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P.O. Box 5601  
Bismarck, ND 58506-5601  
(701) 530-1600

July 28, 2021

Kimberly D. Bose, Secretary  
Federal Energy Regulatory Commission  
888 First Street NE, Room 1A  
Washington, D.C. 20426

Re: WBI Energy Transmission, Inc.  
North Bakken Expansion Project  
Docket No. CP20-52-000 and CP20-52-001  
Supplemental Filing

Dear Ms. Bose:

WBI Energy Transmission, Inc. (WBI Energy), herewith submits supplemental information in the above referenced dockets. The information submitted includes a Dakota Skipper (DASK) Habitat Analysis (Attachment A) and an Aquatic Resource Delineation Report (Attachment C) prepared by Beaver Creek Environmental to document field conditions of proposed reroutes and workspaces for several proposed Level 2 variance requests for the North Bakken Expansion Project (Project).

The DASK Habitat Analysis concluded that most of the proposed workspaces did not contain suitable DASK habitat. Limited dispersal habitat was noted in a few areas. None of the areas surveyed contained forbs and bunchgrasses necessary for foraging or reproductive DASK habitat. The results of the analysis were provided to the United States Fish and Wildlife Service (USFWS) on July 26, 2021. Upon review of the analysis, the USFWS concurred that use of the proposed workspaces would not result in additional impact to threatened and endangered species (Attachment B). Attachment B also includes the original November 18, 2020 USFWS concurrence.

Pursuant to the Commission's guidelines for eFiling,<sup>1</sup> WBI Energy is hereby eFiling the supplemental information and will provide two complete copies of the information to the Office of Energy Projects (OEP) Room 62-46 and one complete copy to the Office of General Council – Energy Projects (OGC-EP) Room 101-56.

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<sup>1</sup> Federal Energy Regulatory Commission Filing Guide/Qualified Documents List (February 14, 2017).

Pursuant to 18 CFR § 385.2010 of the Commission's regulations, copies of the responses are being served to each person whose name appears on the official service list for this proceeding.

Any questions regarding this filing should be addressed to the undersigned at (701) 530-1563.

Sincerely,

/s/ Lori Myerchin

Lori Myerchin  
Director, Regulatory Affairs and  
Transportation Services

Attachments

Courtesy Copies:

Dawn Ramsey, FERC Environmental Project Manager  
Shannon Crosley, FERC Environmental Deputy Project Manager  
Official Service List  
OEP Room 61-46 (2 copies)  
OGC-EP Room 101-56 (1 copy)

**CERTIFICATE OF SERVICE**

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated this 28th day of July 2021.

By /s/ Lori Myerchin

Lori Myerchin  
Director, Regulatory Affairs  
and Transportation Services  
WBI Energy Transmission, Inc.  
1250 West Century Avenue  
Bismarck, ND 58503  
Telephone: (701) 530-1563

# Attachment A



## Technical Memorandum

**To:** Jill Linn, WBI Energy Transmission, Inc.  
Andrea Thornton, Environmental Resources Management  
**From:** Luke Toso, Beaver Creek, Inc.  
**Subject:** Post IP North Bakken Reroutes – Dakota Skipper Analysis  
**Date:** July 26, 2021

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### Introduction

The Federal Energy Regulatory Commission (FERC) recently approved WBI Energy Transmission, Inc. (WBI) North Bakken Expansion Project (Project). After the FERC approval of the Project, several reroutes and workspaces were proposed. The proposed reroutes encompass approximately 46.3 acres across 11 different areas, and are referred to collectively as the Project areas or survey areas (**Exhibit 1**). This memorandum documents the field conditions within each of these reroutes, specifically as it relates to the Dakota skipper, a threatened species protected under the Endangered Species Act (ESA).

### Methods

Dakota skipper habitat was evaluated in the Project areas through a desktop assessment and field evaluation. The desktop assessment was conducted to determine the current and historic land use. A series of historic aerial photographs (1995-2020) were used to evaluate the historic conditions in the Project areas.

Field surveys were conducted to field verify desktop assessment results. Field surveys were conducted by Luke Toso, Dakota Skipper Biologist, and Aidan Goblirsch, Natural Resources Specialist of Beaver Creek on June 15, June 17, June 30, July 20, 2021. The Dakota skipper habitat field surveys were conducted following the ND 2020 Dakota Skipper Habitat Assessment Survey Prepared by Western EcoSystems Technology, Inc for the North Bakken Expansion Project. This document separates habitat for the Dakota skipper into four categories:

- Reproductive habitat – native grassland including diverse forbs and bunchgrasses.
- Foraging habitat – native grassland including a diversity of forbs, but does not include bunchgrasses
- Dispersal habitat – grassland habitat lacking adequate forbs or bunchgrasses or previously disturbed grasslands.
- Non-suitable habitat – non-grasslands, cropland, forests, shrubs, or other disturbed areas.

### Results and Conclusion

Most of the Project areas were in agricultural crop land or previously disturbed areas. These areas were determined as not suitable habitat for the Dakota skipper (**Table 1**)

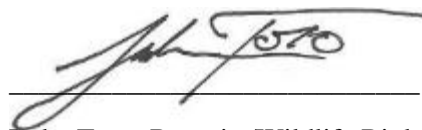
Native grassland dispersal habitat was present in Section 24 and 25, T157N, R95W in Williams County, ND. Upland grassland habitat in these areas was generally flat. Dominant vegetation was a combination of Kentucky bluegrass (*Poa pratensis*), western wheatgrass (*Pascopyrum smithii*) and western snowberry (*Symphoricarpos occidentalis*). Forbs were sparse. Those present included sweet clover (*Melilotus officinalis*), field sage (*Artemisia ludoviciana*), and fringed sage (*Artemisia frigida*). Since native bunchgrasses and nectar sources were not present for the Dakota skipper, the Project areas in these sections were determined to be dispersal habitat.

Dispersal habitat was also present in Section 32, T155N, R95W and Section 18, T154N, R96W Williams County, ND. Both areas were dominated by either smooth brome (*Bromus inermis*) or crested wheatgrass (*Agropyron cristatum*) and lacked forb species. Since these areas were grassland habitat lacking bunchgrasses and nectar sources, they were determined to be dispersal habitat.

**Table 1. Project Area Locations and Dakota Skipper Habitat Types**

Survey Location	Survey Area (acres)	Habitat Type	Notes
Section 2, T159N, R94W, Burke County, ND (Exhibit 1, Map 1)	0.55	Not Suitable Habitat	Agricultural crop field. <b>(Photo 1)</b>
Section 20, T159N, R94W, Burke County, ND (Exhibit 1, Map 2)	0.89	Not Suitable Habitat	Alfalfa hay field. Habitat not present <b>(Photo 2)</b> .
Section 24, T157N, R95W, Williams County, ND (Exhibit 1, Map 3)	0.64	Dispersal Habitat	Rangeland lacking forb and bunchgrasses. <b>(Photo 3)</b>
Section 24 and 25, T157N, R95W, Williams County, ND (Exhibit 1, Map 4)	0.61	Dispersal Habitat	Upland rangeland with an emergent wetland drainageway. Suitable forbs and bunchgrasses not present. <b>(Photo 4)</b>
Section 8, T156N, R95W, Williams County, ND (Exhibit 1, Map 5)	6.44	Not Suitable Habitat	Agricultural crop field <b>(Photo 5, 6)</b>
Section 4 and 5, T156N, R96W, Williams County, ND (Exhibit 1, Map 6)	0.24	Not Suitable Habitat	Existing driveway. Habitat not present <b>(Photo 7)</b>
Section 32, T155N, R95W, Williams County, ND (Exhibit 1, Map 7)	9.39	Dispersal/Not Suitable Habitat	Parcel is mostly an upland wheat field, which is not suitable habitat <b>(Photo 8)</b> . A stream is present, with upland fringes dominated by smooth brome, which may be used as dispersal habitat <b>(Photo 9)</b> .
Section 31 and 32, T155N, R96W, Williams County, ND (Exhibit 1, Map 8).	0.06	Not Suitable	Area is in the road ditch adjacent to agricultural crop land <b>(Photo 10)</b> .
Section 18, T154N, R96 W (Exhibit 1, Map 9)	0.73	Not Suitable	Agricultural crop field <b>(Photo 11)</b>
Section 18, T154N, R96 W (Exhibit 1, Map 10)	0.62	Dispersal	Hayland dominated by crested wheatgrass <b>(Photo 12)</b> .
Section 18, T154N, R96 W (Exhibit 1, Map 10)	0.25	Not Suitable	Agricultural crop field <b>(Photo 13)</b> .
Section 17, T152N, R97W, McKenzie County, ND (Exhibit 1, Map 11)	27.45	Not Suitable	Active gravel pit <b>(Photo 14)</b> .

