore is recommended *Not Eligible* under Criteria A and B. Additionally, it is not the work of a master or of unique method of construction and is recommended *Not Eligible* under Criterion C. Finally, the likelihood of buried cultural materials in the area is low and no further important information will be gathered from the cultural resource. As a result, the isolated find is recommended *Not Eligible* under Criterion D.

Overall, 32SKx377 is recommended *Not Eligible* for inclusion to the NRHP and no avoidance is recommended.

Figure 7: Overview of 32SKx377, view to the north.

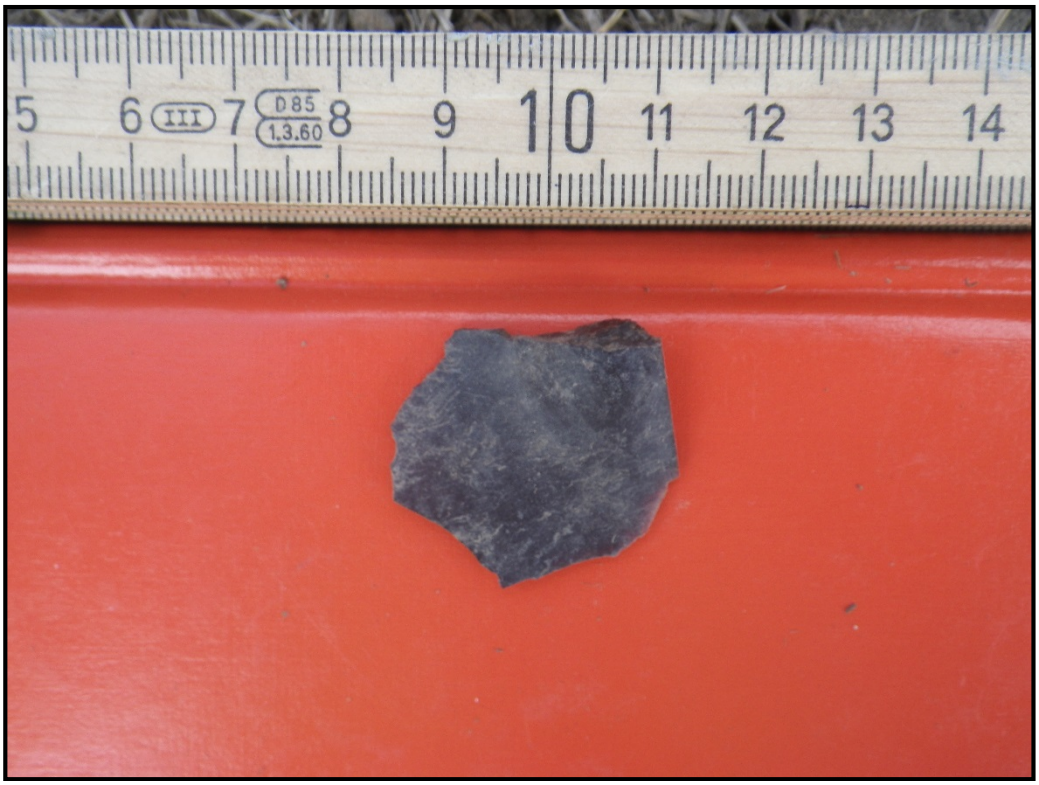


Figure 8: Ventral side of dark brown Knife River Flint flake.

Figure 9: Ventral side of gray chert flake.

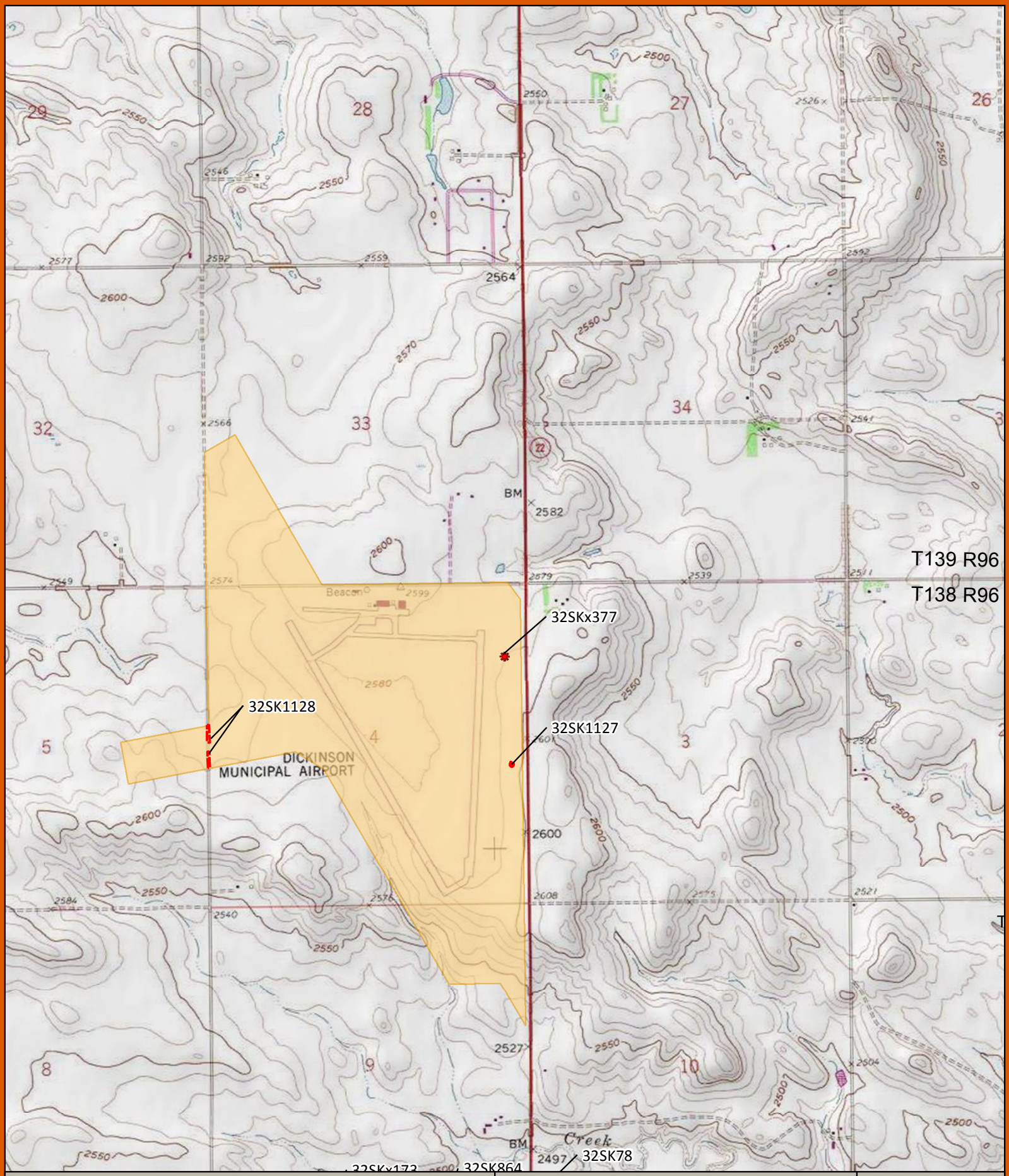


Figure 10

32SKx377 Topographic Map

KLJ

26

Isolated Find

Site Boundary

Class III Inventory

Meters
0 600
Feet
0 2,000

Appendix I - Preliminary Environmental Reports

1:24,000

Site 32SK1127

This site is the location of the old VHF Omni-directional Range (VOR) navigation tower. All that remains of this tower is the concrete pads the tower was supported on and 11 bolts with hex nuts fastened to them. The bolts are fastened to a small octagonal shaped concrete pad set within a larger circular concrete pad. An additional rectangular concrete spur extends from the circular pad to the northwest. There were over ten pieces of milled lumber concentrated in the center of the concrete pads. An electric box attached to a wood post is located just to the northeast of the pads.

Of the seven aspects of integrity this site potentially possesses two, location and setting. The concrete pads remain in the original location the VOR tower was constructed. Though the association is currently unknown, the VOR navigation Tower was built in the early 1980s according to the Airport Manager Matthiew Remynse.

This site is not associated with significant events important to local, state or regional history, therefore under Criterion A it is *Not Eligible* for the NRHP. This site does not appear to be associated with any persons of importance to local, state or national history and is recommended *Not Eligible* under Criterion B. Since the structure that once stood at this site is no long present, this site is recommended *Not Eligible* under Criterion C. The potential for important information about the past to be gained from this site is very low, therefore it is recommended *Not Eligible* under Criterion D.

As site 32SK1127 is less than 50 years of age, KLJ recommends the site as *Not Eligible* for inclusion in the NRHP and no avoidance is required.

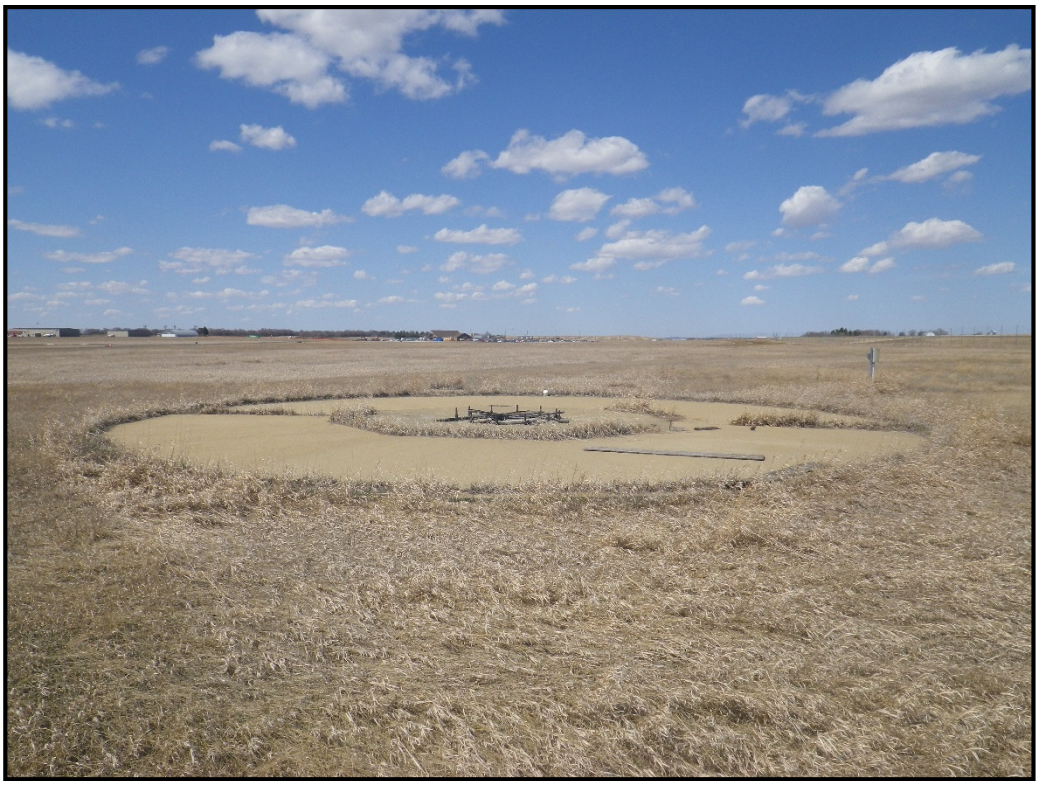


Figure 11: Overview of site 32SK1127, view to the north.

Figure 12: Overview of site 32SK1127, view to the south.

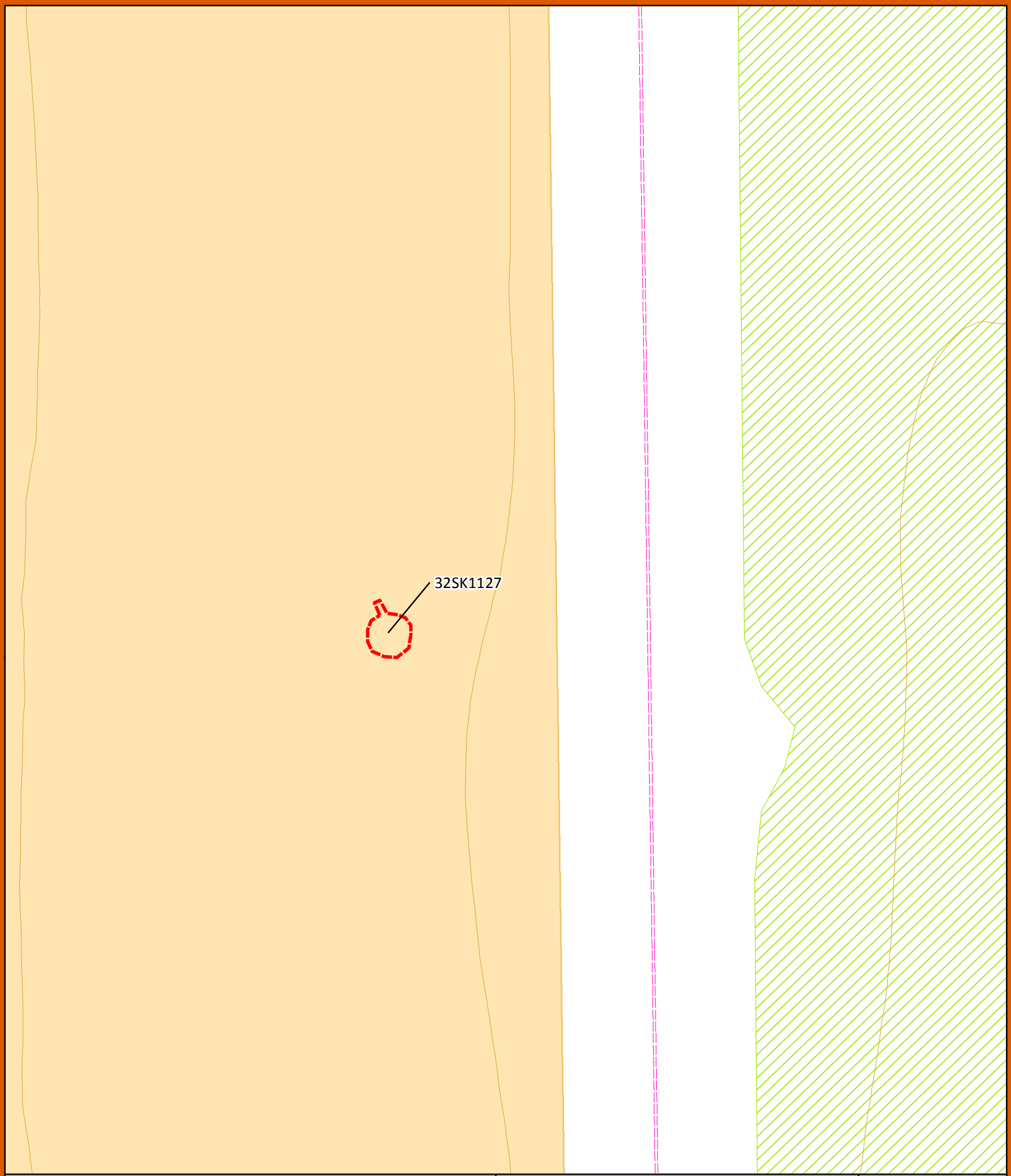


Figure 13

32SK1127 Sketch Map

Return Taxi Road
10 Ft. Topographic Lines
Paved Road
Site Boundary
Cultivated Field
Class III Inventory

Meters
0 36
Feet
0 120

1:1,500

Site 32SK1128

Site 32SK1128 is an old road located within the fenced airfield of the Dickinson Theodore Roosevelt Regional Airport. Made up of two segments of a raised road bed, the site is bisected by the far west end of the airport's east-west trending runway. Formally a part of 112th Avenue SW, the approximately 20 foot wide segments of road bed are no longer in use. Portions of the road that extend off of the airport's fenced property to the north and south remain in use.

Prior to the airport's acquisition of additional lands and extending its fenced boundaries further west, 112th Avenue SW ran continuously north-south from the junction with 42nd Street SW to the north to the junction with 43rd Street SW to the south. Between these junctions, the road itself has since been relegated to a two-track agricultural access road which has been rerouted to travel around the fenced boundary of the airport's property.

Currently, the raised grade of the road has been bisected and destroyed by the construction of a runway. Other than the visible raised grade of the road, the site has lost all aspects of integrity except location.

Under Criteria A and B, this site is recommended *Not Eligible* as it is not associated with any important events or persons of significance to local, state, or national history. The site is also recommended *Not Eligible* under Criterion C, because it fails to embody the work of a master. Finally, the site is recommended *Not Eligible* under Criterion D, as it will provide no further information to the local, state, or national history of the area.

Overall, site 32SK1128 is recommended *Not Eligible* for inclusion to the NRHP and no avoidance is recommended.

Figure 14: Overview of north segment of raised road bed at site 32SK1128, view to the west.

Figure 15: View of north segment of raised road bed from airport runway, view to the north.

Figure 16: Overview of south segment of raised road bed at site 32SK1128, view to the southeast.

Figure 17: View of south segment of raised road bed from airport runway, view to the south.