Please contact me at [ltoso@bcenv.org](mailto:ltoso@bcenv.org) with any questions or comments on this review.



Luke Toso, Botanist/Wildlife Biologist

July 26, 2021

Date



**Photo 1.** View north of the survey area in Section 2, T159N, R94W, Burke County, ND.



**Photo 2.** View northwest of the survey area in Section 20, T159N, R94W, Burke County, ND



**Photo 3.** View southeast of the dispersal habitat present in Section 24, T156N, R95W, Williams County, ND.



**Photo 4.** View east of the dispersal habitat present in Section 24, T156N, R95W, Williams County, ND.





**Photo 5.** View west of the survey area in Section 8, T156N, R95W, Williams County, ND.



**Photo 6.** View northeast of the survey area in Section 8, T156N, R95W, Williams County, ND.



**Photo 7.** View southeast of the survey area in Section 4, T156N, R96W, Williams County, ND



**Photo 8.** View east of the survey area in Section 32, T155N, R95W, Williams County, ND.



**Photo 9.** View south of the dispersal habitat in Section 32, T155N, R95W, Williams County, ND



**Photo 10.** View north using Google Maps Street View at the survey area in Section 31 and 32, T155N, R96W, Williams County, ND



**Photo 11.** View northeast of the typical agricultural crop field in the north ½ of Section 18, T154N, R96W, Williams County, ND



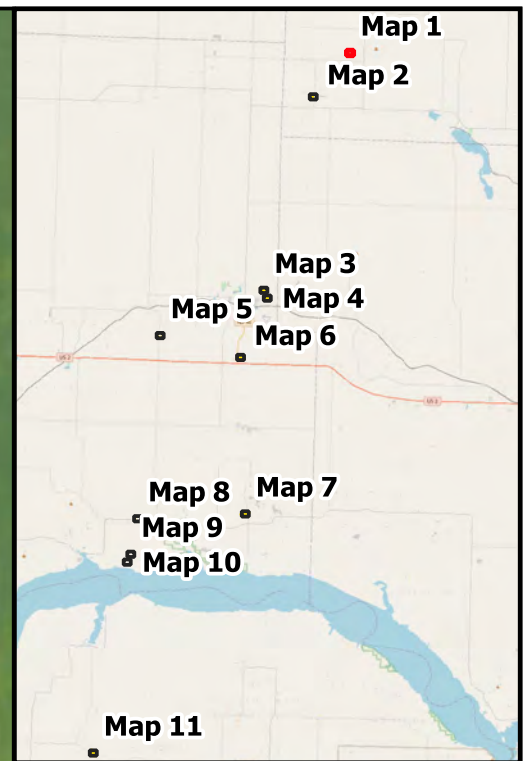
**Photo 12.** View north of the crested wheatgrass dominated hayland in Section 18, T154N, R96W, Williams County, ND.



**Photo 13.** View northeast of the agricultural crop field in Section 18, T154N, R96W, Williams County, ND.



**Photo 14.** View northwest of the existing gravel pit in Section 17, T152N, R97W, McKenzie County, ND



Survey Area  
 Section Boundary  
 Dakota Skipper Habitat  
 Dispersal  
 Not Suitable

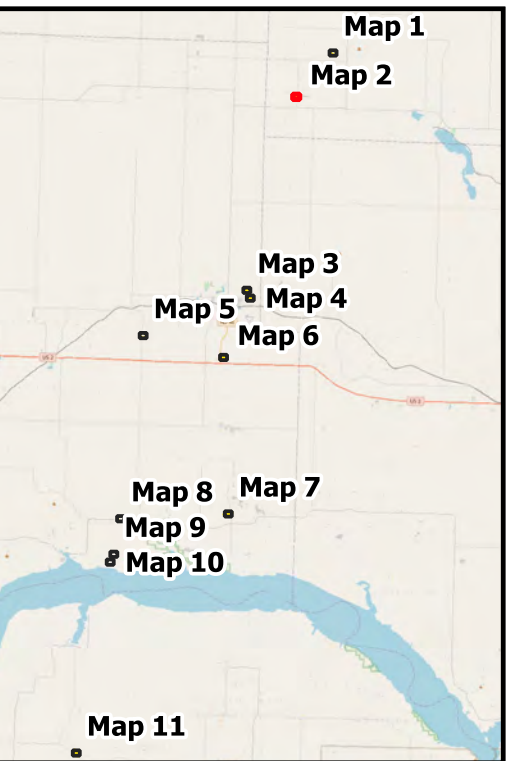
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


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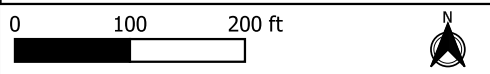


**DAKOTA SKIPPER  
 ANALYSIS  
 North Bakken Expansion  
 Post-IP Reroutes  
 WBI Energy, Inc.**

**Exhibit 1  
 Map 1 of 11**



-  Survey Area
-  Section Boundary
- Dakota Skipper Habitat
  -  Dispersal
  -  Not Suitable







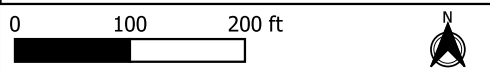
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**DAKOTA SKIPPER  
 ANALYSIS**  
**North Bakken Expansion  
 Post-IP Reroutes**  
**WBI Energy, Inc.**



-  Survey Area
-  Section Boundary
- Dakota Skipper Habitat
-  Dispersal
-  Not Suitable

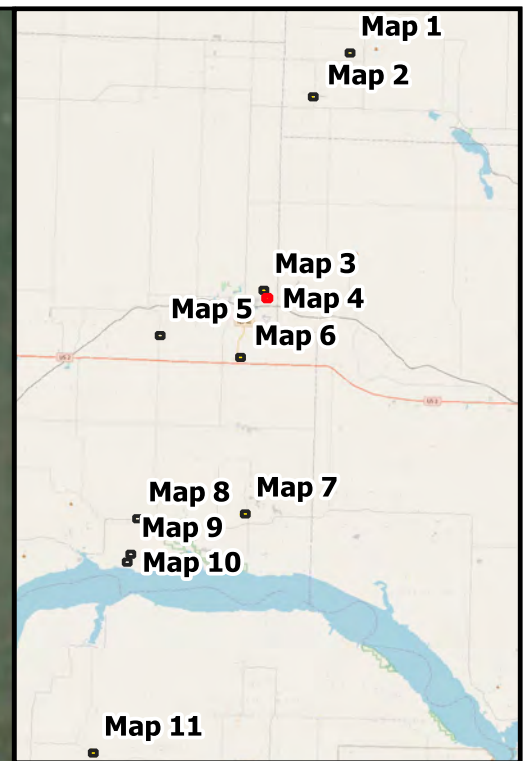


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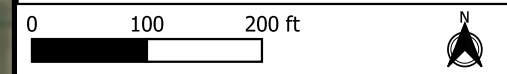


**DAKOTA SKIPPER  
 ANALYSIS**  
**North Bakken Expansion  
 Post-IP Reroutes**  
**WBI Energy, Inc.**





- Survey Area
- Section Boundary
- Dakota Skipper Habitat
- Dispersal
- Not Suitable



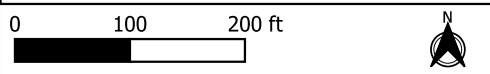
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**DAKOTA SKIPPER  
 ANALYSIS**  
**North Bakken Expansion  
 Post-IP Reroutes**  
**WBI Energy, Inc.**



- Survey Area
- Section Boundary
- Dakota Skipper Habitat
- Dispersal
- Not Suitable







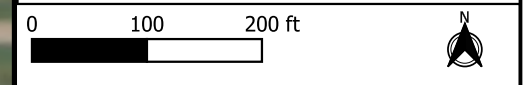
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Background Imagery: 2020 Aerial Image (NAIP)



**DAKOTA SKIPPER  
ANALYSIS  
North Bakken Expansion  
Post-IP Reroutes  
WBI Energy, Inc.**



-  Survey Area
-  Section Boundary
- Dakota Skipper Habitat
-  Dispersal
-  Not Suitable

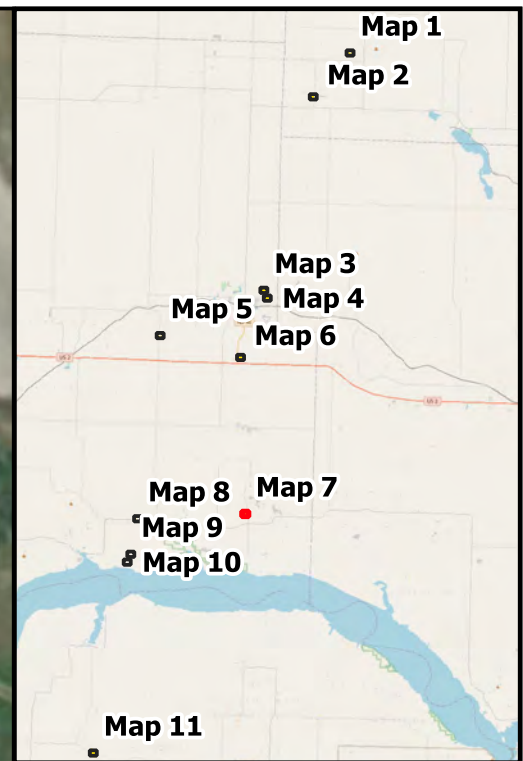
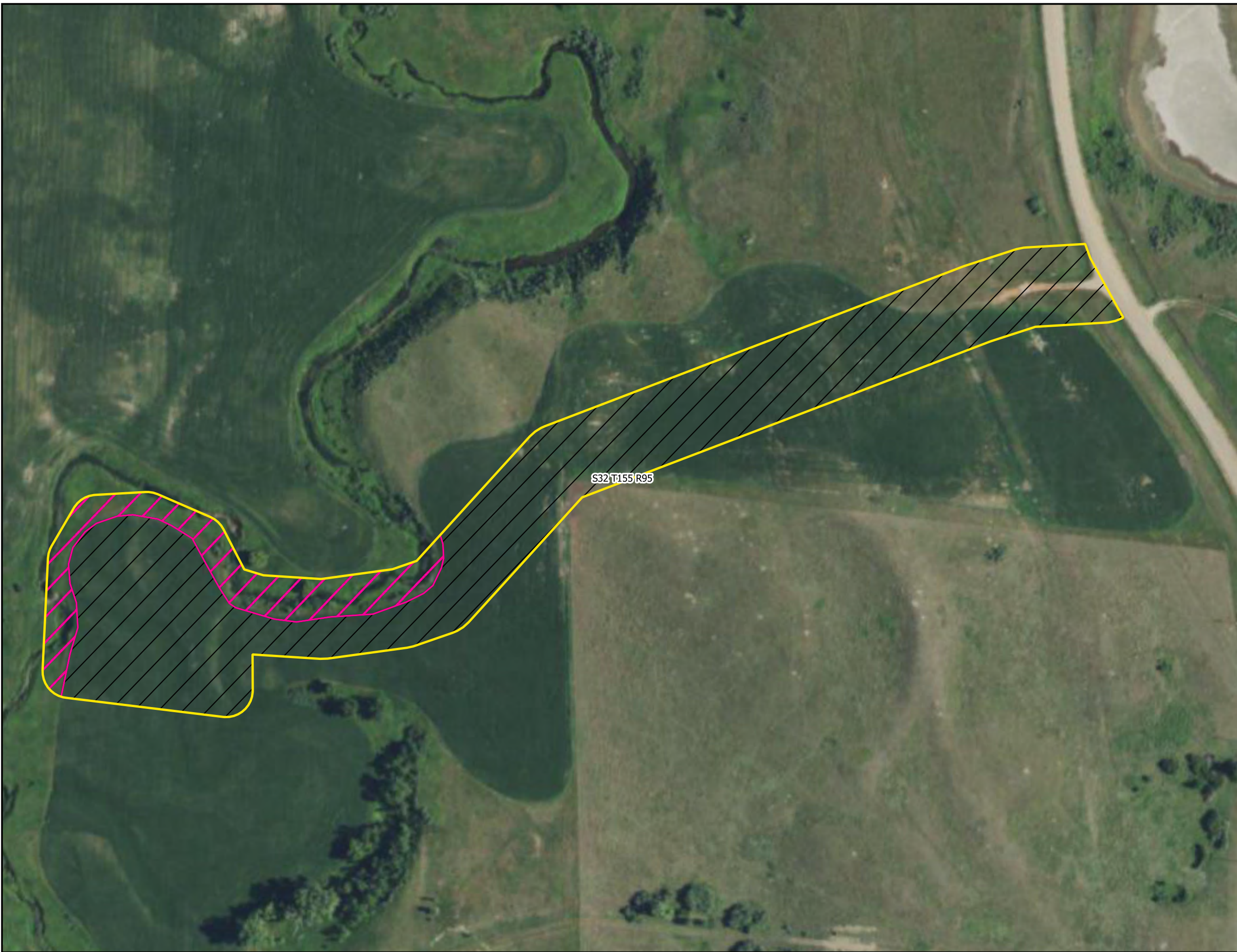






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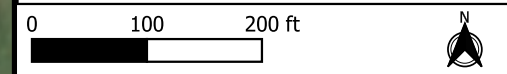


**DAKOTA SKIPPER  
 ANALYSIS**  
**North Bakken Expansion  
 Post-IP Reroutes**  
**WBI Energy, Inc.**

**Exhibit 1**  
**Map 6 of 11**



-  Survey Area
-  Section Boundary
- Dakota Skipper Habitat
-  Dispersal
-  Not Suitable







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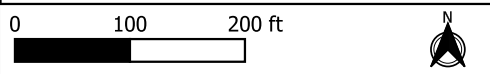


**DAKOTA SKIPPER  
 ANALYSIS**  
**North Bakken Expansion  
 Post-IP Reroutes**  
**WBI Energy, Inc.**

**Exhibit 1**  
**Map 7 of 11**



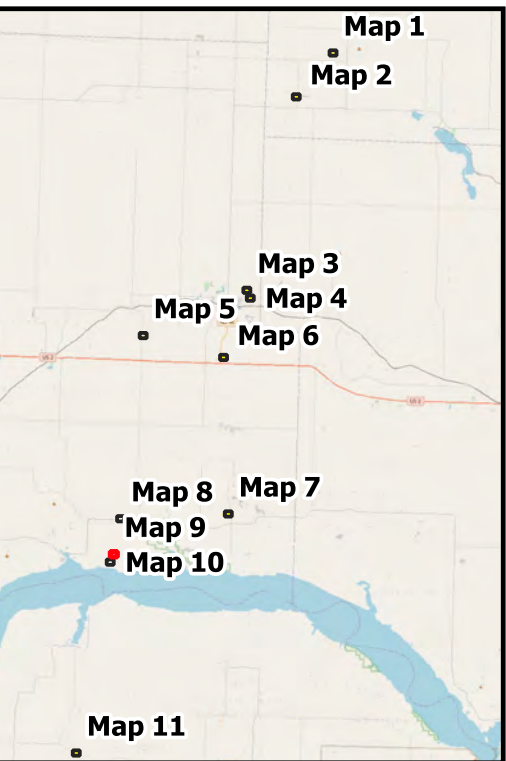
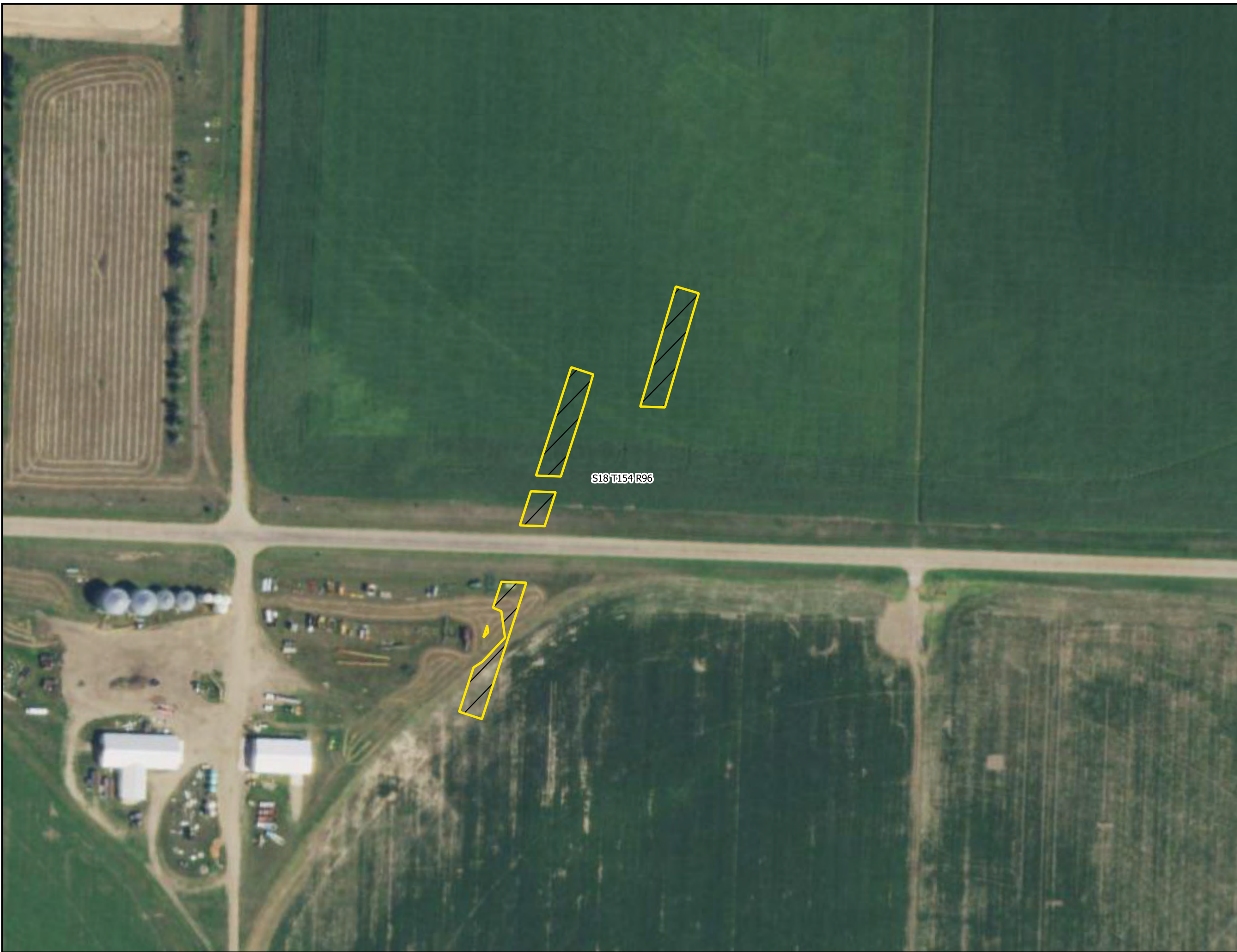
-  Survey Area
-  Section Boundary
- Dakota Skipper Habitat
-  Dispersal
-  Not Suitable