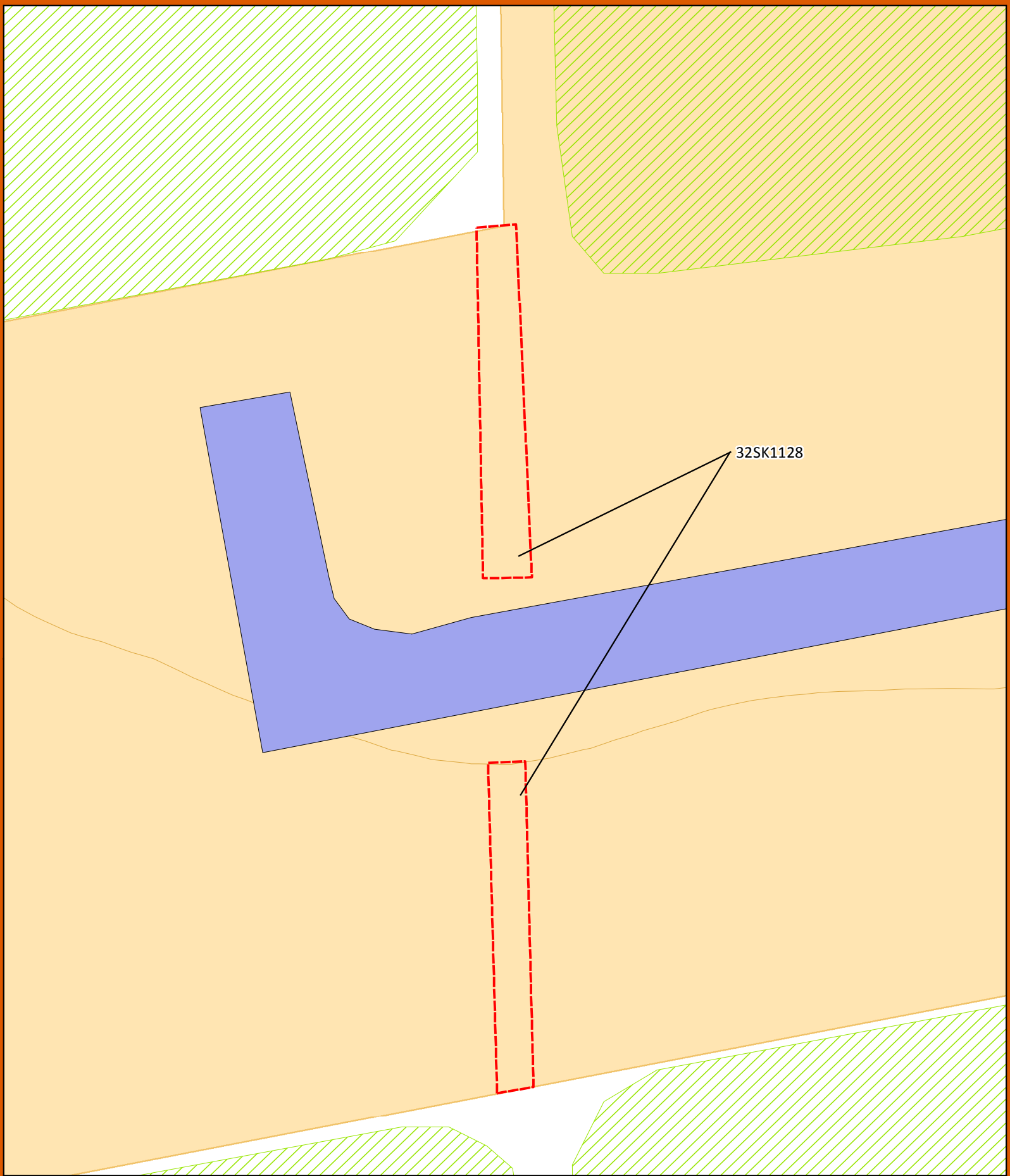


Figure 18

32SK1128 Sketch Map

10 Ft. Topographic Lines
Runway
Cultivated Field
Site Boundary
Class III Inventory

Meters
0 30
Feet
0 100

1:1,200

SUMMARY AND MANAGEMENT RECOMMENDATIONS

The Dickinson Municipal Airport Authority contracted KLJ to conduct a Class III Cultural Resource Inventory of a proposed airfield expansion at the Dickinson Theodore Roosevelt Regional Airport, in Stark County, North Dakota. The APE for the proposed undertaking consists of 632.5 acres of property managed by the Dickinson Municipal Airport Authority. The entire 632.5 acre property was inventoried to Class III standards.

A Class I Literature Review of the proposed project area identified nine previously recorded cultural resources within a one-mile radius of the project area. Two of these cultural resources, sites 32SK988 and 32SK989, lie within the APE of the proposed undertaking, but are both recommended *Not Eligible* for the NRHP. There were also 13 previous inventories conducted within a one-mile radius of the APE.

Three previously unrecorded cultural resources were identified within the project area. 32SKx377 is a prehistoric isolated find, site 32SK1127 is the remains of an old VHF Omni-directional Range navigation tower pad that is no longer in use and site 32SK1128 is an old road bed that is no longer active. Sites 32SK1127 and 32SK1128 are recommended *Not Eligible* for inclusion in the NRHP, isolated find 32SKx377 is also *Not Eligible* for the NRHP. As none of the cultural resources located within the APE are recommended *Eligible* for inclusion in the NRHP, KLJ recommends a finding of *No Historic Properties Affected* for the proposed project as inventoried, mapped, photographed, and described herein.

Table 2: Summary of Newly Recorded Cultural Resources within the APE.

SITS	Type	NRHP Status	Recommendation
32SK1127	Historical- Foundation	Not Eligible	**No Avoidance Required**
32SKx377	Prehistoric Isolated Find	Not Eligible	**No Avoidance Required**
32SK1128	Historical- Earthwork	Not Eligible	**No Avoidance Required**

Table 3: Summary of Previously Recorded Cultural Resources within the APE.

SITS	Type	NRHP Status	Recommendation
32SK988	Historical- CMS, Dump, Culvert, Rock Wall	Not Eligible	**No Avoidance Required**
32SK989	Historical-CMS, Dump, Rock Piles	Not Eligible	**No Avoidance Required**

REFERENCES CITED

State Historical Society of North Dakota (SHSND)

2006. *NDSHPO Manual for Cultural Resource Investigations Revised Edition.* Produced by and available at the Division of Archaeology and Historic Preservation, State Historical Society of North Dakota, Bismarck.

2008. *The North Dakota Comprehensive Plan for Historic Preservation: Archaeological Component.* Produced by and available at the Archaeology and Historic Preservation Division, State Historical Society of North Dakota, Bismarck.

United States Department of Interior (USDI)

2001. *Ecoregions of North Dakota and South Dakota*. United States Geological Survey, 02 February 2013. Accessed 13 January 2014. www.npwrc.usgs.gov/resource/habitat/ndsdeco/nodak.htm.

APPENDIX A: LITERATURE AND FILE SEARCH RESULTS

Table 4: Previously Recorded Cultural Resources

Twn	Rng	Sctn	SITS	Site Type	Recorder	Eligibility
138	**96**	**3**		No Cultural Materials Recorded		
138	**96**	**4**	32SK988	Historical- CMS, Dump, Culvert, Rock Wall	D. Sundeland, 2004	NE
			32SK989	Historical- CMS, Dump, Rock Piles	D. Sundeland, 2004	NE
138	**96**	**5**		No Cultural Materials Recorded		
138	**96**	**6**		No Cultural Materials Recorded		
138	**96**	**7**		No Cultural Materials Recorded		
138	**96**	**8**		No Cultural Materials Recorded		
138	**96**	**9**	32SK864	Architectural- Bridge	D. Johnson, 1991; Updated A. Barth, 2008	NE
			32SKx173	Archaeological- IF, Chipped Stone	C. Kordecki, 1995	U
138	**96**	**10**	32SK78	Archaeological- CMS	C. Haury & J. Artz, 1986	U
			32SK841	Architectural- Shed	R. Christensen, 1990	NE
138	**96**	**15**		No Cultural Materials Recorded		
138	**96**	**16**	32SK864	Architectural- Bridge	D. Johnson, 1991; Updated A. Barth, 2008	NE
138	**96**	**28**		No Cultural Materials Recorded		
138	**96**	**29**		No Cultural Materials Recorded		
139	**96**	**32**		No Cultural Materials Recorded		
139	**96**	**33**	32SK300	Architectural- House & Garage	J. Sluss, 1983; Updated LCT, 1989	U
139	**96**	**34**	32SK158	Architectural- Farmstead	L. Johnson & M. Hufstetler, 1991	E
			32SK179	Architectural- Homestead	L. Johnson & N. Weidel, 1991	E

Table 5: Manuscript List

MS	Title	Author	Date
004247	South west Pipeline Archeology: An Intensive Survey for Cultural resources in Ten Counties of Southwestern North Dakota, Adams, Bowman, Hettinger, Grant, Stark, Billings, Morton, Golden Valley, Dunn, & Mercer.	Artz, J. et al	1987
005314	Consolidated Telephone Cooperative's South Area Fiber Optic Cable Route in Adams, Hettinger and Stark Counties North Dakota Cultural Resource Damage Assessment	Christensen, R.	1990
005735	Southwest Pipeline Segment C3 and C4 in Hettinger and Stark Counties: Site Updates	Banks, K.	1992
005919	Ethnic Architecture in Stark County, North Dakota A Historic Context	Johnson, L. et al	1992
005920	Historic Bridges in North Dakota	Johnson, L. et al	1992
006448	Southwest Pipeline Phase II Cultural Resources Inventory of Selected Segments, Hettinger, Slope, and Stark Counties, North Dakota: Belfield and New England Service Areas (Construction Segments 7-2 & 2-5A)	Kordecki, C.	1995
009039	Dickinson Municipal Airport Wildlife Fence: A Class III Cultural Resource Inventory, Stark Co., ND	Morrison, J.	2005
009296	2005 Living Snow Fence Transportation Enhancement Program Sites in Adams, Dickey, Emmons, Stark, and Stutsman Counties, North Dakota: A Class III Cultural Resource Inventory	Bleier, A.	2005
009934	Bridge 45-121-16.0 and Borrow Area Project: A Class III Cultural Resource Inventory, Stark Co., ND	Heiner, P. & J. Morrison	2006
010128	Historic Bridges in North Dakota 2004 Revision	Hufstetler, M. and J. Goff	2005
010455	Stark County Bridge 45-121-160 (32SK864) Replacement Mitigative Recording in Stark Co., ND	Barth, A.	2008
012311	CTC Dickinson Fiber Optic Line Exchange Project: A Class III Cultural Resource Inventory in in Dunn, Hettinger and Stark Counties, ND. Addendum Included.	Odonnchadna, B. et al	2011
012420	Dickinson Theodore Roosevelt Regional Airport: A Class III Cultural Resource Inventory, Stark Co., ND.	Klinner, D.	2011

APPENDIX B: PROJECT AREA PHOTOGRAPHS

Figure 19: Overview of APE to the east of a northwest-southeast trending runway, view to the north.

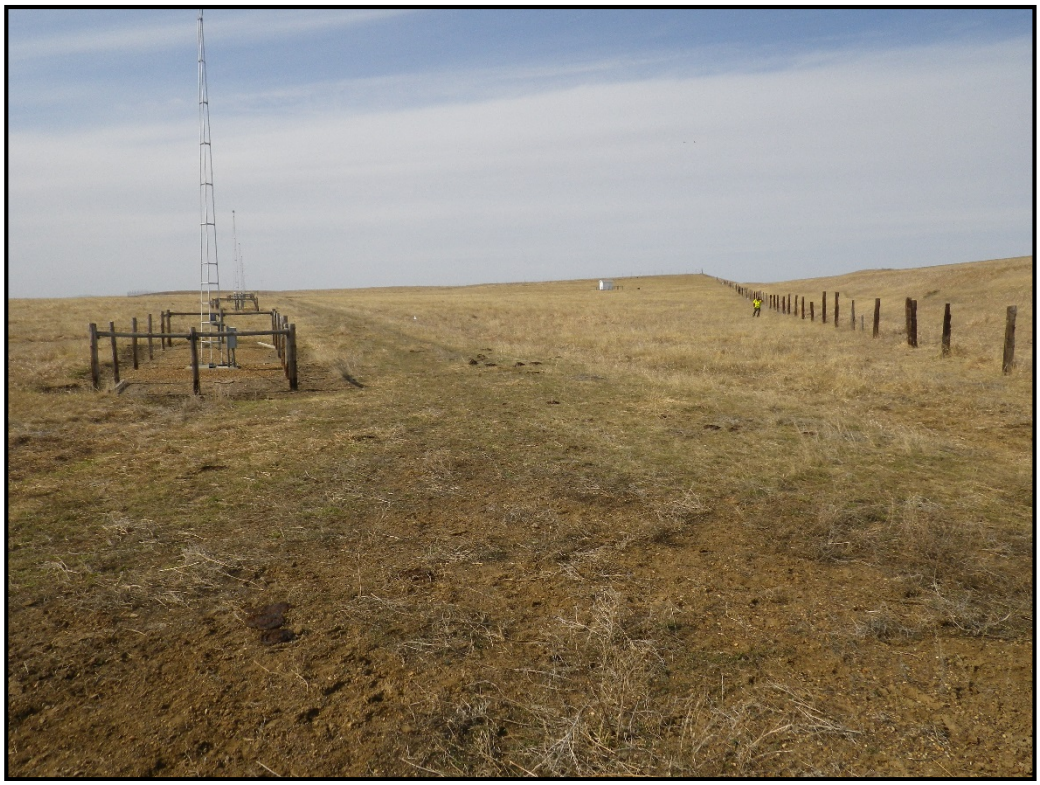


Figure 20: Overview of south portion of APE, view to the north.

Figure 21: Overview of northwest portion of APE, view to the southeast.

Figure 22: Overview of west portion of APE, view to the east.

Figure 23: Disturbed portion of APE to the northwest of airport terminal, view to the northwest.

Figure 24: Disturbed portion of APE to the east of the airport hangers, view to the north.

STATE HISTORICAL SOCIETY OF NORTH DAKOTA

RECEIVED
JUN 11 2014

June 10, 2014

Mr Curt Cady
Environmental Planner
KLJ 128 Soo Line Road
PO Box 1157
Bismarck, ND 58502-1157

ND SHPO Ref.:13-0276 FAA "Dickinson Theodore Roosevelt Regional Airport: A Class III Cultural Resource Inventory, Stark County, North Dakota"

Dear Mr. Cady,

We reviewed ND SHPO Ref.:13-0276 FAA "Dickinson Theodore Roosevelt Regional Airport: A Class III Cultural Resource Inventory, Stark County, North Dakota," and find the report acceptable. We concur with a "No Historic Properties Affected" determination for the project as described and mapped in the captioned report. No Class II architectural survey is warranted.

Thank you for the opportunity to review this project. Please include the ND SHPO reference number listed above in any further correspondence for this specific project. If you have any questions, please contact Susan Quinnell at 701-328-3576. E-mail: squinnell@nd.gov

Sincerely,

Merlan E. Paaverud, Jr.
State Historic Preservation Officer (North Dakota)

Dickinson Regional Airport
Master Plan – Phase II
Wildlife Hazard Review and Site Visits

June 13, 2014

Prepared by

KLJ
4585 Coleman Street
Bismarck, ND 58503

INTRODUCTION

Wildlife create a variety of problems at airports that can compromise safe aircraft operations. The most significant are the thousands of collisions that occur annually between wildlife and aircraft. Wildlife strikes result in millions of dollars in direct and indirect damages. Fortunately, wildlife strikes usually do not result in catastrophic accidents involving the loss of human life, but the potential is real and such accidents have occurred in the past.

It is important that airport planners consider wildlife influences when developing changes and improvements to airports. Dickinson Theodore Roosevelt Regional Airport (DIK) is in the process of completing an Environmental Assessment (EA) that considers four possible planning alternatives for the future of the airport. These alternatives include a "No Action" alternative and three action alternatives which entail proposed changes to the DIK airport layout. As part of the planning process, this wildlife hazard review has been conducted in an effort to identify any wildlife hazard issues that may be associated with any of the four proposed alternatives. This review has been conducted by Timothy Pugh, a qualified wildlife airport biologist, who has reviewed each of the four alternatives, conducted two site visits and prepared this report. The results and recommendations of this review are presented and discussed below.

THE EA ALTERNATIVES

The three action alternatives considered are Alternative F, Alternative G and Alternative H. Each of these alternatives contain runway changes, taxiway additions and various additions and modifications involving the terminal building, parking, hangars, FBO space, AWOS etc. Maps of these proposed alternatives are included as attachments to this document. This wildlife hazard review mainly addresses the wildlife attractants within five miles of DIK that have the potential to influence safe air travel for aircraft using DIK. Other minor wildlife issues such as vegetation management, rodent activity and birds nesting in hangars are issues that were addressed in the 2006 Wildlife Hazard Assessment (WHA) and are not addressed in this review. This review mainly focuses on how the area wildlife attractants and wildlife movements in the area will potentially influence wildlife hazards to aircraft with respect to each of the proposed airport alternatives.

2006 WILDLIFE HAZARD ASSESSMENT

A full year long Wildlife Hazard Assessment (WHA) was completed at DIK in 2006. The WHA showed there were minimal wildlife concerns at DIK. Gulls and geese were rarely seen on the DIK airfield and duck and hawk activity was fairly minimal. It was noted that an area near the end of runway 14 was often wet and on occasion, held standing water temporarily. This low area to the north of the airfield was also observed during the recent site visits and held water in the spring of 2014. The only offsite wetland identified during the WHA that appeared to have possible wildlife implications was the small stock dam just a few hundred feet from the end of Runway 32. Although waterfowl activity on this pond in 2006 was fairly minimal and posed only a minimal hazard threat, it was recommended that it be either eliminated or converted to a stock tank that would be less likely to attract ducks near this critical area.

DIK SITE VISITS

Two site visits were recently conducted in the Dickinson area. The first occurred in the fall of 2013 and the second was in the spring of 2014. An attempt was made to time the site visits so that they coincided with the seasonal waterfowl migrations. It is during these periods when the larger more hazardous birds are most likely to be present and utilize the area habitats. The major wetland attractants in the area were identified and monitored during the 2 day visits. Patterson Lake, located about 4 miles north of DIK was the largest wetland in the area, estimated at about 700 acres in size. Additionally, 4 water treatment lagoon located about 5 miles northeast of DIK contained almost 200 acres of open water. The Dickinson area has numerous creeks, drainages, stock ponds and low areas that hold water in varying amounts at different times of the year. All of these may attract waterfowl at some point. Smaller wetlands near DIK were identified and monitored to determine if they influenced migratory waterfowl as well. Trees and agricultural lands were the dominate area habitats around DIK. These were also monitored to determine if they have an influence on wildlife hazards.

Fall Site Visit. The fall site visit was conducted from November 11th – 13th, 2013. Area wetlands were beginning to freeze and migratory waterfowl were being pushed into and through the area. Canada geese and ducks were present in the area in moderate numbers and a few gulls were observed as well. With most small wetlands beginning to freeze over, almost all large waterfowl activity was associated with the large open areas of Patterson Lake and the water treatment lagoons. Gulls were minimal in the area. Turkeys utilizing the trees and cropland adjacent to the airfield were the only notable wildlife species observed near the DIK airfield.

Spring Site Visit. The April 22nd – 24th 2014 spring site visit was conducted within a week of the ice melting from the surface of area wetlands. With a relatively cold and extended winter, area snow had melted a few weeks earlier and Canada geese appeared to have already migrated north, bypassing and avoiding the frozen wetlands of the Dickinson area. A few pelicans were utilizing Patterson Lake and while ducks were not present in large numbers, several ducks were utilizing the numerous wetlands and areas of temporary standing water throughout the Dickinson area.

DIK Environment Attractants. Significant attractants in the DIK environment (area within 5 miles of the airport) appeared to be limited primarily to wetlands. The cropland adjacent to DIK did not appear to attract flocking birds or other wildlife that pose a hazard to aircraft. Likewise, the City of Dickinson was a significant distance from DIK and therefore, typical attractants such as parks, golf courses, grain elevators etc. did not appear to influence activity near DIK. Trees to the north of DIK may pose a very minor attractant to hawks and smaller nesting birds (doves) near the airfield. Although the Dickinson area does contain some large wetlands and

considerable cropland, it does not appear to be part of the main corridor that the extreme populations of waterfowl utilize as they migrate through the region. It appears that the area only attracts moderate numbers of these large migratory birds for a fairly brief period each spring and fall.

Patterson Lake. During the site visits, Patterson Lake was viewed from several vantage points around the lake. Canada goose numbers varied on Patterson Lake in the fall, with about 1500 being the highest level counted. In the spring, geese were rare in the Dickinson area with only a single goose being observed on Patterson Lake. Overall, ducks were more abundant than geese but also had substantially lower populations in the spring. As many as 3300 ducks were utilizing Patterson Lake in the fall while only 300 were noted in the spring. The only other large birds associated with Patterson Lake were a few remaining gulls in the fall and 6 pelicans in the spring. Overall, there did not appear to be significant waterfowl movement to and from Patterson Lake. The geese that were present in the fall were feeding in cropland to the north and west of Dickinson, and did not appear to create any potential hazards for DIK aircraft.

Water Treatment Lagoons. The four water treatment lagoons located approximately 5 miles north northeast of DIK had relatively low numbers of waterfowl as well. As many as two hundred ducks were seen in the fall on these large open water wetlands; however, only 10 were counted in the spring. The ponds contained about 1500 Canada geese in the fall but none were observed in the spring. The treatment ponds, along with their associated waterfowl activity did not appear to have an influence on aircraft hazards for DIK.

South Stock Pond. This stock dam, located on airport property, approximately 220 yards SW of the end of Runway 32 is the same stock pond identified in the 2006 WHA as posing a slight hazard threat to aircraft at DIK. This pond is fed by a drainage ditch that flows from the DIK airfield and runs somewhat beside and parallel to the 32 Runway as it flows outside of the current perimeter fence. The pond does not appear to have any wetland vegetation associated with it. It was icing over during the fall site visit but held up to 3 ducks on occasion in the spring. While this wetland does not attract a lot of waterfowl, its close proximity to the runway continues to cause a slight hazard threat to aircraft.

Airfield Drainage Ditch. This drainage ditch flows from under Runway 32 towards the south, somewhat parallel along the runway, and empties into the South Stock Pond discussed above. It is a fairly deep ditch or canal and contains tall grass, cattails and some open water as it maintained a small flow of water during both the spring and fall. While the water was fairly minimal, it did contain enough to attract a pair of ducks in the spring. Its significant depth provides an ample hiding area for medium sized mammals such as fox or coyotes. Along with a Russian olive tree, some minor debris (old tires, concrete rubble) and some miscellaneous stone, it could be an attractive area for fox/coyote dens, skunks, raccoon and deer should they gain access to the airfield. The overall hazard that this ditch creates at DIK is fairly minimal. However, to minimize its attractiveness, it is recommended that this ditch is modified so that the vegetation can be controlled and water flows off of the airfield as quickly as possible, without creating ponds or pools. Any trees, shrubs or debris should also be removed.

Cattail Pond. A three acre stock dam located about a mile north of the DIK airfield contained water and cattails. It appeared to be suitable habitat to area waterfowl; however, at the time of the site visits, only a few ducks were observed using the pond in the spring. It is also a considerable distance from the current airfield and therefore did not appear to pose a threat at DIK.

Other Area Wetlands. The DIK general zone area has a myriad of drainages, low areas and creeks that meander through the area. At times they will hold water and attract waterfowl. At other times they may be dried up and non-existent.

North TSW (Temporary Standing Water). During the spring site visit, considerable standing water existed in the cropland immediately north of the perimeter fence in direct line with runway 14. This created a marshy area that extended from the perimeter fence to the NW and was used by several ducks. Additional areas of temporary standing water was present immediately to the northeast, in the same field.

Terminal Stock Pond. A small 0.4 acre stock pond is located immediately north of the DIK Terminal Parking lot. This pond did not appear to have any associated wetland vegetation and contained only a single duck at any one time. Due to its limited size, location, and lack of vegetation, it did not appear to pose a hazard at DIK.

All of the above wetlands have the potential to attract waterfowl. However, most of these wetlands are relatively short lived, do not appear to contain wetland vegetation and do not appear to attract large numbers of waterfowl for extended periods. While all wetlands have a potential to attract birds that might pose a hazard to aircraft, none of these wetlands appear to be a major hazard concern for the existing airfield.

Trees. Trees are common throughout the DIK vicinity. The rows of trees to the north of the airfield were the only ones that appeared to have any influence on airport wildlife activity. While the associated hazard threat is very minimal if non-existent, the trees were being utilized by mourning doves in the spring, which were observed flying to and from the airfield. Hawks may use these trees as well when attempting to hunt on or near the airfield.

Agricultural Land. The dominate land use in the DIK vicinity is agriculture. Row crops, hay, and livestock grazing are the main activities these lands are used for. While they are suitable for feeding by geese, ducks and gulls, large numbers of these migratory birds do not pass through the area. The agricultural lands around DIK pose only a minimal threat, usually where they attract ducks when associated with temporary standing water. Turkeys were seen in the area but they remained outside the perimeter fence. It is not expected that turkeys will pose any threat, unless they access the airfield which is unlikely.

EVALUATION OF EA ALTERNATIVES

There appears to be relatively few issues with the current airfield. However, the main objective of this wildlife hazard evaluation is to identify the potential wildlife hazards associated with each of the EA alternatives being considered. The EA alternatives have been reviewed and evaluated with respect to the area attractants that

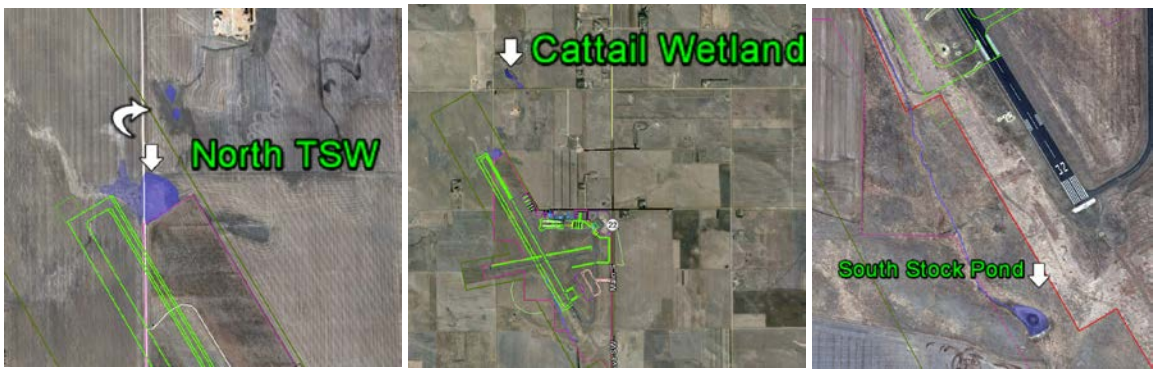
were identified and monitored during the site visits. The anticipated wildlife hazard issues associated with each alternative is discussed in detail below.

No Action. The evaluation of the No Action Alternative did not reveal any major differences from the issues discussed in the 2006 WHA. The stock pond just south of the end of Runway 32 continues to pose a minimal hazard. Since it appears to attract one or two ducks on occasion, and the fact that it lies about 700 feet from the end of the runway, it would be prudent to convert this pond to a stock tank, move it farther down the drainage, or remove it altogether. While this is a fairly small hazard, it does have the potential to cause a duck/aircraft strike.

The temporary standing water to the north of the current airfield, identified as North TSW can attract several ducks in the spring when snow has melted and the ground is saturated. For those few weeks, this area will hold a few ducks. While the area is about 1900 feet or more from the end of the Runway 14, it does lie close (200 feet) to the flight path of planes using the main runway. Considering this long distance and brief period of activity, this is a minor hazard concern. This property is not currently owned by the airport. Should the airport ever obtain ownership of this property in the future it is recommended that these low areas be raised or drained to prevent the temporary standing water. This should eliminate the small chance of a duck strike.

The Runway 14 end lies more than a mile from the Cattail Wetland and is therefore not considered a threat.

Alternative F. Since Alternative F moves the main runway to the west and extends it farther to the northwest, Runway 14 will lie about 600 feet beside the temporary wetland labeled “North TSW”. The parallel taxiway will be almost beside this wetland. Considering that this area of temporary standing water can expand during the spring runoff period, it is likely that standing water could be present very close to and right off the end of the runway, creating a fairly high hazard for a brief period of the year. The drainage of this area should be modified to eliminate the standing water in the spring. A narrow drainage ditch that can move the water out of the area more quickly & efficiently is one option.



The wetland labeled “Cattail Wetland” lies almost 4000 feet from the Runway 14 end and is almost 3000 feet from the aircraft flight path. It is therefore not considered a hazard.

From the south end of the Alternative F Runway 32, the South Stock Pond lies 1400 feet from the end of Runway 32, a much greater distance than the current runway. However, with the shift of the runway to the west, the pond will lie within 170 feet of the aircraft flight path. Considering the low duck activity on this pond, the distance from the runway, the South Stock Pond likely poses a very small threat for Alternative F. However, the same modifications as discussed above in the No Action Alternative would apply for this alternative. It would be beneficial to convert this pond to a stock tank, move it farther down the drainage, or remove it altogether.

The newly relocated Runway 32 in Alternative F will in part be located on top of and beside the current drainage ditch that feeds the South Stock Pond. This drainage should not pose a significant wildlife hazard issue but should be modified or altered to ensure timely water removal and prevent pockets or pools of standing water.

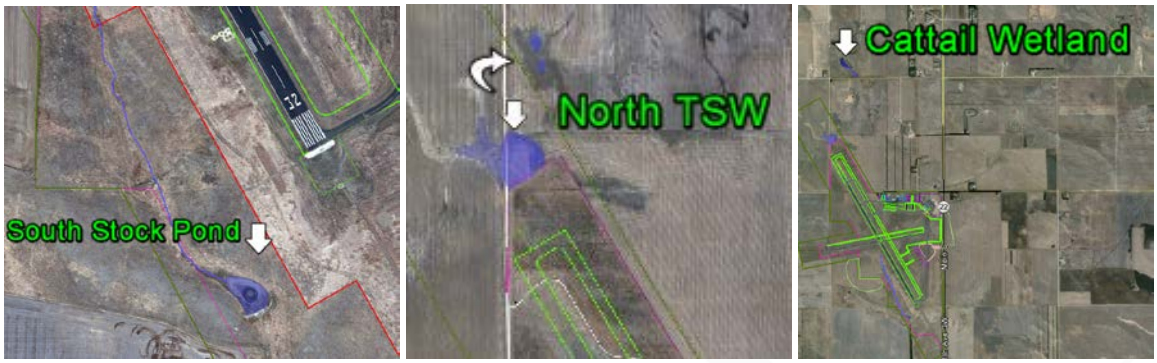
Alternative G. This alternative significantly shifts both ends of the 14/32 runway to the north. With Alternative G, the South Stock Pond lies more than 2000 feet from the end of the runway and 560 feet from the flight path (Table 1.). Considering these factors, along with the fact that few ducks use this pond, the wildlife hazards associated with pond should be extremely minimal.

On the northwest end, Runway 14 and its parallel taxiway pass directly through the temporary standing waters labeled North TSW. In Alternative G, these wetland areas that contain standing water will become part of the DIK airfield. This will pose a significant hazard during the spring months. It is likely that these low areas will likely be filled, graded and drained in the construction of the new runway.

Regardless, these wetlands are a seasonal attractant and should not become part of the DIK airfield unless their attraction to waterfowl is eliminated.

The "Cattail Wetland", which is the most prominent wetland in the immediate area is still a considerable distance from the runway and flight path to be considered a hazard.

Alternative H. In Alternative H, Runway 14 is extended north approximately 1300 feet without changing the 32 end from its current location. Therefore, the issues associated with Runway 32 are the same with Alternative H as they are with the No Action Alternative. This primarily involves the proximity of Runway 32 to the South Stock Pond that lies about 700 feet from the end of the runway. While it presents a fairly small hazard, it is recommended to convert this pond to a stock tank, move it farther down the drainage, or remove it altogether.



On the Runway 14 end of Alternative H, the temporary standing water labeled "North TSW" is about 630 feet from the end of the runway and lies less than 200 feet from the flight path. While this is an attractive area for low numbers of ducks in the spring, it should be modified so that standing water is prevented.

The Cattail Wetland is about 4300 feet from the Alternative H Runway 14 and does not appear to pose a significant hazard.

Wetlands	Alternative F		Alternative G		Alternative H		NO ACTION	
	Distance from RWY 14/32	Distance from Flight Path	Distance from RWY 14/32	Distance from Flight Path	Distance from RWY 14/32	Distance from Flight Path	Distance from RWY 14/32	Distance from Flight Path
North TSW	600	600	200	200	630	200	1900	200
South Stock Pond	1400	170	2175	560	680	560	680	560
Cattail Wetland	3829	2875	3051	2475	4290	2475	5370	2475

Table 1. Distances between Wetlands and Aircraft Movement Areas.

REVIEW OF HAZARDS AND RECOMMENDATIONS

Overall, there are relatively few wildlife hazard issues associated with the four alternatives addressed in this wildlife hazard review. The chart below provides an overview of the attractants associated with each of the EA alternatives, along with the recommendations for minimizing their potential hazards.

	North TSW	South Stock Pond	Drainage Ditch	Cattail Wetland
Alternative F	**Hazard Level:** High - for short duration in Spring. **Recommendation:** Fill or drain area to eliminate accumulation of standing water.	**Hazard Level:** Low **Recommendation:** Move downstream, convert to stock tank or eliminate.	**Hazard Level:** Minimal **Recommendation:** Control tall vegetation, eliminate standing water.	**Hazard Level:** Minimal **Recommendation:** None
Alternative G	**Hazard Level:** High - for short duration in Spring. **Recommendation:** Fill or drain area to eliminate accumulation of standing water.	**Hazard Level:** Minimal **Recommendation:** None	**Hazard Level:** Minimal **Recommendation:** Control tall vegetation, eliminate standing water.	**Hazard Level:** Minimal **Recommendation:** None
Alternative H	**Hazard Level:** Low / Seasonal **Recommendation:** Fill or drain area to eliminate accumulation of standing water.	**Hazard Level:** Low **Recommendation:** Move downstream, convert to stock tank or eliminate.	**Hazard Level:** Minimal **Recommendation:** Control tall vegetation, eliminate standing water.	**Hazard Level:** Minimal **Recommendation:** None
No Action	**Hazard Level:** Low / Seasonal **Recommendation:** Fill or drain area to eliminate accumulation of standing water if this property is ever acquired by the airport.	**Hazard Level:** Low **Recommendation:** Move downstream, convert to stock tank or eliminate.	**Hazard Level:** Minimal **Recommendation:** Control tall vegetation, eliminate standing water.	**Hazard Level:** Minimal **Recommendation:** None

CONCLUSION

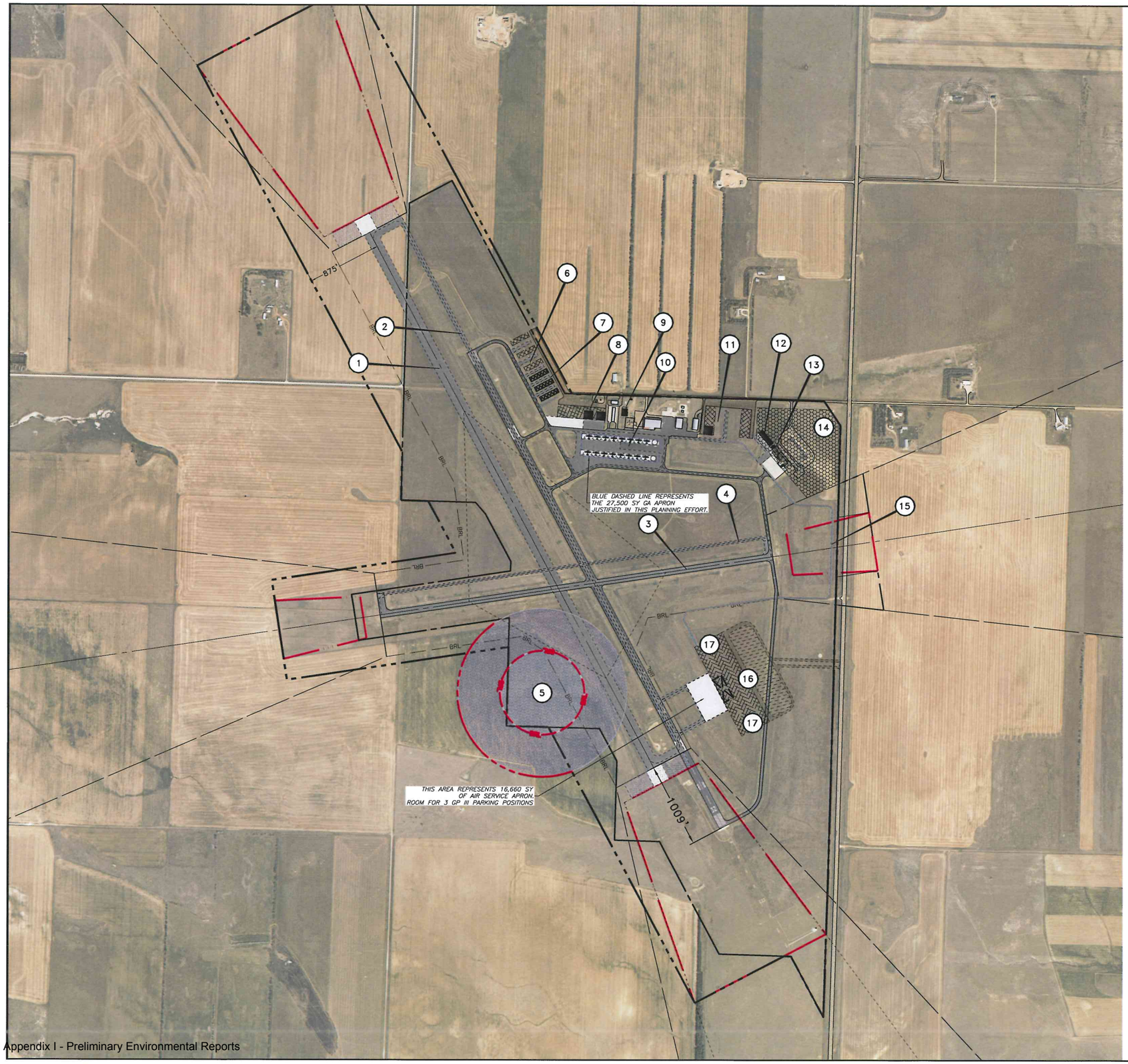
There were several components of this wildlife hazard review. Some of the items utilized in this review included the two site visits, the identification and monitoring of Dickinson area wildlife attractants, a review of previous DIK studies and National Wetland Inventory maps. This review indicated that overall, the hazards in the DIK area are fairly minimal. The notable attractants are temporary or man-made wetlands that have the potential to create hazards occasionally or intermittently. Each of the four alternatives have some small issues, mainly

influenced by small wetlands adjacent to the airfield. While all of the hazards are fairly minor, they were identified and should be addressed as much as possible to minimize the potential for a wildlife strike.