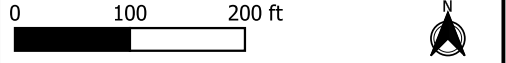
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**DAKOTA SKIPPER  
 ANALYSIS**  
**North Bakken Expansion  
 Post-IP Reroutes**  
**WBI Energy, Inc.**



Survey Area  
 Section Boundary  
 Dakota Skipper Habitat  
 Dispersal  
 Not Suitable







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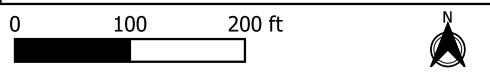


**DAKOTA SKIPPER  
 ANALYSIS  
 North Bakken Expansion  
 Post-IP Reroutes  
 WBI Energy, Inc.**

**Exhibit 1  
 Map 9 of 11**



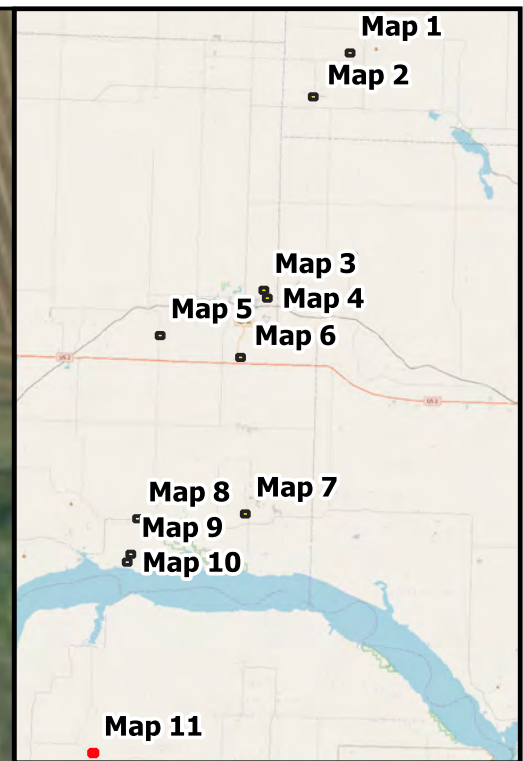
-  Survey Area
-  Section Boundary
- Dakota Skipper Habitat
-  Dispersal
-  Not Suitable



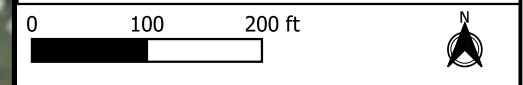
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 Background Imagery: 2020 Aerial Image (NAIP)



**DAKOTA SKIPPER  
 ANALYSIS**  
**North Bakken Expansion  
 Post-IP Reroutes**  
**WBI Energy, Inc.**



Survey Area  
 Section Boundary  
 Dakota Skipper Habitat  
 Dispersal  
 Not Suitable



Surveyor: LToso, AGoblirsch  
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 Background Imagery: 2020 Aerial Image (NAIP)



**DAKOTA SKIPPER  
 ANALYSIS**  
**North Bakken Expansion  
 Post-IP Reroutes**  
**WBI Energy, Inc.**

**Exhibit 1**  
**Map 11 of 11**



## Attachment B

**From:** [Reinisch, Jerry D](#)  
**To:** [Tina Lyons](#); [Andrea Thornton](#)  
**Subject:** RE: [EXTERNAL] RE: Additional Dakota Skipper Surveys (Updated Surveys with Two Additional Areas Added)  
**Date:** Tuesday, July 27, 2021 11:36:30 AM

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All

After review of the supplemental data I do not see any additional impacts to ESA species reviewed. Please keep me updated on the progress of the project along with location and status of the posiden tanks to be used.

Jerry

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**From:** Tina Lyons <Tina.Lyons@erm.com>  
**Sent:** Monday, July 26, 2021 7:00 PM  
**To:** Andrea Thornton <Andrea.Thornton@erm.com>; Reinisch, Jerry D <jerry\_reinisch@fws.gov>  
**Subject:** [EXTERNAL] RE: Additional Dakota Skipper Surveys (Updated Surveys with Two Additional Areas Added)  
**Importance:** High

**This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.**

Hi Jerry – Andrea is offline but we just received a revised version of the DASK report after Andrea’s email went out today that includes the two additional areas below (maps 9 and 10 of 11 in the attached report). The area on the left is an urgent request to provide access to a landowner’s home during construction. I wanted to get these in front of you before you started digging into the previous version of the report (if you could take a peek at the first area/road ASAP, that would be very helpful (so access can be maintained for the landowner and emergency vehicles).



Thanks and have a nice night!!

Tina

Tina Lyons  
ERM  
612.210.4928  
[tina.lyons@erm.com](mailto:tina.lyons@erm.com)

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**From:** Andrea Thornton <[Andrea.Thornton@erm.com](mailto:Andrea.Thornton@erm.com)>  
**Sent:** Monday, July 26, 2021 1:36 PM  
**To:** [jerry\\_reinisch@fws.gov](mailto:jerry_reinisch@fws.gov)  
**Cc:** Tina Lyons <[Tina.Lyons@erm.com](mailto:Tina.Lyons@erm.com)>  
**Subject:** Additional Dakota Skipper Surveys  
**Importance:** High

Hi Jerry –

As we discussed on the phone, there have been a few changes to the North Bakken Expansion Project that have occurred outside of our previous survey corridor for Dakota Skipper. The new survey report from Beaver Creek is attached. As you will see the majority of the areas were classified as not-suitable with a few dispersal habitat areas as well. No reproductive or foraging habitat was identified.

Please respond to this email if you agree that the new workspaces would not impact the findings of the attached November 17, 2020 concurrence letter. As I noted on the phone, these workspace change requests are of high priority and if you are able to expedite your review it would be greatly appreciated. If you have any questions please give me a call.