Regardless of which alternative is implemented, the wildlife management procedures and recommendations identified in the 2006 WHA should be followed. Additionally, it should be noted that wildlife are dynamic and will adjust and adapt to changes in their environment. If any of the action alternatives are implemented and changes are made to the airport layout, it is recommended that a follow up wildlife hazard site visit or a full wildlife hazard assessment be conducted to identify any new or unforeseen wildlife hazard issues that may develop from the changes.

Attachments:

Preliminary Airport Layout Alternative F
Preliminary Airport Layout Alternative G
Preliminary Airport Layout Alternative H



1. 7200' x 150' GROUP III PRECISION RUNWAY CAPABLE OF SUPPORTING 150K# AIRCRAFT.
2. 50' WIDE GROUP III PARALLEL TAXIWAY WITH 25' SHOULDERS AND HITL.
3. 4700' x 75' GROUP II NONPRECISION RUNWAY.
4. 35' WIDE GROUP II PARALLEL TAXIWAY AND HITL.
5. RELOCATED AWOS AND WIND SENSOR LOCATION WITH 500' AND 1000' BRL CLEARANCES.
6. 60' DEEP HANGAR LOTS WITH AUTO PARKING AND GROUP II ACCESSIBILITY.
7. 3 T-HANGAR LOTS AND ACCESS TAXILANES (10 SPACES PER T-HANGAR).
8. 120' DEEP FBO LOTS WITH APRON FRONTAGE (2 STAGE 1 100'X100' HANGARS SHOWN)
9. 70' DEEP HANGAR LOT WITH AUTO PARKING AND GROUP I ACCESSIBILITY (70'X70' HANGAR SHOWN).
10. LARGE AND SMALL AIRCRAFT PARKING WITH TIEDOWNS
11. 120' DEEP CORPORATE LOTS WITH AUTO PARKING, ROOM FOR APRON AND GROUP II ACCESSIBILITY.
12. 200'X 60' SRE BUILDING.
13. 55'X25' ADDITION TO ARFF BUILDING.
14. EXISTING TERMINAL AREA CONVERTED TO AERONAUTICAL OR NONAERONAUTICAL LEASABLE PROPERTY OR AIRPORT SUPPORT FACILITIES (ARFF/SRE ETC) .
15. COMMERCIAL APRON GSE ACCESS ROAD
16. TERMINAL AREA RESERVED FOR FUTURE EXPANSION, ARFF, EMPLOYEE PARKING, RENTAL CAR FACILITY ETC.
17. TERMINAL LOCATION AND PARKING AREA.

N

600 0 600 1200
scale feet

PRELIMINARY

FOR PLANNING PURPOSES ONLY

Rev'd.

DICKINSON-THEODORE ROOSEVELT REGIONAL AIRPORT
DICKINSON MUNICIPAL AIRPORT AUTHORITY (OWNER)
DICKINSON, NORTH DAKOTA

SHEET NO. F

Kadrmas Lee & Jackson
Engineers Surveyors Planners

ULTIMATE AIRPORT LAYOUT ALTERNATIVE F

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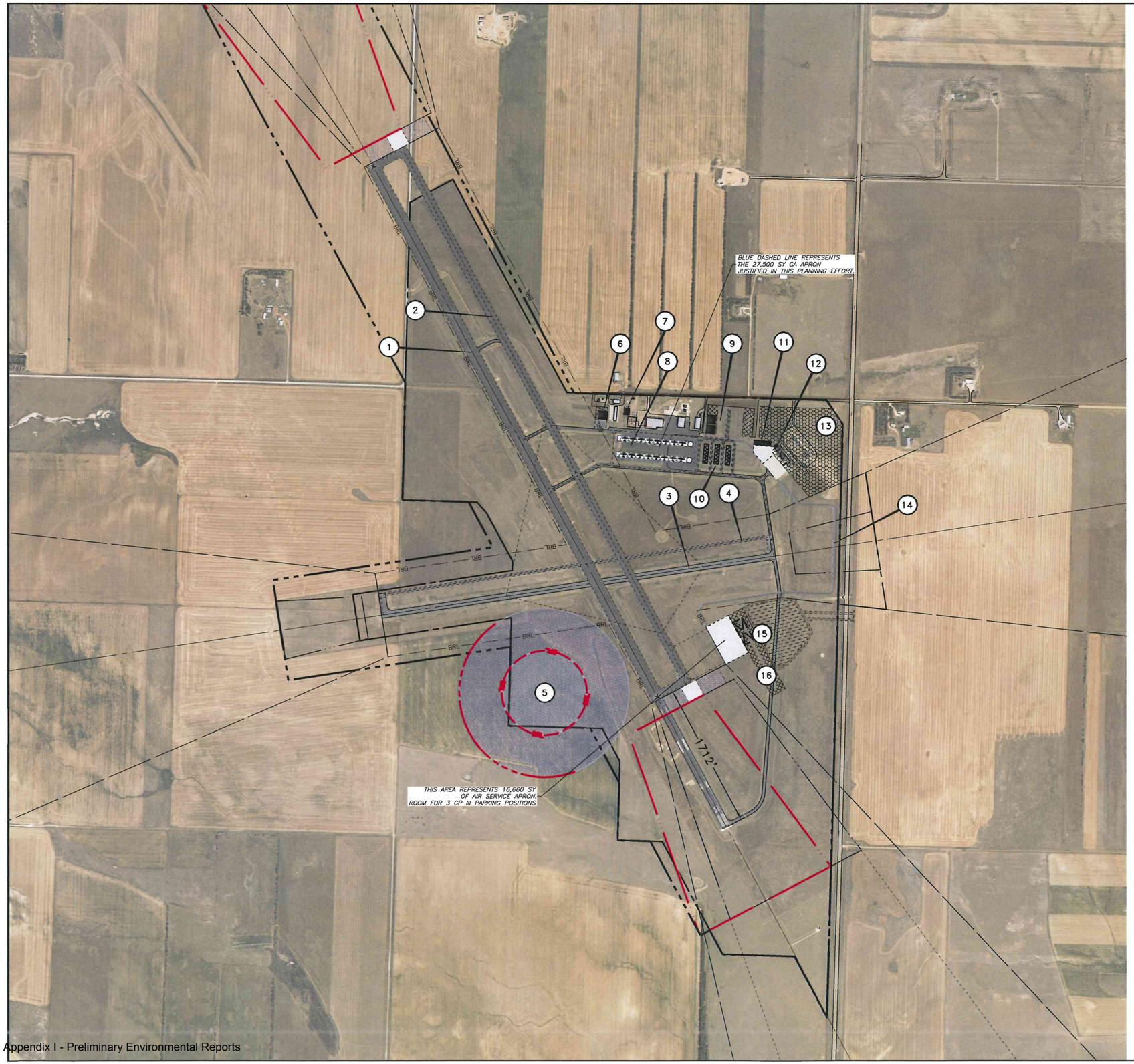

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15. TERMINAL LOCATION AND PARKING AREA.
16. TERMINAL AREA RESERVED FOR FUTURE EXPANSION, ARFF, EMPLOYEE PARKING, RENTAL CAR FACILITY ETC.

N

600 0 600 1200
scale feet

PRELIMINARY

FOR PLANNING PURPOSES ONLY

Rev'd.

DICKINSON–THEODORE ROOSEVELT REGIONAL AIRPORT
DICKINSON MUNICIPAL AIRPORT AUTHORITY (OWNER)
DICKINSON, NORTH DAKOTA

SHEET NO. G

Kadrmas Lee & Jackson
Engineers Surveyors Planners

ULTIMATE AIRPORT LAYOUT ALTERNATIVE G

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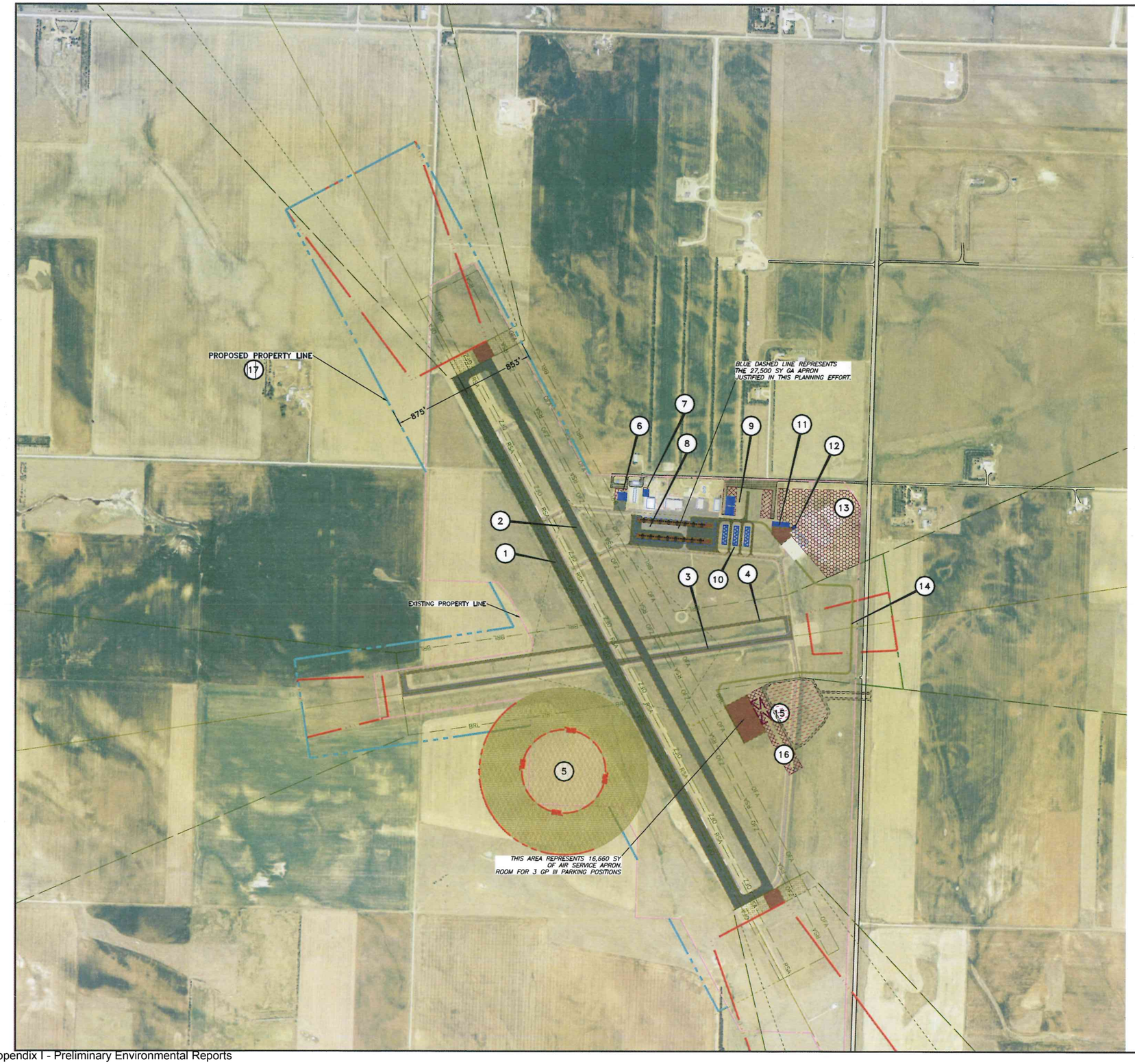
Plotted–11/05/2012–4:34pm © Kadrmas, Lee & Jackson 2012



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2. 50' WIDE GROUP III PARALLEL TAXIWAY WITH 25' SHOULDERS AND MITL.
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14. COMMERCIAL APRON GSE ACCESS ROAD
15. TERMINAL LOCATION AND PARKING AREA.
16. TERMINAL AREA RESERVED FOR FUTURE EXPANSION, ARFF, EMPLOYEE PARKING, RENTAL CAR FACILITY ETC.
17. ACQUIRE AN ADDITIONAL 219 ACRES TO SUPPORT PROPOSED AIRPORT IMPROVEMENTS.

N

600 0 600 1200
scale feet

PRELIMINARY

FOR PLANNING PURPOSES ONLY

Rev'd.

DICKINSON-THEODORE ROOSEVELT REGIONAL AIRPORT
DICKINSON MUNICIPAL AIRPORT AUTHORITY (OWNER)
DICKINSON, NORTH DAKOTA

SHEET NO. H

Kadrmas Lee & Jackson
Engineers Surveyors Planners

ULTIMATE AIRPORT LAYOUT ALTERNATIVE H

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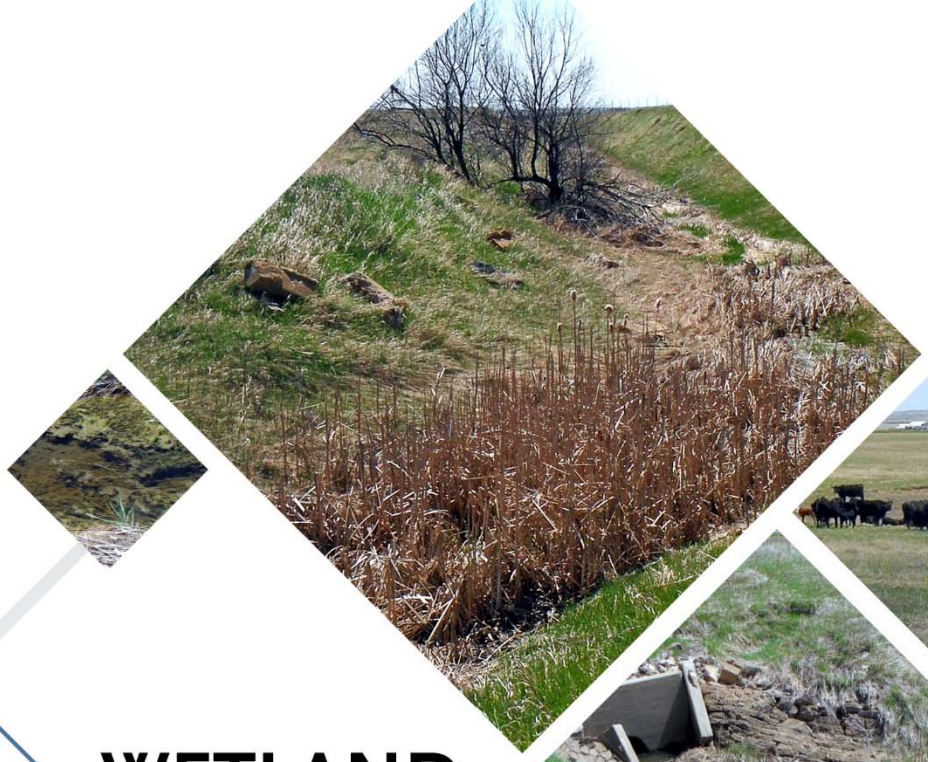

WETLAND DELINEATION

Dickinson Theodore Roosevelt Regional Airport

Dickinson, North Dakota

Prepared for:

Dickinson Municipal Airport Authority
Dickinson, North Dakota

Prepared by:

Andrea Hewitt
KLJ

September 2014

CONTENTS

I. INTRODUCTION

KLJ was contracted by the Dickinson Municipal Airport Authority to conduct a field wetlands delineation for the proposed improvements to the Dickinson Theodore Roosevelt Regional Airport. Due to landowner concerns within portions of the study area, an office wetlands delineation was conducted on July 29, 2014. The project study area occurred in Sections 3, 4, 5, 9, and 10 Township 138 North, Range 96 West, and Sections 29, 32 and 33, Township 139 North, Range 96 West. Please refer to ***Figure 1, Project Location Map*** below. The wetland delineation and GPS data collection were conducted on May 22, 2014 by Tina Fricke and Andrea Hewitt of KLJ. A study area of approximately 1,055 acres was surveyed.