Thanks again,

Andrea

**Andrea Thornton**

Principal Consultant

*Pronouns: she/her/hers*

**Environmental Resources Management (ERM)**

1050 SW 6<sup>th</sup> Avenue, Suite 1650 | Portland, Oregon | 97204

**M** 503-459-6864

**E** [andrea.thornton@erm.com](mailto:andrea.thornton@erm.com) | **W** [www.erm.com](http://www.erm.com)

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# United States Department of the Interior



## FISH AND WILDLIFE SERVICE

North Dakota Ecological Services

3425 Miriam Avenue

Bismarck, North Dakota 58501

IN REPLY REFER TO:  
06E14000-2021-I-0083  
WBI Energy  
North Bakken Expansion  
Revised Pipeline BA

November 17, 2020

Ms. Jill Linn  
Environmental Manager  
WBI Energy Transmission, Inc.  
1250 West Century Avenue  
Bismarck, North Dakota 58506-5601

Dear Ms. Linn:

This is response to your email on September 11, 2020, requesting concurrence of determination of effects regarding federal listed species for the proposed Revised Biological Assessment for 93.5 miles of natural gas pipeline for WBI Energy Transmission's North Bakken Expansion Project in McKenzie and Williams Counties, North Dakota submitted by Environmental Resources Management (ERM) the non-federal designated representative for FERC.

In accordance with section 7(c) of the Endangered Species Act (ESA), as amended, 16 U.S.C. 1531 et seq., ERM has requested Service concurrence with the determinations that the Project "may affect, but is not likely to adversely affect", the endangered interior least tern (*Sterna antillarum*), pallid sturgeon (*Scaphirhynchus albus*), whooping crane (*Gus americana*), threatened Dakota skipper (*Hesperia dacotae*), piping plover (*Charadrius melodus*) and northern long-eared bat (*Myotis septentrionalis*). The Service concurs with your determinations for the Project.

In the event of inadvertent returns during any directional drilling operations as part of the Project or changes to the Project plan, all construction will cease and the USFWS will be contacted immediately.

The ERM has also determined that there will be "no effect" to the threatened rufa red knot (*Calidris cantus rufa*) and designated critical habitat for Dakota skipper.

There is no requirement under the implementing regulations of the Act (50 CFR Part 402) for action agencies to receive Service concurrence with "no effect" determinations, therefore the responsibility for "no effect" determinations remains with FERC. We recommend you document your "no effect" determinations and retain the documentation in your decisional record.

The Service's concurrence is based on the information contained within the Revised Biological Assessment for the Project. Pursuant to the implementing regulations of the Act (50 CFR 402.13), this letter concludes informal consultation on this portion of the Project. This action should be re-analyzed if (1) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not considered in this consultation; (2) the action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this consultation; or (3) a new species is listed or critical habitat is designated that may be affected by this Project.

The Service appreciates the opportunity to work with ERM and WBI Energy to ensure the conservation of federally-listed species as part of our joint responsibilities under ESA to conserve threatened and endangered species and their habitats. If you have any questions on these comments, please contact Jerry Reinisch of this office at (701) 333-0267 or me at (701) 355-8512.

Sincerely,

Drew Becker  
ND Ecological Services Supervisor

cc: Greg Link, North Dakota Game and Fish Department, Bismarck, North Dakota  
Justin Moffett, ERM, Portland, Oregon



## Attachment C



# NORTH BAKKEN PIPELINE REROUTES

## Aquatic Resource Delineation Report



*Prepared For:*  
**WBI Energy Transmission, Inc.**



**Beaver Creek**  
**ENVIRONMENTAL**

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## Executive Summary

The Federal Energy Regulatory Commission (FERC) recently approved WBI Energy Transmission, Inc. (WBI) North Bakken Expansion Project (Project). After the FERC approval of the Project, several reroutes and workspaces were proposed. WBI contracted Beaver Creek, Inc. to conduct an aquatic resources inventory for the Project reroutes. Luke Toso and Aidan Goblirsch, conducted the aquatic resource delineation according to standards set forth in the *US Army Corps of Engineers (USACE) 1987 Wetland Delineation Manual*, the *2012 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region*, and the *2008 Field Guide to the Identification of the Ordinary High-Water Mark (OHWM) in the Arid West Region of the United States*. A summary of the delineation is as follows:

- The total survey area was 46.3 acres and was located in the following sections
  - Portions of Section 2, 20 Township (T) 159 North (N), Range (R) 94 West (W), Burke County, ND
  - Portions of Section 31, 32 T155N, R95W, Williams County, ND.
  - Portions of Section 9, T156N, R95W, Williams County, ND
  - Portions of Section 24, T157N, R95W, Williams County, ND
  - Portions of Section 4, 5 T156N, R96W, Williams County, ND
  - Portions of Section 17, T152N, R97W, McKenzie County, ND.
- Field surveys revealed two (2) aquatic resources (delineated in 5 parts) in the survey areas.
- A upland observation was made in one area. This area were investigated since it was within an NWI polygon, but the field investigation showed this area to be upland.

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## Chapter 1. Introduction

The Federal Energy Regulatory Commission (FERC) recently approved WBI Energy Transmission, Inc. (WBI) North Bakken Expansion Project (Project). After the FERC approval of the Project, several reroutes and workspaces were proposed. WBI contracted Beaver Creek, Inc. to conduct an aquatic resources inventory for the Project. The survey areas are defined as the 46.27-acres where construction activities are planned. The purpose of this report is to identify and describe aquatic resources and to identify known possible sensitive plant, fish, wildlife species, and cultural/historic properties in the survey area. This report facilitates efforts to:

1. Avoid or minimize impacts to aquatic resources during the design process.
2. Document aquatic resource boundary determinations for review by regulatory authorities.
3. Provide early indications of known sensitive species and historic/cultural properties within the survey area.
4. Provide background information.
5. Avoid or minimize impacts to aquatic resources during the design process.
6. Document aquatic resource boundary determinations for review by regulatory authorities.
7. Provide early indications of known sensitive species and historic/cultural properties within the survey area.

**Applicant:** WBI Energy, Inc. Jill Linn, [Jill.Linn@wbienergy.com](mailto:Jill.Linn@wbienergy.com)

**Delineator:** Beaver Creek, Inc. Luke Toso, 701-575-0731, [ltoso@bcenv.org](mailto:ltoso@bcenv.org)

## Chapter 2. Location

The Project is in Burke, Williams, and McKenzie Counties, North Dakota. The survey areas are in the following sections:

- Portions of Section 2, 20 Township (T) 159 North (N), Range (R) 94 West (W), Burke County, ND
- Portions of Section 31, 32 T155N, R95W, Williams County, ND.
- Portions of Section 9, T156N, R95W, Williams County, ND
- Portions of Section 24, T157N, R95W, Williams County, ND
- Portions of Section 4, 5 T156N, R96W, Williams County, ND
- Portions of Section 17, T152N, R97W, McKenzie County, ND.

## Chapter 3. Methods

Prior to field surveys, a desktop assessment was conducted to evaluate potential wetland sites in the survey areas. Aerial images and US Geological Survey (USGS) topographic maps were evaluated to determine land use and topographic relief. The USGS topographic maps used were Grand View, Battlevue, Tioga, Tioga SW, Ray SE, Red Mike Hill, Charlson NW, and Demicks Lake 7.5" quadrangles. The National Wetland Inventory (NWI) and soil survey maps were also used to determine if wetlands may be present.

The aquatic resource field delineation was conducted on June 15, 17, and 30, 2021 by Luke Toso and Aidan Goblirsch according to routine on-site methodology in the 1987 US Army Corps of Engineers *Wetland Delineation Manual*, the 2012 *Regional Supplement to the Corps of*

*Engineers Wetland Delineation Manual: Great Plains Region*, and the *2008 Field Guide to the Identification of the Ordinary High-Water Mark (OHWM) in the Arid West Region of the United States*. Delineations were conducted by evaluating potential wetlands through investigating vegetation, soils, and hydrology indicators at paired upland and wetland transect points. Potential streams or other waters were determined by evaluating the ordinary high-water mark (OHWM). Areas that appeared to be wetlands or drainageways on aerial images were also documented to show actual field conditions.

Vegetation was identified and quantified at each transect point. Wetland indicator status was assigned to each species according to the *National Wetland Plants List, Great Plains Region* (Lichvar 2016). Plant scientific names are used according to the US Department of Agriculture, Natural Resources Conservation Service (NRCS) Plants Database (USDA, NRCS 2020). Hydrophytic wetland vegetation criteria are met when 50% or more of the dominant species within each vegetation strata were obligate (OBL), facultative wet (FACW) or facultative (FAC) wetland status.

Hydric soils were determined by using the NRCS *Field Indicators of Hydric Soils in the United States, Version 8.2* (NRCS 2018). Soils were evaluated by excavating soil pits at each sample point. The depth of each pit varied depending if hydric soil indicators were present.

Wetland hydrology was determined through observation of primary or secondary indicators. A single primary indicator (e.g. surface water) or two secondary indicators (e.g. soil surface cracks or geomorphic position) are needed to conclude that wetland hydrology is present. Due to drought conditions throughout the project area, hydrology indicators were carefully evaluated to ensure aquatic resources were accurately delineated.