Figure 1, Project Location Map

II. WETLAND DELINEATION

A. Definitions and Methods

The field wetland delineation conducted by KLJ was in accordance with the 1987 United States Army Corps of Engineers (USACE) Wetland Delineation Manual and the USACE March 2010 Regional Supplement: Great Plains Region (Version 2.0). The routine approach with onsite inspection was utilized, including the standard multi-parameter approach (vegetation, hydrology and soils) for wetland identification. An area is considered to be a wetland if hydrophytic vegetation, wetland hydrology and hydric soils are all present. Sample locations were determined using United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) maps along with visual inspection of sites that supported a hydrophytic plant community, wetland hydrology and hydric soils. Wetland boundaries were determined based on the USACE wetland delineation process through completing paired sample points and investigating vegetation, hydrology and hydric soils parameters. The wetland boundaries were surveyed using GPS data collection.

Definitions and methodologies for determining each of these three parameters are summarized below:

1. Hydrophytic Vegetation

Definition: The prevalence (>50%) of dominant plant species that are adapted to life in saturated soil conditions.

Method: To determine if vegetation was hydrophytic, the scientific name and indicator status of dominant plant species at each wetland were recorded on USACE data sheets. Dominance refers to the spatial extent of a species that is directly observed in the field. Dominance is calculated by identifying the most abundant species that individually or collectively account for more than 50 percent of the total coverage of vegetation in the stratum as well as any other species that, by itself, accounts for at least 20 percent of the total. Where 50 percent or more of all dominant species were hydrophytic, the hydrophytic vegetation parameter was met. Absolute percent cover of dominant species within each stratum is listed on data sheets. [1]

2. Wetland Hydrology

Definition: Fourteen or more consecutive days of flooding, ponding, or water table within 12 inches of the surface during the growing season at a minimum frequency of 5 out of 10 years (50%).

Method: Wetland hydrology was determined by observing the presence of primary and/or secondary indicators listed on the USACE data sheet. If one primary indicator or two secondary indicators were present, the wetland hydrology parameter was met.

[1] Absolute percent cover within each stratum is not required to add up to 100 percent on the data sheets.

3. Hydric Soils

Definition: Soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper 12-inches.

Method: Soils from sample locations were characterized using Munsell Soil Color Charts and soil texturing. If one or more of the hydric soil indicators on the USACE data sheet were identified, the soil was considered to be hydric.

Onsite inspection could not be utilized for portions of the study area due to landowner concerns. An office delineation was conducted for these portions of the study area. Wetlands boundaries within these areas were determined by reviewing 2005, 2006, 2009, 2010, and 2012 National Agriculture Imagery Program (NAIP) aerial imagery, Natural Resources Conservation Service (NRCS) soil survey data from Stark County, the USFWS NWI layer and the United States Geological Survey (USGS) topographic layer.

Base field maps were developed using NAIP in combination with information from the USFWS NWI maps, NRCS soil survey data from Stark County, and USGS topographic quadrangle maps. Maps of the study area and delineated wetlands can be found in ***Appendix A, Delineated Wetland Maps***.

B. Results and Discussion

The study area is located in the ecoregion identified by the USGS as the Missouri Plateau of the Northwestern Great Plains. The soil within this ecoregion consists primarily of Mollisol and Entisol order soils, which have been retained as original soils due to this area being mostly unaffected by glaciation. This region of semiarid shortgrass prairie and complex drainage patterns has been mostly developed into agricultural, alfalfa fields, and grazing land where topography limits agricultural development. The study area occurs adjacent to and within an active airport near Dickinson, North Dakota. A majority of the airport property and adjacent lands consist of undeveloped grasslands, agricultural and pasture lands. A portion of the study area has been developed by construction of runways and airport structures.

Six wetlands totaling approximately 0.51 acres were field delineated by KLJ within the study area. Please refer to ***Table 1, Summary of Delineated Wetlands***. Wetland boundaries that extended beyond the study area limits were not delineated to their full extents. The wetlands occurred in the form of a drainage way and shallow basins. Maps of the study area and field delineated wetlands can be found in ***Appendix A, Delineated Wetland Maps***. A visual representation of the wetlands and the study area can be found in ***Appendix B, Site Photos***. Additional information regarding vegetation dominance and hydrologic and hydric soil indicators can be found in ***Appendix C, Data Sheets***.

Seven wetlands totaling approximately 7.53 acres were office delineated by KLJ within portions of the study area with landowner concerns. One wetland occurred as an isolated basin, while the other six wetlands occurred as part of an intermittent drainage. Maps of the study area and office delineated wetlands can be found in ***Appendix A, Delineated Wetland Maps***. Please refer to ***Table 1, Summary of Delineated Wetlands***.

Table 1, Summary of Delineated Wetlands

WETLAND NUMBER	TEST HOLE (IN WETLAND)	LOCATION	LONG/LAT (DEC. DEG.)	COWARDIN CLASSIFICATION	WETLAND TYPE	WETLAND SIZE (ACRES)	WETLAND FEATURE
FIELD DELINEATED WETLANDS							
1	1a	Sec. 5, T138N, R96W	-102.811291 W 46.797102 N	PEMA	Basin	0.01	Natural
2	2a	Sec. 4, T138N, R96W	-102.810350W 46.796100 N	PEMA	Basin	0.01	Natural
3	3a	Sec. 4, T138N, R96W	-102.809006W 46.796344N	PEMA	Basin	0.07	Natural
4	4a	Sec. 4, T138N, R96W	-102.801700W 46.795514N	PEMCx	Drainage	0.29	Artificial
5	5a	Sec. 4, T138N, R96W	-102.799821W 46.798005N	PEMA	Basin	0.05	Natural
6	6a	Sec. 4, T138N, R96W	-102.800591W 46.801603N	PEMA	Basin	0.08	Natural
					Total	**0.51**	

WETLAND NUMBER	TEST HOLE (IN WETLAND)	LOCATION	LONG/LAT (DEC. DEG.)	COWARDIN CLASSIFICATION	WETLAND TYPE	WETLAND SIZE (ACRES)	WETLAND FEATURE
OFFICE DELINEATED WETLANDS							
7	NA	Sec. 32 and 33, T138N, R96W	NA	PEMC*	Basin	6.64	Natural
8	NA	Sec. 9, T138N, R96W	NA	PABFh*	Basin	0.65	Artificial
9	NA	Sec. 9, T138N, R96W	NA	PEMA	Basin	0.03	Natural
10	NA	Sec. 9, T138N, R96W	NA	PEMA	Basin	0.04	Natural

11	NA	Sec. 9, T138N, R96W	NA	PEMC*	Basin	0.08	Natural
12	NA	Sec. 9, T138N, R96W	NA	PEMA	Basin	0.01	Natural
13	NA	Sec. 9, T138N, R96W	NA	PEMC	Basin	0.08	Natural
					Total	**7.53**	

*USFWS NWI

C. Conclusion

Approximately 8.04 acres of delineated wetlands were identified within the study area. Final determination of jurisdictional wetlands within the study area is ultimately the decision of the USACE. All necessary permits shall be acquired in the event that a delineated wetland within the study area is determined to be jurisdictional by the USACE and will be affected by the proposed construction.

III. REFERENCES

Coordinated effort between the United States Department of Agriculture-Natural Resources Conservation Service (USDA-NRCS), the United States Geological Survey (USGS), and the Environmental Protection Agency (EPA). The Watershed Boundary Dataset (WBD) was created from a variety of sources from each state and aggregated into a standard national layer for use in strategic planning and accountability. Watershed Boundary Dataset for North Dakota. Retrieved from http://datagateway.nrcs.usda.gov

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University of Minnesota Wetland Delineator Certification Program. Wetland Delineation Lecture Notes based on the 1987 U.S. Army Corps of Engineers Wetland Delineation Manual and Technical Report.

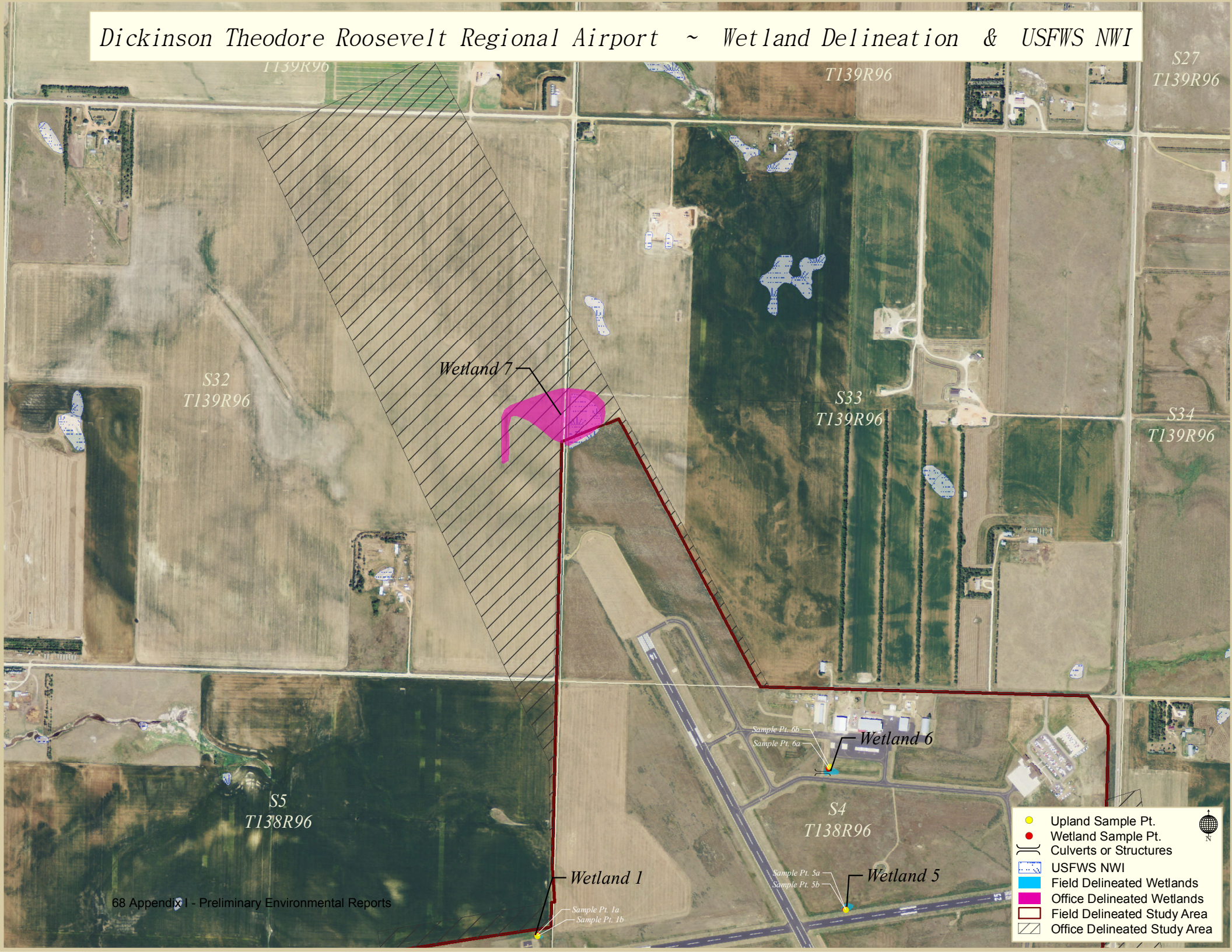
IV. DELINEATOR CREDENTIALS

ANDREA HEWITT	
Education:	› University of North Dakota — Masters of Environmental Management › University of North Dakota — BS Fisheries and Wildlife Biology
Training:	› Richard Chinn Environmental Training, Inc.: Successfully completed training requirements for the 38 hour Army Corps of Engineers Wetland Delineation Training Program. (April 2013)
Professional Memberships:	› National Association of Environmental Professionals › The Wildlife Society – North Dakota Chapter

TINA FRICKE	
Education:	› North Dakota State University — BS Natural Resources Management, emphasis in Biotic Science, Minor in English
Certifications:	› Minnesota Wetland Delineator Certification Program: Delineator In-Training Certification
Training:	› Wetland Delineator Certification Program – 5-Day Basic Wetland Delineation Course-University of Minnesota; Wetland Mitigation in Minnesota
Professional Memberships:	› National Association of Environmental Professionals › The Wildlife Society – North Dakota Chapter