Streams or other waters (i.e. ditches) were delineated differently than wetlands by mapping the OHWM. The OHWM is defined as “[T]he line on the shore established by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area” (84 FR 4154).

Off-site methods were used to evaluate one of the survey areas in Section 31 and 32, T155N, R96W in Williams County, North Dakota (Exhibit 1, Map 8). The offsite wetland delineation was conducted in accordance with the North Dakota Department of Transportation Project Development Manual: Chapter II – Section IV: Environmental Permitting & Wetlands. The survey area was evaluated by interpreting aerial photos from 2019, 2018, 2017, 2016, and 2015, as well as using NWI maps, and USGS topographic layers. Google Maps Street View was also used as a surrogate to a field visit, as it showed clearly the dominant vegetation in the survey area.

## Chapter 4. Existing Conditions

### 4.1 Landscape Setting

At the landscape scale, the survey areas are within the Missouri Coteau Slope and River Breaks ecoregions of North Dakota (Bryce et al. 1996). This landscape contains gently rolling to flat topography in the more northern survey areas with more rugged landscape in the southern survey

areas. Most waterways in this ecoregion flow into the Missouri River via streams flowing generally west or south.

The site visit was conducted on June 15, 17, and 30, 2021. Drought conditions were prevalent throughout this part of North Dakota, and water levels in wetlands appeared lower than typical for this time of year. Delineators used a conservative approach to delineate aquatic resources, by assuming a greater wetland boundary using topography than field conditions indicated based on vegetation. Historic aerial images were also used as an indicator of typical conditions.

#### **4.2 Desktop Assessment**

The desktop review showed several drainageways present throughout the survey areas. Two stream systems were shown on USGS Topographic Maps, one unnamed stream, and the other named stream Dry Fork Creek.

#### **4.3 Field Survey Results**

Field surveys revealed two (2) aquatic resources in the survey area, delineated in five parts. One NWI polygon shown on the desktop assessment was determined to be upland based on field observations.

##### **Wetland w-lbt-006 (a, b)**

Wetland w-lbt-006 (a, b) was a vegetated wetland drainageway that was bisected by a road with a culvert connecting the two parts together. This feature was delineated by mapping the boundary between smooth brome (*Bromus inermis*, UPL) and prairie cordgrass (*Spartina pectinata*, FACW). Soils in the wetland were dark at the soil surface with redoximorphic concentrations which met the Redox Dark Surface (F6) hydric soil indicator. The wetland hydrology indicator was Surface Water (A1) with a depth of 6+ inches.

##### **Wetland w-lbt-007 (a, b, c)**

Wetland w-lbt-007 (a, b, c) appeared to be a vegetated wetland drainageway that was broken into three parts due to the drainageway curving around and outside of the survey area. This feature was delineated by mapping the boundary between upland vegetation, including smooth brome (*Bromus inermis*, UPL) and western snowberry (*Symphoricarpos occidentalis*, UPL), and hydrophytic vegetation, including cattail (*Typha latifolia*, OBL). Soils in the wetland were dark at the soil surface with redoximorphic concentrations which met the Redox Dark Surface (F6) hydric soil indicator. Wetland hydrology indicators were Surface Water (A1), with a depth of 6+ inches, and Geomorphic Position (D2). This feature does not appear to support aquatic wildlife that would support interstate or foreign commerce or support industries operating interstate or foreign commerce.

#### **4.5 Upland Observation Points**

##### **Upland u-lbt-003**

Upland u-lbt-003 was within an NWI polygon, but was determined to be upland. Upland vegetation dominated, including Kentucky bluegrass (*Poa pratensis*, FACU), western snowberry (UPL), and western wheatgrass (*Elymus repens*, FACU) were dominant. Soils did not meet any

hydric soil indicators. Since upland vegetation dominated and hydric soil indicators were absent, this area was assumed to be upland.

**Section 31 and 32, T155N, R96W in Williams County, North Dakota**

This survey area was evaluated using desktop methods. Aerial images do not show wetland signatures, nor are their indications of wetland conditions on USGS topographic maps or on the NWI database. The Google Maps Street View shows smooth brome throughout this survey area. This area was determined to be upland.

**Table 1. Wetland Table**

<b>Wetland Number</b>	<b>Test Hole (within wetland)</b>	<b>Location</b>	<b>LONG West (Dec. Deg.)</b>	<b>LAT North (Dec. Deg.)</b>	<b>Field Cowardin Classification</b>	<b>Wetland Type</b>	<b>Wetland Size (acres)</b>
w-lbt-006a	w-lbt-006w	Sec.24, T157N, R95W	48.401806	-102.899199	PEM1C	Drainageway	0.04
w-lbt-006b	w-lbt-006w	Sec.24, T157N, R95W	48.401806	-102.899199	PEM1C	Drainageway	0.04
w-lbt-007a	w-lbt-007w	Sec.32, T155N, R95W	48.204498	-102.924324	PEM1C	Drainageway	0.33
w-lbt-007b	w-lbt-007w	Sec.32, T155N, R95W	48.204498	-102.924324	PEM1C	Drainageway	0.04
w-lbt-007c	w-lbt-007w	Sec.32, T155N, R95W	48.204498	-102.924324	PEM1C	Drainageway	0.12
u-lbt-003	N/A	Sec.24, T157N, R95W	48.409113	-102.904983	N/A	N/A	-
<b>Total</b>							<b>0.57</b>










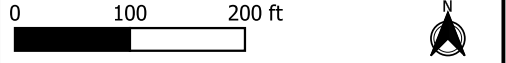
## Chapter 5. References Cited

- Bryce, S.A., Omernik, J.M., Pater, D.A., Ulmer, M., Schaar, J., Freeouf, J., Johnson, R., Kuck, P., and Azevedo, S.H., 1996, Ecoregions of North Dakota and South Dakota, (color poster with map, descriptive text, summary tables, and photographs): Reston, Virginia, U.S. Geological Survey (map scale 1:1,500,000).
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- Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. The National Wetland Plant List: 2016 wetland ratings. *Phytoneuron* 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X
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- United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) 2018. Field Indicators of Hydric Soils in the United States, Version 8.2. L.M. Vasilas, G.W. Hurt, and J.F. Berkowitz (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.
- USDA, NRCS. 2020. The PLANTS Database (<http://plants.usda.gov>, 28 April 2020). National Plant Data Team, Greensboro, NC 27401-4901

## **Appendix A – Aquatic Resource Delineation Maps**



-  Survey Area
-  Aquatic Resources
-  Photo Point
-  Transect Point
-  Section Boundary
-  Stream (USGS NHD)
-  NWI










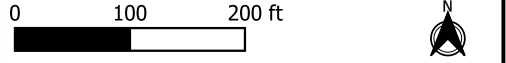
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**AQUATIC RESOURCES  
 MAP**  
**North Bakken Expansion  
 Post-IP Reroutes  
 WBI Energy, Inc.**



-  Survey Area
-  Aquatic Resources
-  Photo Point
-  Transect Point
-  Section Boundary
-  Stream (USGS NHD)
-  NWI










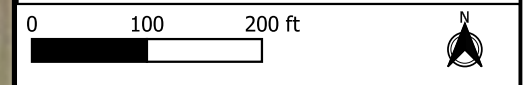
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**AQUATIC RESOURCES  
 MAP**  
**North Bakken Expansion  
 Post-IP Reroutes  
 WBI Energy, Inc.**



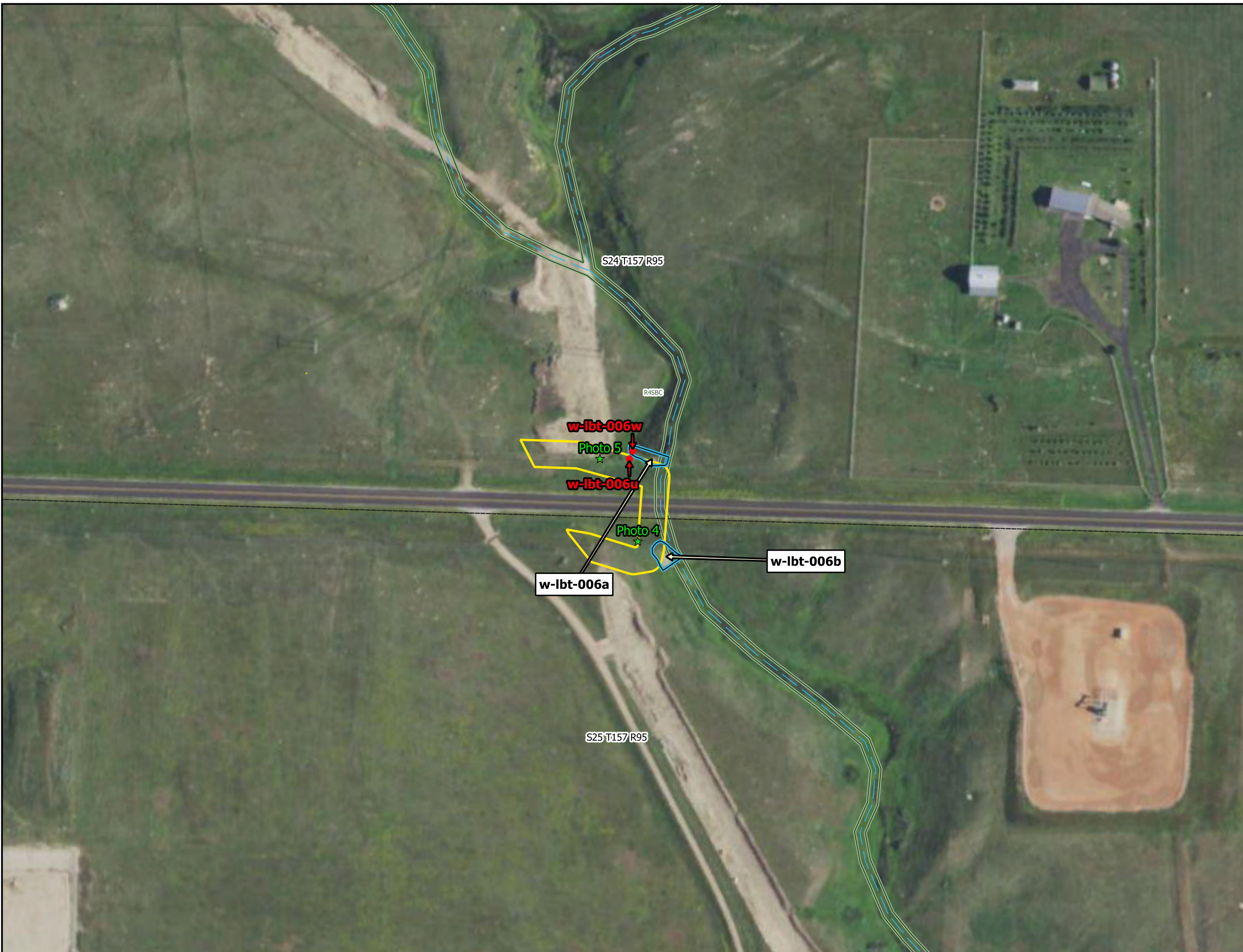
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-  Aquatic Resources
-  Photo Point
-  Transect Point
-  Section Boundary
-  Stream (USGS NHD)
-  NWI



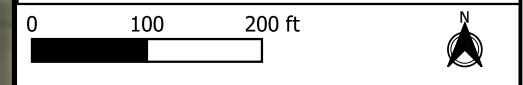
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**AQUATIC RESOURCES  
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**North Bakken Expansion  
 Post-IP Reroutes  
 WBI Energy, Inc.**



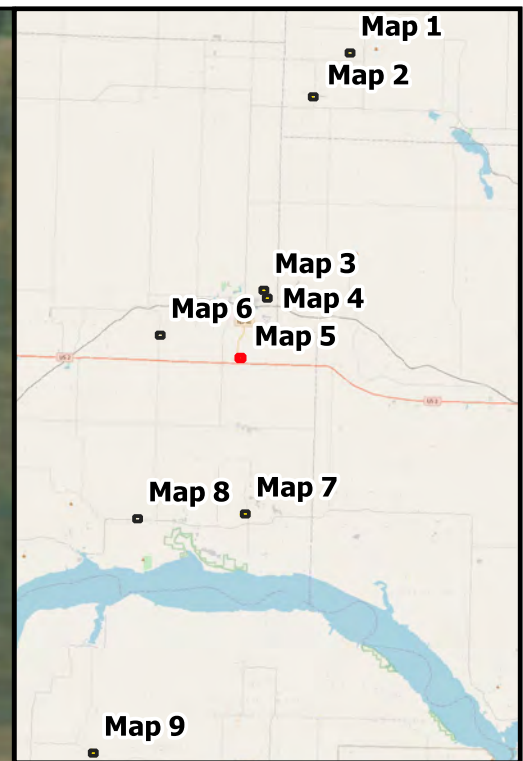
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- Aquatic Resources
- Photo Point
- Transect Point
- Section Boundary
- Stream (USGS NHD)
- NWI



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**AQUATIC RESOURCES  
 MAP**  
**North Bakken Expansion  
 Post-IP Reroutes  
 WBI Energy, Inc.**



Survey Area  
 Aquatic Resources  
★ Photo Point  
● Transect Point  
 Section Boundary  
— Stream (USGS NHD)  
 NWI

0 100 200 ft N

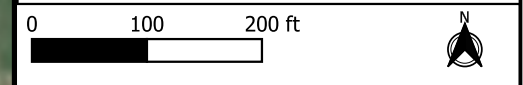
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**AQUATIC RESOURCES  
 MAP**  
**North Bakken Expansion  
 Post-IP Reroutes  
 WBI Energy, Inc.**



- Survey Area
- Aquatic Resources
- Photo Point
- Transect Point
- Section Boundary
- Stream (USGS NHD)
- NWI

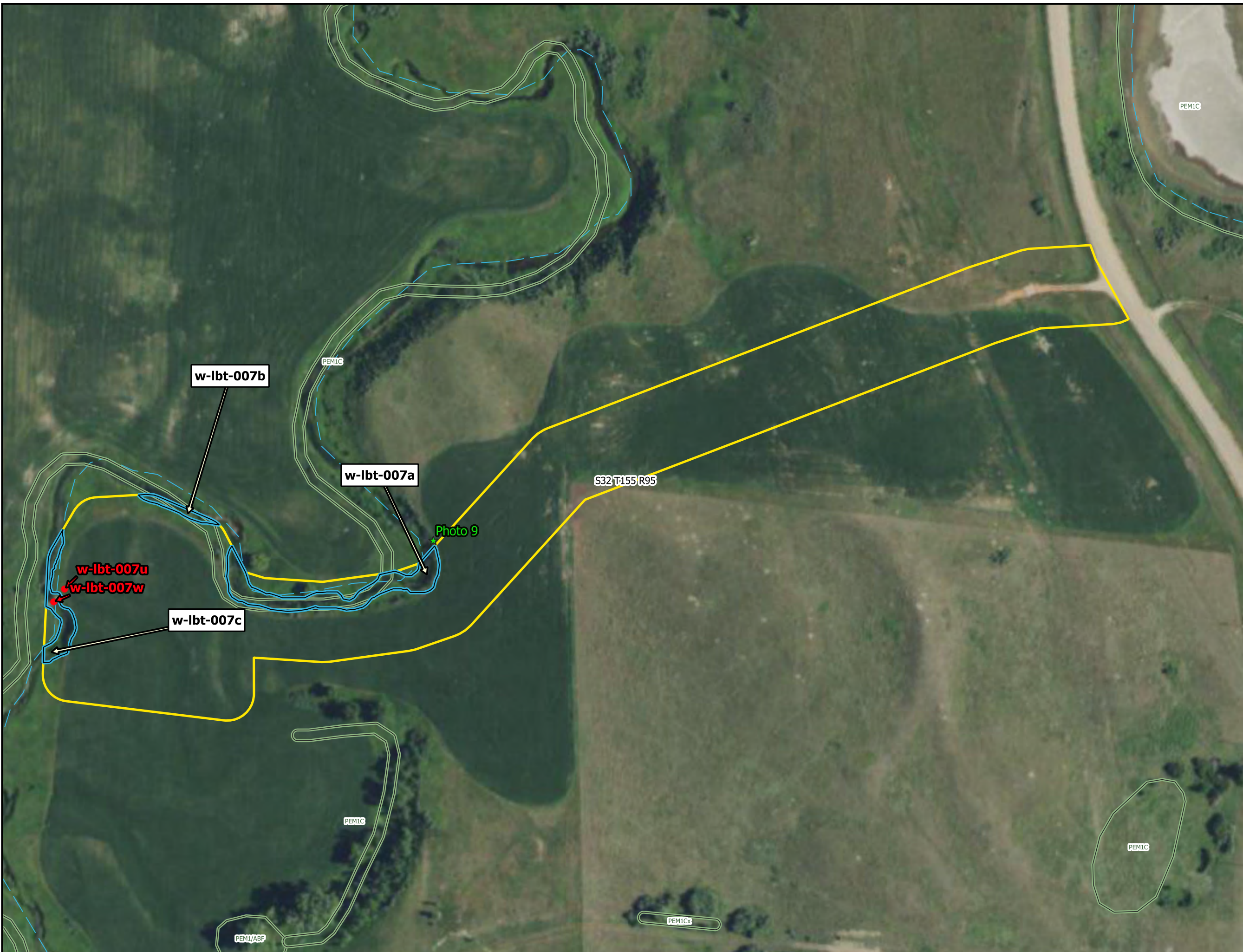









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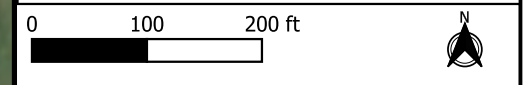