Appendix A

Delineated Wetland Maps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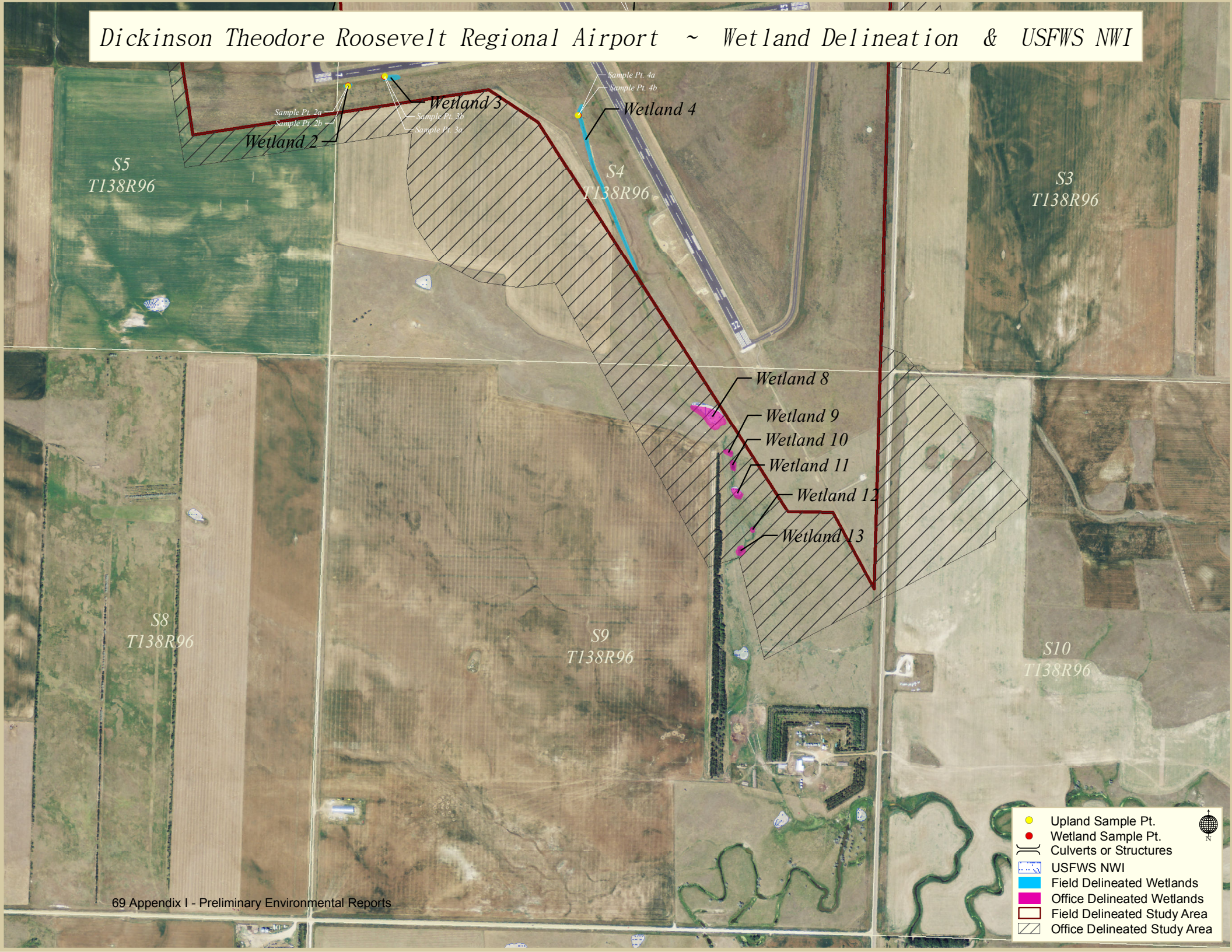
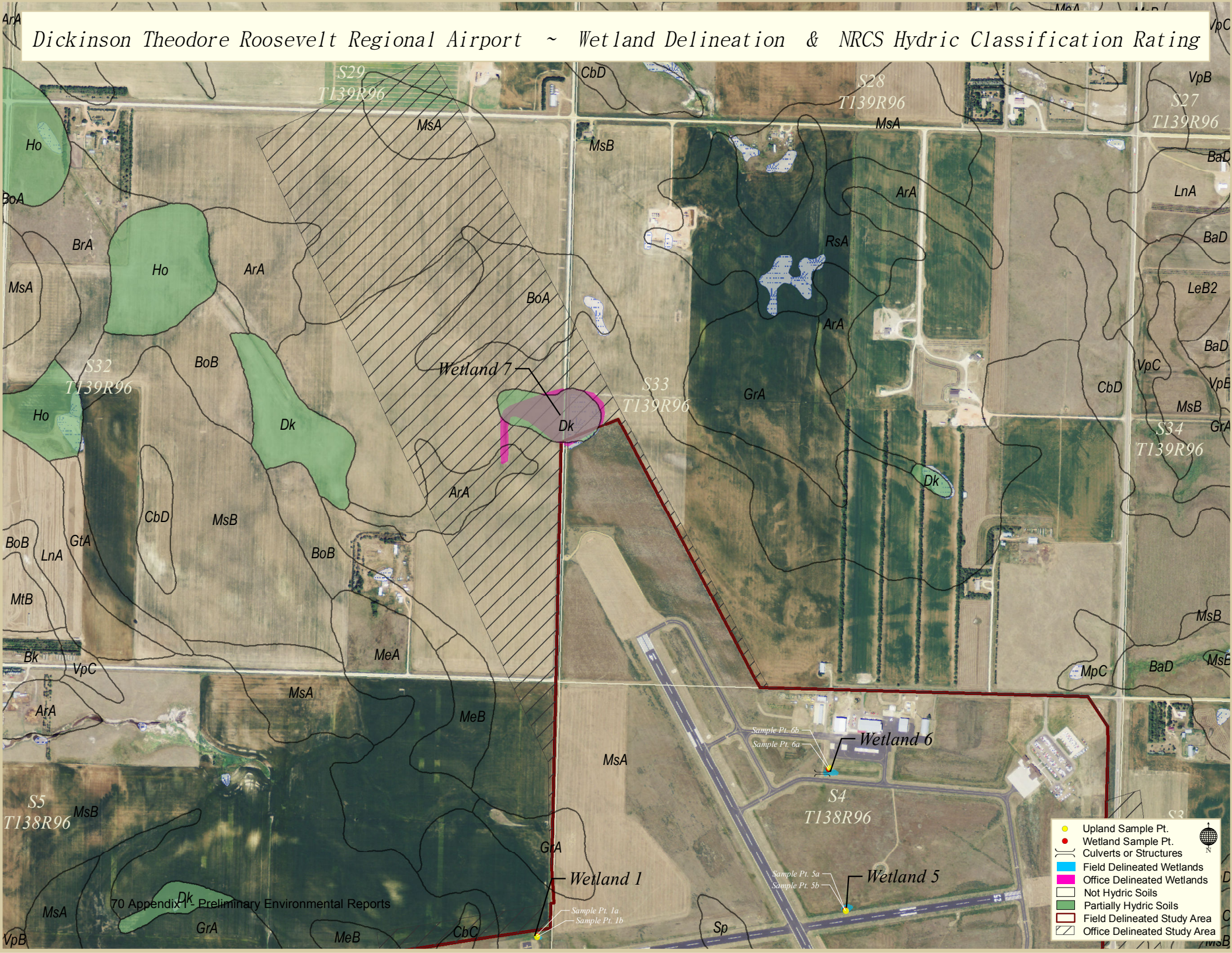
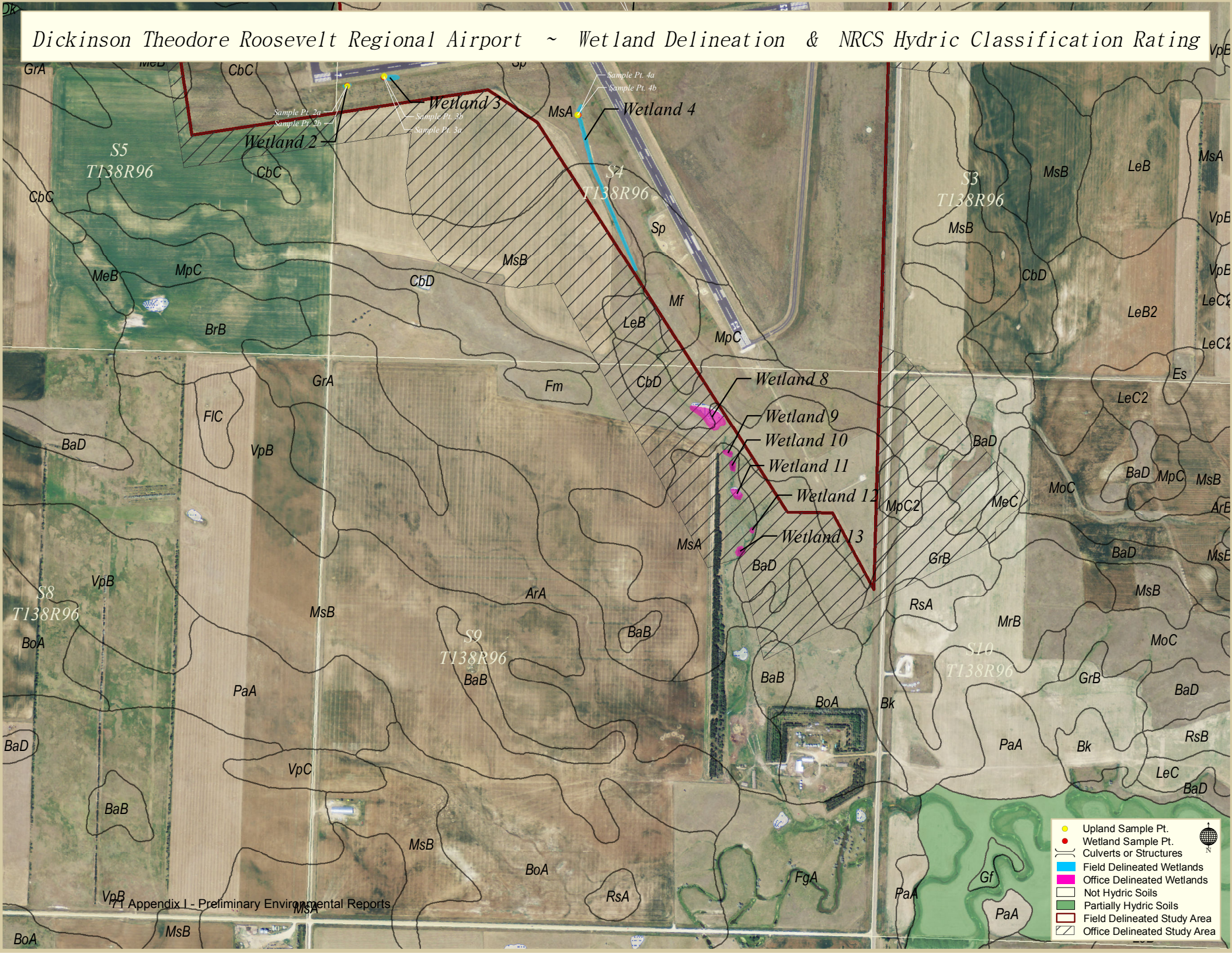
T139R96
T139R96
S27
T139R96
Wetland 7
S32
T139R96
S33
T139R96
S34
T139R96
Sample Pt. 6b
Sample Pt. 6a
Wetland 6
S5
T138R96
S4
T138R96
Wetland 1
Sample Pt. 5a
Sample Pt. 5b
Wetland 5
Sample Pt. 1a
Sample Pt. 1b
Upland Sample Pt.
Wetland Sample Pt.
Culverts or Structures
USFWS NWI
Field Delineated Wetlands
Office Delineated Wetlands
Field Delineated Study Area
Office Delineated Study Area
68 Appendix I - Preliminary Environmental Reports

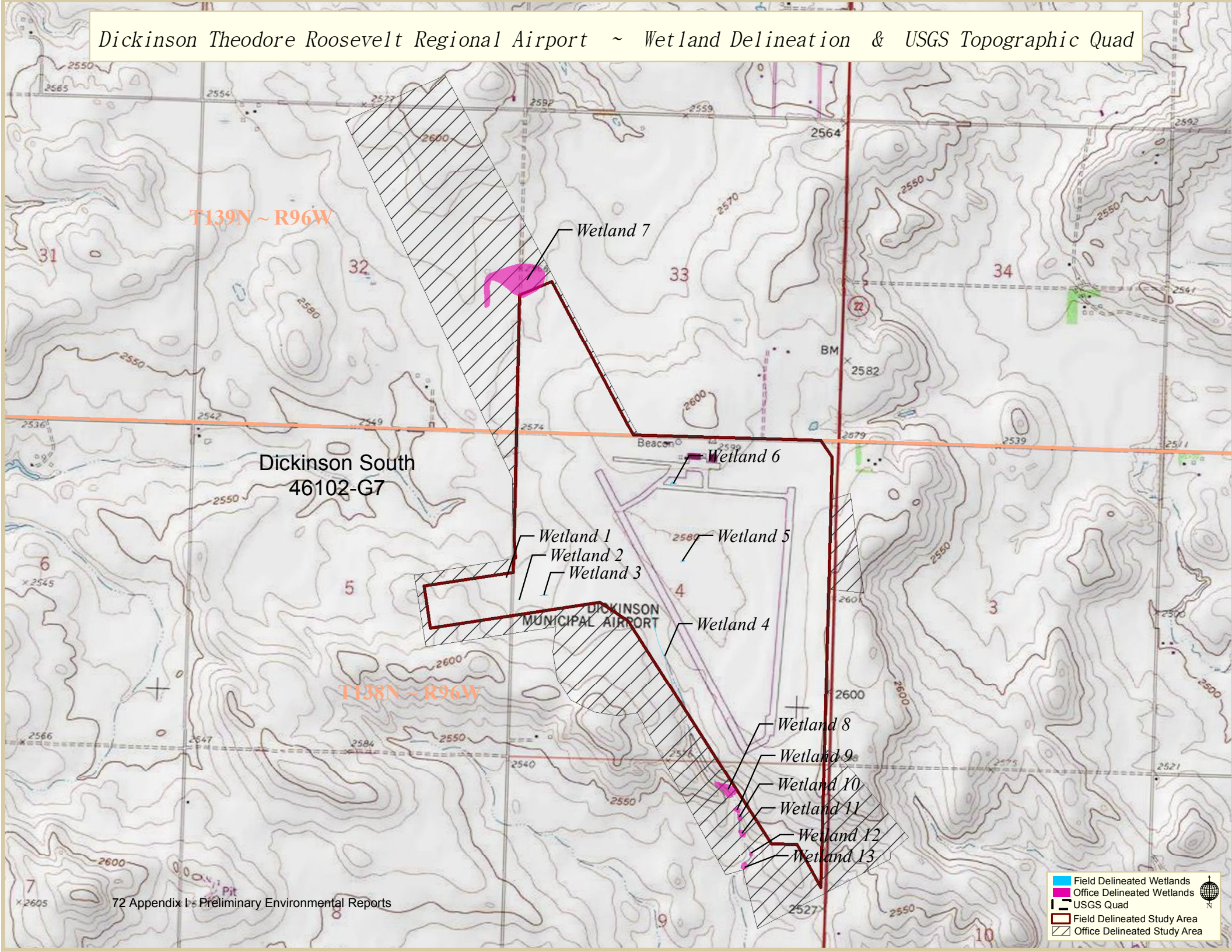

Dickinson Theodore Roosevelt Regional Airport ~ Wetland Delineation & USFWS NWI
Sample Pt. 2a
Sample Pt. 2b
Wetland 2
Wetland 3
Sample Pt. 3b
Sample Pt. 3a
Sample Pt. 4a
Sample Pt. 4b
Wetland 4
S5
T138R96
S4
T138R96
S3
T138R96
Wetland 8
Wetland 9
Wetland 10
Wetland 11
Wetland 12
Wetland 13
S8
T138R96
S9
T138R96
S10
T138R96
Upland Sample Pt.
Wetland Sample Pt.
Culverts or Structures
USFWS NWI
Field Delineated Wetlands
Office Delineated Wetlands
Field Delineated Study Area
Office Delineated Study Area

Dickinson Theodore Roosevelt Regional Airport ~ Wetland Delineation & NRCS Hydric Classification Rating



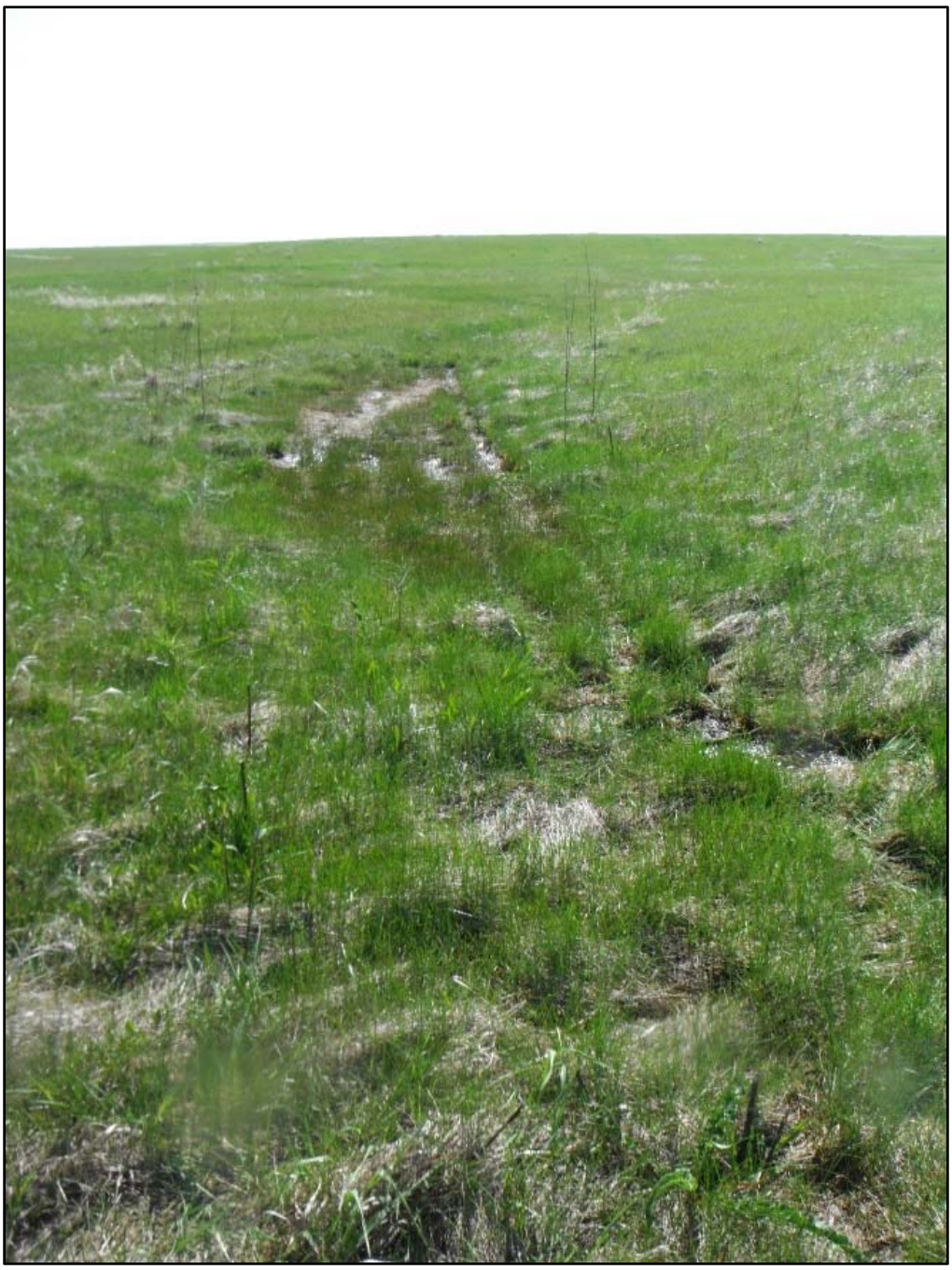
Dickinson Theodore Roosevelt Regional Airport ~ Wetland Delineation & NRCS Hydric Classification Rating




Dickinson Theodore Roosevelt Regional Airport ~ Wetland Delineation & USGS Topographic Quad
T139N ~ R96W
T138N ~ R96W
Dickinson South
46102-G7
Wetland 1
Wetland 2
Wetland 3
Wetland 4
Wetland 5
Wetland 6
Wetland 7
Wetland 8
Wetland 9
Wetland 10
Wetland 11
Wetland 12
Wetland 13
DICKINSON MUNICIPAL AIRPORT
Beacon
BM
Field Delineated Wetlands
Office Delineated Wetlands
USGS Quad
Field Delineated Study Area
Office Delineated Study Area

Appendix B

Site Photos



WETLAND 1, VIEW EAST-SOUTHEAST

WETLAND 2, VIEW EAST

WETLAND 3, VIEW EAST

WETLAND 4, VIEW WEST

WETLAND 5, VIEW WEST

WETLAND 6, VIEW EAST

Appendix C

Data Sheets

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Dickinson Theodore Roosevelt Regional Airport City/County: Dickinson/Stark Sampling Date: 5/22/14

Applicant/Owner: Dickinson Municipal Airport Authority State: ND Sampling Point: 1A

Investigator(s): Tina Fricke & Andrea Hewitt, KLJ Section, Township, Range: S 5, T138N, R96W

Landform (hillslope, terrace, etc.): basin Local relief (concave, convex, none): concave Slope (%): 1%

Subregion (LRR): F Lat: 46.797102 Long: -102.811291 Datum: NAD 83

Soil Map Unit Name: NWI classification: PEMA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☑ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☑ No ☐	**Is the Sampled Area within a Wetland?** Yes ☑ No ☐
Hydric Soil Present?	Yes ☑ No ☐	
Wetland Hydrology Present?	Yes ☑ No ☐	

Remarks:
Located next to the crosswind runway.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. Eleocharis palustris	30	Yes	OBL
2. Carex aquatilis	40	Yes	OBL
3. Rumex occidentalis	10	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	80 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 20%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: NaN (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 = 0
FACW species	x 2 = 0
FAC species	x 3 = 0
FACU species	x 4 = 0
UPL species	x 5 = 0
Column Totals: 0 (A)	0 (B)

Prevalence Index = B/A = NaN

Hydrophytic Vegetation Indicators:

☑ 1 - Rapid Test for Hydrophytic Vegetation

☐ 2 - Dominance Test is >50%

☐ 3 - Prevalence Index is ≤3.0[1]

☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks:

SOIL

Sampling Point: 1A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-8	Gley 3/N	100%					Clay	
8-16	10YR 5/2	100%					CL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☑ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (**LRR I, J**)
- ☐ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ☐ Dark Surface (S7) (**LRR G**)
- ☐ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☑ No ☐

Remarks:

Gley clay at and near surface, with loam below.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☑ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ☐ No ☑ Depth (inches): —

Water Table Present? Yes ☑ No ☐ Depth (inches): 6"

Saturation Present? (includes capillary fringe) Yes ☑ No ☐ Depth (inches): 0"

Wetland Hydrology Present? Yes ☑ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Dickinson Theodore Roosevelt Regional Airport City/County: Dickinson/Stark Sampling Date: 5/22/14

Applicant/Owner: Dickinson Municipal Airport Authority State: ND Sampling Point: 1B

Investigator(s): Tina Fricke & Andrea Hewitt, KLJ Section, Township, Range: S 5, T138N, R96W