**AQUATIC RESOURCES  
 MAP**  
**North Bakken Expansion  
 Post-IP Reroutes  
 WBI Energy, Inc.**





-  Survey Area
-  Aquatic Resources
-  Photo Point
-  Transect Point
-  Section Boundary
-  Stream (USGS NHD)
-  NWI



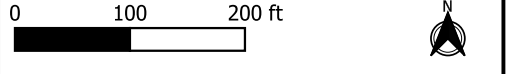
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**AQUATIC RESOURCES  
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**North Bakken Expansion  
 Post-IP Reroutes  
 WBI Energy, Inc.**



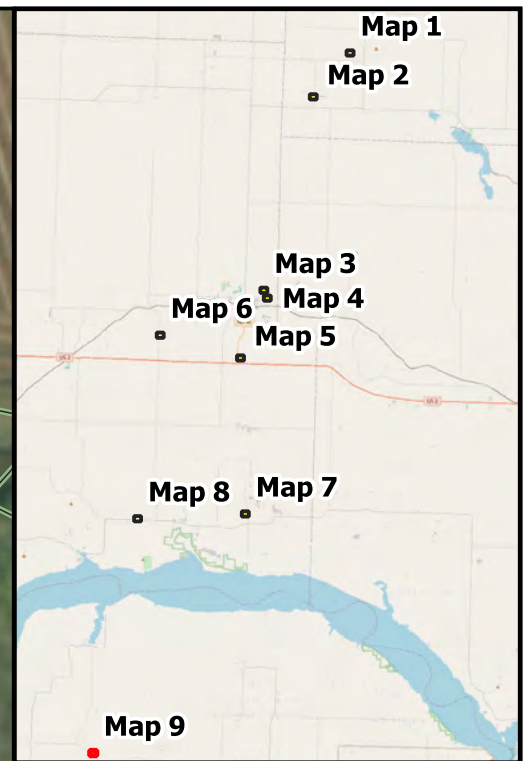
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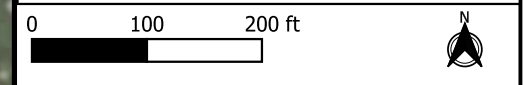
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**AQUATIC RESOURCES  
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**North Bakken Expansion  
 Post-IP Reroutes  
 WBI Energy, Inc.**



- Survey Area
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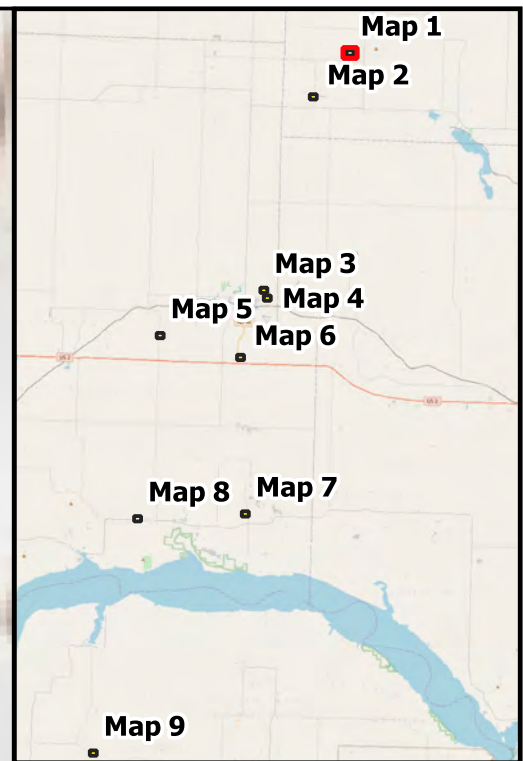
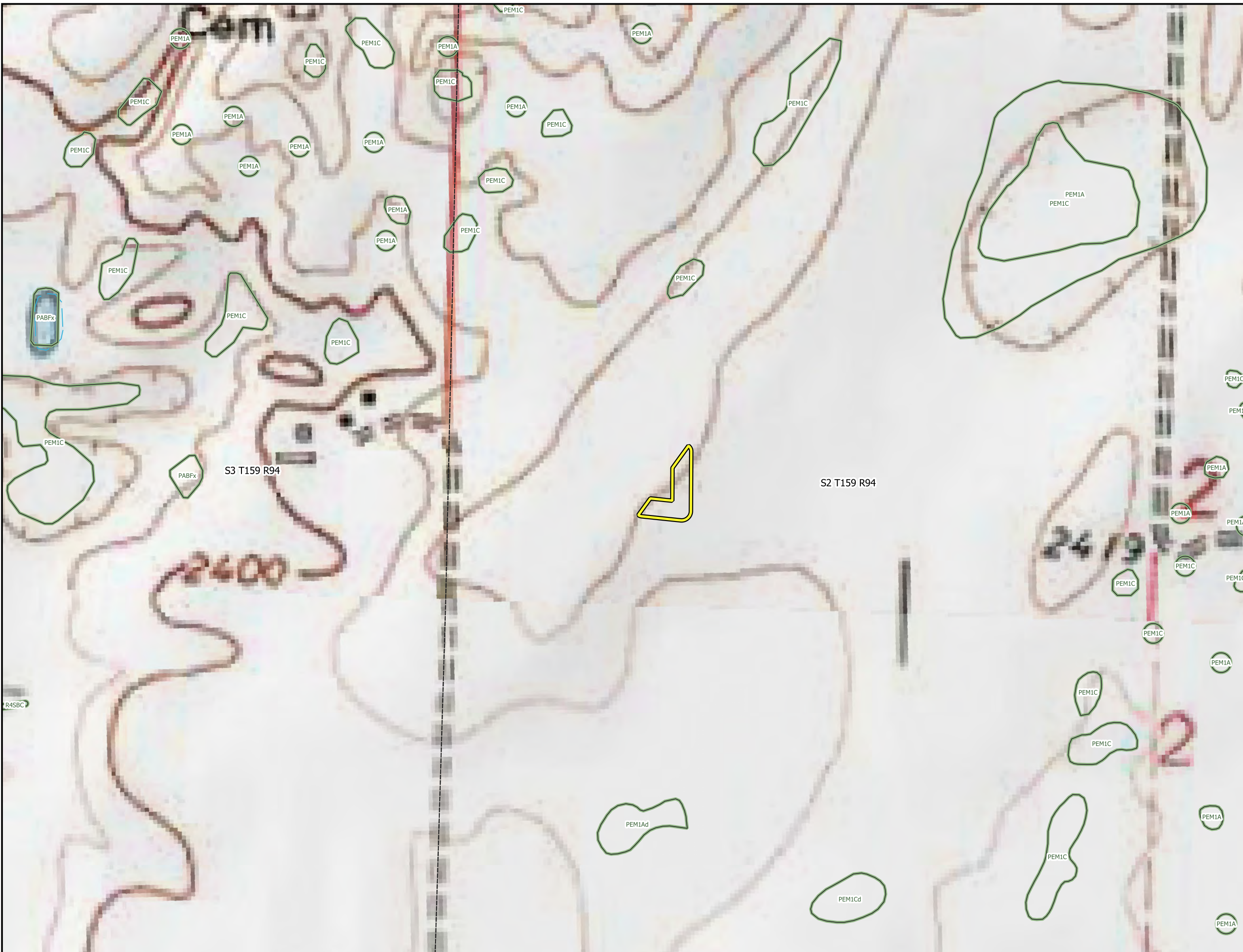








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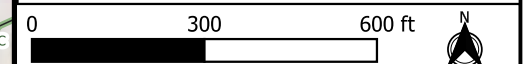


**AQUATIC RESOURCES  
 MAP**  
**North Bakken Expansion  
 Post-IP Reroutes  
 WBI Energy, Inc.**

## **Appendix B – Supporting Maps**