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 5%

Subregion (LRR): F Lat: 46.797082 Long: -102.811294 Datum: NAD 83

Soil Map Unit Name: NWI classification: —

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☑ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☐	No ☑	**Is the Sampled Area within a Wetland?** Yes ☐ No ☑
Hydric Soil Present?	Yes ☐	No ☑	
Wetland Hydrology Present?	Yes ☐	No ☑	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5ft)			
1. Agropyron cristatum	45	Yes	UPL
2. Bromus inermis	45	Yes	UPL
3. Taraxacum officinale	10	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: NaN (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 = 0
FACW species	x 2 = 0
FAC species	x 3 = 0
FACU species	x 4 = 0
UPL species	x 5 = 0
Column Totals: 0 (A)	0 (B)

Prevalence Index = B/A = NaN

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☐ No ☑

Remarks:

SOIL

Sampling Point: 1B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-16"	10YR 3/1	100%					CL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (**LRR I, J**)
- ☐ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ☐ Dark Surface (S7) (**LRR G**)
- ☐ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☑

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☑ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ☐ No ☑ Depth (inches): —

Water Table Present? Yes ☐ No ☑ Depth (inches): —

Saturation Present? (includes capillary fringe) Yes ☐ No ☑ Depth (inches): —

Wetland Hydrology Present? Yes ☐ No ☑

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Dickinson Theodore Roosevelt Regional Airport City/County: Dickinson/Stark Sampling Date: 5/22/14

Applicant/Owner: Dickinson Municipal Airport Authority State: ND Sampling Point: 2A

Investigator(s): Tina Fricke & Andrea Hewitt, KLJ Section, Township, Range: S 4, T138N, R96W

Landform (hillslope, terrace, etc.): basin Local relief (concave, convex, none): Concave Slope (%): 0%

Subregion (LRR): F Lat: 46.796100 Long: -102.810350 Datum: NAD 83

Soil Map Unit Name: NWI classification: PEMA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☑ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☑ No ☐	**Is the Sampled Area within a Wetland?** Yes ☑ No ☐
Hydric Soil Present?	Yes ☑ No ☐	
Wetland Hydrology Present?	Yes ☑ No ☐	

Remarks:
Sample pit is associated with a drainage.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5ft)			
1. Hordeum jubatum	80%	Yes	FACW
2. Carex aquatilis	20%	Yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 5%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: NaN (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 = 0
FACW species	x 2 = 0
FAC species	x 3 = 0
FACU species	x 4 = 0
UPL species	x 5 = 0
Column Totals: 0 (A)	0 (B)

Prevalence Index = B/A = NaN

Hydrophytic Vegetation Indicators:

- ☑ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks:

SOIL

Sampling Point: 2A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8"	10YR 3/2	100%					CL	
8-14"	10YR 4/1	95%	10YR 4/4	5%	C	M	CL	distinct redox

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☑ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (**LRR I, J**)
- ☐ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ☐ Dark Surface (S7) (**LRR G**)
- ☐ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☑ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☑ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ☐ No ☑ Depth (inches): —

Water Table Present? Yes ☑ No ☐ Depth (inches): 12"

Saturation Present? (includes capillary fringe) Yes ☑ No ☐ Depth (inches): 0"

Wetland Hydrology Present? Yes ☑ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Dickinson Theodore Roosevelt Regional Airport City/County: Dickinson/Stark Sampling Date: 5/22/14

Applicant/Owner: Dickinson Municipal Airport Authority State: ND Sampling Point: 2B

Investigator(s): Tina Fricke & Andrea Hewitt, KLJ Section, Township, Range: S 4, T138N, R96W

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 2

Subregion (LRR): F Lat: 46.796087 Long: -102.810358 Datum: NAD 83

Soil Map Unit Name: NWI classification: —

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☑ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☐	No ☑	**Is the Sampled Area within a Wetland?** Yes ☐ No ☑
Hydric Soil Present?	Yes ☐	No ☑	
Wetland Hydrology Present?	Yes ☐	No ☑	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5ft)			
1. Agropyron cristatum	50%	Yes	UPL
2. Bromus inermis	50%	Yes	UPL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: NaN (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 = 0
FACW species	x 2 = 0
FAC species	x 3 = 0
FACU species	x 4 = 0
UPL species	x 5 = 0
Column Totals: 0 (A)	0 (B)

Prevalence Index = B/A = NaN

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☐ No ☑

Remarks:

SOIL

Sampling Point: 2B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-16"	10YR 3/1	100%					CL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (**LRR I, J**)
- ☐ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ☐ Dark Surface (S7) (**LRR G**)
- ☐ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☑

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ☐ No ☑ Depth (inches): —

Water Table Present? Yes ☐ No ☑ Depth (inches): —

Saturation Present? (includes capillary fringe) Yes ☐ No ☑ Depth (inches): —

Wetland Hydrology Present? Yes ☐ No ☑

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Dickinson Theodore Roosevelt Regional Airport City/County: Dickinson/Stark Sampling Date: 5/22/14

Applicant/Owner: Dickinson Municipal Airport Authority State: ND Sampling Point: 3A

Investigator(s): Tina Fricke & Andrea Hewitt, KLJ Section, Township, Range: S 4, T138N, R96W

Landform (hillslope, terrace, etc.): basin Local relief (concave, convex, none): concave Slope (%): 3%

Subregion (LRR): F Lat: 46.796344 Long: -102.809006 Datum: NAD 83

Soil Map Unit Name: NWI classification: PEMA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☑ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☑ No ☐	**Is the Sampled Area within a Wetland?** Yes ☑ No ☐
Hydric Soil Present?	Yes ☑ No ☐	
Wetland Hydrology Present?	Yes ☑ No ☐	

Remarks:
Natural drainage-way

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5ft)			
1. Schoenoplectus tabernaemontani	70%	Yes	OBL
2. Eleocharis palustris	30%	Yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: NaN (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 = 0
FACW species	x 2 = 0
FAC species	x 3 = 0
FACU species	x 4 = 0
UPL species	x 5 = 0
Column Totals: 0 (A)	0 (B)

Prevalence Index = B/A = NaN

Hydrophytic Vegetation Indicators:

- ☑ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks:

SOIL

Sampling Point: 3A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10"	10YR 3/1	95%	10YR 5/4	5%	C	M	CL	distinct redox

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☑ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (**LRR I, J**)
- ☐ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ☐ Dark Surface (S7) (**LRR G**)
- ☐ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☑ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☑ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☑ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ☐ No ☑ Depth (inches): —

Water Table Present? Yes ☐ No ☑ Depth (inches): —

Saturation Present? (includes capillary fringe) Yes ☑ No ☐ Depth (inches): 0"

Wetland Hydrology Present? Yes ☑ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Surface saturation due to recent rainfall event.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Dickinson Theodore Roosevelt Regional Airport City/County: Dickinson/Stark Sampling Date: 5/22/14

Applicant/Owner: Dickinson Municipal Airport Authority State: ND Sampling Point: 3B

Investigator(s): Tina Fricke & Andrea Hewitt, KLJ Section, Township, Range: S 4, T138N, R96W

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 40%

Subregion (LRR): F Lat: 46.796369 Long: -102.809000 Datum: NAD 83

Soil Map Unit Name: NWI classification: —

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☑ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☐	No ☑	**Is the Sampled Area within a Wetland?** Yes ☐ No ☑
Hydric Soil Present?	Yes ☐	No ☑	
Wetland Hydrology Present?	Yes ☐	No ☑	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. Bromus inermis	80%	Yes	UPL
2. Poa pratensis	20%	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): _____ (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: NaN (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = 0
FACW species _____	x 2 = 0
FAC species _____	x 3 = 0
FACU species _____	x 4 = 0
UPL species _____	x 5 = 0
Column Totals: 0 (A)	0 (B)

Prevalence Index = B/A = NaN

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☐ No ☑

Remarks:

SOIL

Sampling Point: 3B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-16"	10YR 3/1	100%					CL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (**LRR I, J**)
- ☐ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ☐ Dark Surface (S7) (**LRR G**)
- ☐ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☑

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ☐ No ☑ Depth (inches): —

Water Table Present? Yes ☐ No ☑ Depth (inches): —

Saturation Present? (includes capillary fringe) Yes ☐ No ☑ Depth (inches): —

Wetland Hydrology Present? Yes ☐ No ☑

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Dickinson Theodore Roosevelt Regional Airport City/County: Dickinson/Stark Sampling Date: 5/22/14

Applicant/Owner: Dickinson Municipal Airport Authority State: ND Sampling Point: 4A

Investigator(s): Tina Fricke & Andrea Hewitt, KLJ Section, Township, Range: S 4, T138N, R96W

Landform (hillslope, terrace, etc.): drainage Local relief (concave, convex, none): concave Slope (%): 0

Subregion (LRR): F Lat: 46.795514 Long: -102.801700 Datum: NAD 83

Soil Map Unit Name: NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☑ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☑ No ☐	**Is the Sampled Area within a Wetland?** Yes ☑ No ☐
Hydric Soil Present?	Yes ☑ No ☐	
Wetland Hydrology Present?	Yes ☑ No ☐	

Remarks:
Natural drainage-way

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. Schoenoplectus tabernaemontani	70%	Yes	OBL
2. Juncus balticus	20%	Yes	FACW
3. Typha angustifolia	10%	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: NaN (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 = 0
FACW species	x 2 = 0
FAC species	x 3 = 0
FACU species	x 4 = 0
UPL species	x 5 = 0
Column Totals: 0 (A)	0 (B)

Prevalence Index = B/A = NaN

Hydrophytic Vegetation Indicators:

☑ 1 - Rapid Test for Hydrophytic Vegetation

☐ 2 - Dominance Test is >50%

☐ 3 - Prevalence Index is ≤3.0[1]

☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks:

SOIL

Sampling Point: 4A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (**LRR I, J**)
- ☐ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ☐ Dark Surface (S7) (**LRR G**)
- ☐ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☑ No ☐

Remarks:

Soils assumed hydric based on presence of a definite wetland boundary and dominant obligate hydrophytic vegetation community.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ☐ Crayfish Burrows (C8)
- ☑ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☑ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ☑ No ☐ Depth (inches): 1"

Water Table Present? Yes ☑ No ☐ Depth (inches): 3"

Saturation Present? (includes capillary fringe) Yes ☑ No ☐ Depth (inches): 0"

Wetland Hydrology Present? Yes ☑ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Surface water present within 5 ft radius.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Dickinson Theodore Roosevelt Regional Airport City/County: Dickinson/Stark Sampling Date: 5/22/14

Applicant/Owner: Dickinson Municipal Airport Authority State: ND Sampling Point: 4B

Investigator(s): Tina Fricke & Andrea Hewitt, KLJ Section, Township, Range: S 4, T138N, R96W

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 25%

Subregion (LRR): F Lat: 46.795520 Long: -102.801729 Datum: NAD 83

Soil Map Unit Name: NWI classification: —

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☑ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☐	No ☑	**Is the Sampled Area within a Wetland?** Yes ☐ No ☑
Hydric Soil Present?	Yes ☐	No ☑	
Wetland Hydrology Present?	Yes ☐	No ☑	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. Bromus inermis	70%	Yes	UPL
2. Poa pratensis	30%	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): _____ (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: NaN (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = 0
FACW species _____	x 2 = 0
FAC species _____	x 3 = 0
FACU species _____	x 4 = 0
UPL species _____	x 5 = 0
Column Totals: 0 (A)	0 (B)

Prevalence Index = B/A = NaN

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☐ No ☑

Remarks:

SOIL

Sampling Point: 4B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4"	2.5 YR 5/4	100%					gravel	gravel and rock base

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (**LRR I, J**)
- ☐ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ☐ Dark Surface (S7) (**LRR G**)
- ☐ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☑

Remarks:

Rocks present from construction of drainage channel. Could not dig below gravel base.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ☐ No ☑ Depth (inches): —

Water Table Present? Yes ☐ No ☑ Depth (inches): —

Saturation Present? (includes capillary fringe) Yes ☐ No ☑ Depth (inches): —

Wetland Hydrology Present? Yes ☐ No ☑

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Dickinson Theodore Roosevelt Regional Airport City/County: Dickinson/Stark Sampling Date: 5/22/14

Applicant/Owner: Dickinson Municipal Airport Authority State: ND Sampling Point: 5A

Investigator(s): Tina Fricke & Andrea Hewitt, KLJ Section, Township, Range: S 4, T138N, R96W

Landform (hillslope, terrace, etc.): basin Local relief (concave, convex, none): concave Slope (%): 2%

Subregion (LRR): F Lat: 46.798005 Long: -102.799821 Datum: NAD 83

Soil Map Unit Name: NWI classification: PEMA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☑ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☑ No ☐	**Is the Sampled Area within a Wetland?** Yes ☑ No ☐
Hydric Soil Present?	Yes ☑ No ☐	
Wetland Hydrology Present?	Yes ☑ No ☐	

Remarks:
Natural drainage-way

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. Persicaria amphibia	50%	Yes	OBL
2. Eleocharis palustris	50%	Yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 5%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: NaN (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 = 0
FACW species	x 2 = 0
FAC species	x 3 = 0
FACU species	x 4 = 0
UPL species	x 5 = 0
Column Totals: 0 (A)	0 (B)

Prevalence Index = B/A = NaN

Hydrophytic Vegetation Indicators:

- ☑ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks:

SOIL

Sampling Point: 5A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10"	10YR 4/2	40%	10YR 5/4	60%			Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (**LRR I, J**)
- ☐ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ☐ Dark Surface (S7) (**LRR G**)
- ☐ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☑ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☑ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ☐ No ☑ Depth (inches): —

Water Table Present? Yes ☑ No ☐ Depth (inches): 12"

Saturation Present? (includes capillary fringe) Yes ☑ No ☐ Depth (inches): 0"

Wetland Hydrology Present? Yes ☑ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Assume higher water table if observation time was longer.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Dickinson Theodore Roosevelt Regional Airport City/County: Dickinson/Stark Sampling Date: 5/22/14

Applicant/Owner: Dickinson Municipal Airport Authority State: ND Sampling Point: 5B

Investigator(s): Tina Fricke & Andrea Hewitt, KLJ Section, Township, Range: S 4, T138N, R96W

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 10%

Subregion (LRR): F Lat: 46.797981 Long: -102.799799 Datum: NAD 83

Soil Map Unit Name: NWI classification: —

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☑ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☐	No ☑	**Is the Sampled Area within a Wetland?** Yes ☐ No ☑
Hydric Soil Present?	Yes ☐	No ☑	
Wetland Hydrology Present?	Yes ☐	No ☑	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. Bromus inermis	100%	Yes	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): _____ (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: NaN (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = 0
FACW species _____	x 2 = 0
FAC species _____	x 3 = 0
FACU species _____	x 4 = 0
UPL species _____	x 5 = 0
Column Totals: 0 (A)	0 (B)

Prevalence Index = B/A = NaN

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☐ No ☑

Remarks:

SOIL

Sampling Point: 5B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-16"	10YR 3/1	100%					CL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (**LRR I, J**)
- ☐ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ☐ Dark Surface (S7) (**LRR G**)
- ☐ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☑

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ☐ No ☑ Depth (inches): —

Water Table Present? Yes ☐ No ☑ Depth (inches): —

Saturation Present? (includes capillary fringe) Yes ☐ No ☑ Depth (inches): —

Wetland Hydrology Present? Yes ☐ No ☑

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Dickinson Theodore Roosevelt Regional Airport City/County: Dickinson/Stark Sampling Date: 5/22/14

Applicant/Owner: Dickinson Municipal Airport Authority State: ND Sampling Point: 6A

Investigator(s): Tina Fricke & Andrea Hewitt, KLJ Section, Township, Range: S 4, T138N, R96W

Landform (hillslope, terrace, etc.): basin Local relief (concave, convex, none): concave Slope (%): 2%

Subregion (LRR): F Lat: 46.801603 Long: -102.800591 Datum: NAD 83

Soil Map Unit Name: NWI classification: PEMA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☑ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☑ No ☐	**Is the Sampled Area within a Wetland?** Yes ☑ No ☐
Hydric Soil Present?	Yes ☑ No ☐	
Wetland Hydrology Present?	Yes ☑ No ☐	

Remarks:
Natural drainage-way

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. Carex aquatilis	90%	Yes	OBL
2. Hordeum jubatum	10%	No	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): _____ (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: NaN (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = 0
FACW species _____	x 2 = 0
FAC species _____	x 3 = 0
FACU species _____	x 4 = 0
UPL species _____	x 5 = 0
Column Totals: 0 (A)	0 (B)

Prevalence Index = B/A = NaN

Hydrophytic Vegetation Indicators:

- ☑ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks:

SOIL

Sampling Point: 6A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6"	10YR 5/2	100%					CL	
6-12"	10YR 5/2	93%	10YR 6/6	7%	C	M	CL	prominent redox

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (**LRR I, J**)
- ☐ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ☐ Dark Surface (S7) (**LRR G**)
- ☐ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☑ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☑ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☑ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ☐ No ☑ Depth (inches): —

Water Table Present? Yes ☑ No ☐ Depth (inches): 11"

Saturation Present? (includes capillary fringe) Yes ☑ No ☐ Depth (inches): 0"

Wetland Hydrology Present? Yes ☑ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Multiple culverts draining into wetland.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Dickinson Theodore Roosevelt Regional Airport City/County: Dickinson/Stark Sampling Date: 5/22/14

Applicant/Owner: Dickinson Municipal Airport Authority State: ND Sampling Point: 6B

Investigator(s): Tina Fricke & Andrea Hewitt, KLJ Section, Township, Range: S 4, T138N, R96W

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 5%

Subregion (LRR): F Lat: 46.801641 Long: -102.800564 Datum: NAD 83

Soil Map Unit Name: NWI classification: —

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☑ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☐	No ☑	**Is the Sampled Area within a Wetland?** Yes ☐ No ☑
Hydric Soil Present?	Yes ☑	No ☐	
Wetland Hydrology Present?	Yes ☐	No ☑	

Remarks:

Hydric soil indicators present due to sample point taken near culvert. Saturation occurs at sample point during periods of high runoff due to culvert design. Wetland vegetation and hydrology indicators not present.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. Bromus inermis	70%	Yes	UPL
2. Poa pratensis	20%	Yes	FACU
3. Taraxacum officinale	10%	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 5%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: NaN (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 = 0
FACW species	x 2 = 0
FAC species	x 3 = 0
FACU species	x 4 = 0
UPL species	x 5 = 0
Column Totals: 0 (A)	0 (B)

Prevalence Index = B/A = NaN

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☐ No ☑

Remarks:

SOIL

Sampling Point: 6B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12"	10YR 3/1	98%	10YR 4/4	2%	C	M	CL	distinct redox

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
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- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (**LRR I, J**)
- ☐ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ☐ Dark Surface (S7) (**LRR G**)
- ☐ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☑ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ☐ No ☑ Depth (inches): —

Water Table Present? Yes ☐ No ☑ Depth (inches): —

Saturation Present? (includes capillary fringe) Yes ☐ No ☑ Depth (inches): —

Wetland Hydrology Present? Yes ☐ No ☑

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
NORTH DAKOTA REGULATORY OFFICE
1513 SOUTH 12TH STREET
BISMARCK ND 58504-6640

October 17, 2014

North Dakota Regulatory Office [NWO-1996-60826-BIS]

Ms. Andrea Hewitt
Kadrmas, Lee and Jackson
4585 Coleman Street
PO Box 1157
Bismarck, North Dakota 58502-1157

Dear Ms. Hewitt:

We have reviewed your request, on behalf of the Dickinson Municipal Airport, for Department of the Army, Corps of Engineers (Corps), jurisdictional determination (JD) for the improvements at the Dickinson Theodore Roosevelt Regional Airport. The project is located in Sections 3, 4, 5, 9, and 10 Township 138 North, Range 96 West and 29, 32, and 33, Township 139 North, Range 96 West, Stark County, North Dakota.

Based on the information that you provided, we have determined that these waters identified in your request are jurisdictional waters of the United States. They are Wetland 4, and Wetlands 8-13. Therefore, should the proposed project result in the placement of dredge or fill material in the identified jurisdictional waters, a Corps permit, pursuant to Section 404 of the Clean Water Act, will be required prior to construction activities. The remaining wetlands (Wetlands 1, 2, 3, 5, 6, and 7) located on the project have been determined to be isolated, non-jurisdictional waters and will not require permitting.

An approved (JD) has been completed for the wetland areas identified in your request and is enclosed for your information. The JD may also be viewed at our website located at: http://www.nwo.usace.army.mil/Missions/RegulatoryProgram/NorthDakota.aspx. The JD will be available on the website within 30 days. You may also request copies of the supporting materials the Corps used in determining this JD. If you are not in agreement with the JD, you may request an administrative appeal under Corps regulations found at 33 CFR 331. The request for appeal (copy enclosed) must be received within 60 days from the date of this correspondence (October 17, 2014). If you would like more information on the jurisdictional appeal process, contact this office. It is not necessary to submit a Request for Appeal if you do not object to the JD. The JD will be valid for a period of 5 years from the date of this letter.

This determination was conducted to identify the limits of the Corps Clean Water Act jurisdiction for the particular site identified in this request. This determination may not

be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenants are USDA program participants, or anticipate participation in the USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service, prior to starting work.

A copy of this letter is being sent to The Dickinson Municipal Airport Authority, 11168 42nd St SW, Dickinson, ND 58601.

The Omaha District, Regulatory Branch is committed to providing quality and timely service to our customers. In an effort to improve customer service, please take a moment to complete our Customer Service Survey found on our website at http://per2.nwp.usace.army.mil/ survey.html. If you do not have Internet access, you may call and request a paper copy of the survey that you can complete and return to us by mail or fax.

If you have any questions concerning this determination or jurisdiction, please feel free to contact Ms. Patsy Crooke of this office at (701) 255-0015 ext 2002 and reference project number **NWO-1996-60826-BIS**.

Sincerely,

for Daniel E. Cimarosti
Regulatory Program Manager
North Dakota

Enclosures

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): October 17, 2014

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Omaha, NWO-1996-60826-BIS, Dickinson Regioinal Airport, 6 Isolated Wetlands

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: North Dakota County/parish/borough: Stark City: Dickinson
Center coordinates of site (lat/long in degree decimal format): Lat. SEE ATTACHED ISOLATED WETLAND TABLE N;
Long. W
Universal Transverse Mercator:
Name of nearest waterbody: Isolated Wetlands
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: None
Name of watershed or Hydrologic Unit Code (HUC): Upper Heart, 10130202
☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☒ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☒ Office (Desk) Determination. Date: September 23, 2014 (NDRO), July 29, 2014 by KLJ
☒ Field Determination. Date(s): **May 22, 2014 by KLJ**

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** "*navigable waters of the U.S.*" within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]
☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are no** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☐ TNWs, including territorial seas
      ☐ Wetlands adjacent to TNWs
      ☐ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters: linear feet: width (ft) and/or acres.
      Wetlands: acres.

   c. **Limits (boundaries) of jurisdiction** based on: **Pick List**
      Elevation of established OHWM (if known): .

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☒ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
   Explain: The six isolated wetlands on the project area occur adjacent to and within an active airport consisting mostly of undeveloped grasslands, agricultural and pasture lands. Wetlands 1, 2, 3, 5, 6, and 7 occurred as isolated basins, receiving runoff from the airport runway and taxiway. These wetlands have no discernible surface outlet and are not used by interstate or foreign travelers for recreational or other purposes, do not support fish or shellfish that could be taken and sold in interstate or foreign commerce, and are not used for industrial purposes by industries in interstate commerce. Based upon these

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

principle considerations, it is determined that the subject wetlands are isolated and non-jurisdictional under the purview of Section 404 of the Clean Water Act.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW
Identify TNW: .

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW
Summarize rationale supporting conclusion that wetland is "adjacent": .

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:
Watershed size: **Pick List**
Drainage area: **Pick List**
Average annual rainfall: inches
Average annual snowfall: inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☐ Tributary flows directly into TNW.
☐ Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.
Project waters are **Pick List** river miles from RPW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Project waters are **Pick List** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: .

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Identify flow route to TNW[5]:
Tributary stream order, if known:

(b) General Tributary Characteristics (check all that apply):
Tributary is: ☐ Natural
☐ Artificial (man-made). Explain:
☐ Manipulated (man-altered). Explain:

Tributary properties with respect to top of bank (estimate):
Average width: feet
Average depth: feet
Average side slopes: **Pick List.**

Primary tributary substrate composition (check all that apply):
☐ Silts ☐ Sands ☐ Concrete
☐ Cobbles ☐ Gravel ☐ Muck
☐ Bedrock ☐ Vegetation. Type/% cover:
☐ Other. Explain:

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:
Presence of run/riffle/pool complexes. Explain:
Tributary geometry: **Pick List**
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: **Pick List**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime:
Other information on duration and volume:

Surface flow is: **Pick List.** Characteristics:

Subsurface flow: **Pick List**. Explain findings:
☐ Dye (or other) test performed:

Tributary has (check all that apply):
☐ Bed and banks
☐ OHWM[6] (check all indicators that apply):
☐ clear, natural line impressed on the bank ☐ the presence of litter and debris
☐ changes in the character of soil ☐ destruction of terrestrial vegetation
☐ shelving ☐ the presence of wrack line
☐ vegetation matted down, bent, or absent ☐ sediment sorting
☐ leaf litter disturbed or washed away ☐ scour
☐ sediment deposition ☐ multiple observed or predicted flow events
☐ water staining ☐ abrupt change in plant community
☐ other (list):
☐ Discontinuous OHWM.[7] Explain:

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):
☐ High Tide Line indicated by: ☐ Mean High Water Mark indicated by:
☐ oil or scum line along shore objects ☐ survey to available datum;
☐ fine shell or debris deposits (foreshore) ☐ physical markings;
☐ physical markings/characteristics ☐ vegetation lines/changes in vegetation types.
☐ tidal gauges
☐ other (list):

(iii) Chemical Characteristics:
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain:
Identify specific pollutants, if known:

---

[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.
[6] A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7] Ibid.

(iv) Biological Characteristics. Channel supports (check all that apply):

- ☐ Riparian corridor. Characteristics (type, average width): .
- ☐ Wetland fringe. Characteristics: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: .

Surface flow is: **Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

- ☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

- ☐ Directly abutting
- ☐ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain: .
  - ☐ Ecological connection. Explain: .
  - ☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List.**

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

(iii) Biological Characteristics. Wetland supports (check all that apply):

- ☐ Riparian buffer. Characteristics (type, average width): .
- ☐ Vegetation type/percent cover. Explain: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

Summarize overall biological, chemical and physical functions being performed: .

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☐ TNWs: linear feet width (ft), Or, acres.
   - ☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

3. **Non-RPWs[8] that flow directly or indirectly into TNWs.**
☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**
☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**
☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. **Impoundments of jurisdictional waters.[9]**
As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
☐ Demonstrate that impoundment was created from "waters of the U.S.," or
☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]
☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ which are or could be used for industrial purposes by industries in interstate commerce.
☐ Interstate isolated waters. Explain: .
☐ Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

---

[8]See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
[10] **Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.***

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .
☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):
☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☒ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
☒ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
☐ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☒ Wetlands: 6.86 acres (See attached wetland table for individual wetland acres) acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: Wetland delineation report submitted by KLJ as part of jd request.
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☒ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☐ Corps navigable waters' study: .
☐ U.S. Geological Survey Hydrologic Atlas: .
☐ USGS NHD data.
☒ USGS 8 and 12 digit HUC maps.
☒ U.S. Geological Survey map(s). Cite scale & quad name: USGS 1:24K Quad - Dickinson South.
☒ USDA Natural Resources Conservation Service Soil Survey. Citation: USDA, NRCS National List of Hydric Soils by State. 2011; Websoil Survey.
☒ National wetlands inventory map(s). Cite name: USFWS/GIS.
☐ State/Local wetland inventory map(s): .
☐ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): Google Earth Pro; USDA, FSA. National Agriculture Imagery Program. 2012, ND Imagery.
or ☒ Other (Name & Date): On site photos May 22, 2014.
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☐ Other information (please specify): .

B. ADDITIONAL COMMENTS TO SUPPORT JD: Wetland delineation report and other data available.

Dickinson Theodore Roosevelt
Regional Airport
NWO-1996-60826-BIS
Isolated Wetlands

Wetland ID	Lat/Long	Size/acres
1	46.797102 -102.2811291	0.01
2	46.796100 -102.810350	0.01
3	46.796344 -102.809006	0.07
5	46.798005 -102.799821	0.05
6	46.801603 -102.800591	0.08
7	46.810485 -102.810493	6.64
Total		6.86

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): September 23, 2014

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Omaha, NWO-1996-60826-BIS, Dickinson Airport 7 jurisdictional wetlands

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: North Dakota County/parish/borough: Stark City: Dickinson
Center coordinates of site (lat/long in degree decimal format): Lat. SEE ATTACHED JURISDICTIONAL WETLAND TABLE N;
Long. W
Universal Transverse Mercator:
Name of nearest waterbody: Tributary to Dry Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Heart River
Name of watershed or Hydrologic Unit Code (HUC): Upper Heart, 10130202
☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☒ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☒ Office (Desk) Determination. Date: September 23, 2014 by NDRO
☒ Field Determination. Date(s): **May 22, 2014 by KLJ**

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** "*navigable waters of the U.S.*" within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]
☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☐ TNWs, including territorial seas
      ☐ Wetlands adjacent to TNWs
      ☐ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☒ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters: linear feet: width (ft) and/or acres.
      Wetlands: 1.18 acres.

   c. **Limits (boundaries) of jurisdiction** based on: **1987 Delineation Manual**
      Elevation of established OHWM (if known): .

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
   Explain:

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. **TNW**
   Identify TNW: .

   Summarize rationale supporting determination: .

2. **Wetland adjacent to TNW**
   Summarize rationale supporting conclusion that wetland is "adjacent": .

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. **Characteristics of non-TNWs that flow directly or indirectly into TNW**

   (i) **General Area Conditions:**
   Watershed size: **Pick List**
   Drainage area: **Pick List**
   Average annual rainfall: inches
   Average annual snowfall: inches

   (ii) **Physical Characteristics:**
   (a) Relationship with TNW:
   ☐ Tributary flows directly into TNW.
   ☐ Tributary flows through **Pick List** tributaries before entering TNW.

   Project waters are **Pick List** river miles from TNW.
   Project waters are **Pick List** river miles from RPW.
   Project waters are **Pick List** aerial (straight) miles from TNW.
   Project waters are **Pick List** aerial (straight) miles from RPW.
   Project waters cross or serve as state boundaries. Explain: .

   Identify flow route to TNW[5]: .
   Tributary stream order, if known: .

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.
[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

(b) General Tributary Characteristics (check all that apply):

Tributary is: ☐ Natural
☐ Artificial (man-made). Explain: .
☐ Manipulated (man-altered). Explain: .

Tributary properties with respect to top of bank (estimate):
Average width: feet
Average depth: feet
Average side slopes: **Pick List.**

Primary tributary substrate composition (check all that apply):
☐ Silts ☐ Sands ☐ Concrete
☐ Cobbles ☐ Gravel ☐ Muck
☐ Bedrock ☐ Vegetation. Type/% cover:
☐ Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .
Presence of run/riffle/pool complexes. Explain: .
Tributary geometry: **Pick List**
Tributary gradient (approximate average slope): %

(c) Flow:

Tributary provides for: **Pick List**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime: .
Other information on duration and volume: .

Surface flow is: **Pick List.** Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .
☐ Dye (or other) test performed: .

Tributary has (check all that apply):
☐ Bed and banks
☐ OHWM[6] (check all indicators that apply):
☐ clear, natural line impressed on the bank ☐ the presence of litter and debris
☐ changes in the character of soil ☐ destruction of terrestrial vegetation
☐ shelving ☐ the presence of wrack line
☐ vegetation matted down, bent, or absent ☐ sediment sorting
☐ leaf litter disturbed or washed away ☐ scour
☐ sediment deposition ☐ multiple observed or predicted flow events
☐ water staining ☐ abrupt change in plant community
☐ other (list):
☐ Discontinuous OHWM.[7] Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):
☐ High Tide Line indicated by: ☐ Mean High Water Mark indicated by:
☐ oil or scum line along shore objects ☐ survey to available datum;
☐ fine shell or debris deposits (foreshore) ☐ physical markings;
☐ physical markings/characteristics ☐ vegetation lines/changes in vegetation types.
☐ tidal gauges
☐ other (list):

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain: .
Identify specific pollutants, if known: .

[6]A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7]Ibid.

(iv) Biological Characteristics. Channel supports (check all that apply):

- ☐ Riparian corridor. Characteristics (type, average width): .
- ☐ Wetland fringe. Characteristics: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: .

Surface flow is: **Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

- ☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

- ☐ Directly abutting
- ☐ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain: .
  - ☐ Ecological connection. Explain: .
  - ☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List.**

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

(iii) Biological Characteristics. Wetland supports (check all that apply):

- ☐ Riparian buffer. Characteristics (type, average width): .
- ☐ Vegetation type/percent cover. Explain: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

Summarize overall biological, chemical and physical functions being performed: .

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☐ TNWs: linear feet width (ft), Or, acres.
   - ☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

3. **Non-RPWs[8] that flow directly or indirectly into TNWs.**
☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
☒ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

☒ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: A wetland delineation was completed by KLJ on May 22, 2014 for the project. The subsequent report indicated that the wetlands occurred as basins in a drainage way to Dry Creek.

Provide acreage estimates for jurisdictional wetlands in the review area: **1.18 (See attached wetland table for individual wetland acres)**acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**
☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**
☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. **Impoundments of jurisdictional waters.[9]**
As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
☐ Demonstrate that impoundment was created from "waters of the U.S.," or
☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]
☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ which are or could be used for industrial purposes by industries in interstate commerce.
☐ Interstate isolated waters. Explain: .
☐ Other factors. Explain: .

[8]See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
[10] **Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.***

Identify water body and summarize rationale supporting determination: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .
☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):
☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
☐ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: wetland delineation report submitted with jd request.
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☒ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☐ Corps navigable waters' study: .
☐ U.S. Geological Survey Hydrologic Atlas: .
☐ USGS NHD data.
☒ USGS 8 and 12 digit HUC maps.
☒ U.S. Geological Survey map(s). Cite scale & quad name: USGS 1:24K Quad - Dickinson South.
☒ USDA Natural Resources Conservation Service Soil Survey. Citation:USDA.NRCS . National List of Hydric Soils by State. 2011; Websoil Survey.
☒ National wetlands inventory map(s). Cite name: USFWS/GIS.
☐ State/Local wetland inventory map(s): .
☐ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): USDA. FSA. National Agriculture Imagery Program. 2012. ND Imagery..
or ☒ Other (Name & Date):On site photos - May 22, 2014.
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☐ Other information (please specify): .

B. ADDITIONAL COMMENTS TO SUPPORT JD: wetland delineation report, maps and supporting data available.

Dickinson Theodore Roosevelt
Regional Airport
NWO-1996-60826-BIS
Jurisdictional Wetlands

Wetland ID	Lat/Long	Size/acres
4	46.795514 -102.801700	0.29
8	46.787833 -102.796382	0.65
9	46.786949 -102.795726	0.03
10	46.786635 -102.795555	0.04
11	46.785921 -102.795360	0.08
12	46.784988 -102.794762	0.01
13	46.784447 -102.795175	0.08
Total		1.18

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Dickinson Municipal Airport Authority	File Number: NWO-1996-60826-BIS	Date: 17 Oct 2014

Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
XX	APPROVED JURISDICTIONAL DETERMINATION	D
	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found in Corps regulations at 33 CFR Part 331, or at http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/FederalRegulation.aspx

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact: US Army Corps of Engineers, Omaha District North Dakota Regulatory Office Attn: Mr. Daniel E. Cimarosti 1513 South 12th Street Bismarck, North Dakota 58504	If you only have questions regarding the appeal process you may also contact: US Army Corps of Engineers, Northwestern Division Attn: Mary Hoffman, Regulatory Appeals Review Officer 1125 NW Couch Street Portland, OR 97208-2870 Telephone (503) 808-3888 Mary.J.Hoffman@usace.army.mil

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

_____ Signature of appellant or agent.	Date:	Telephone number: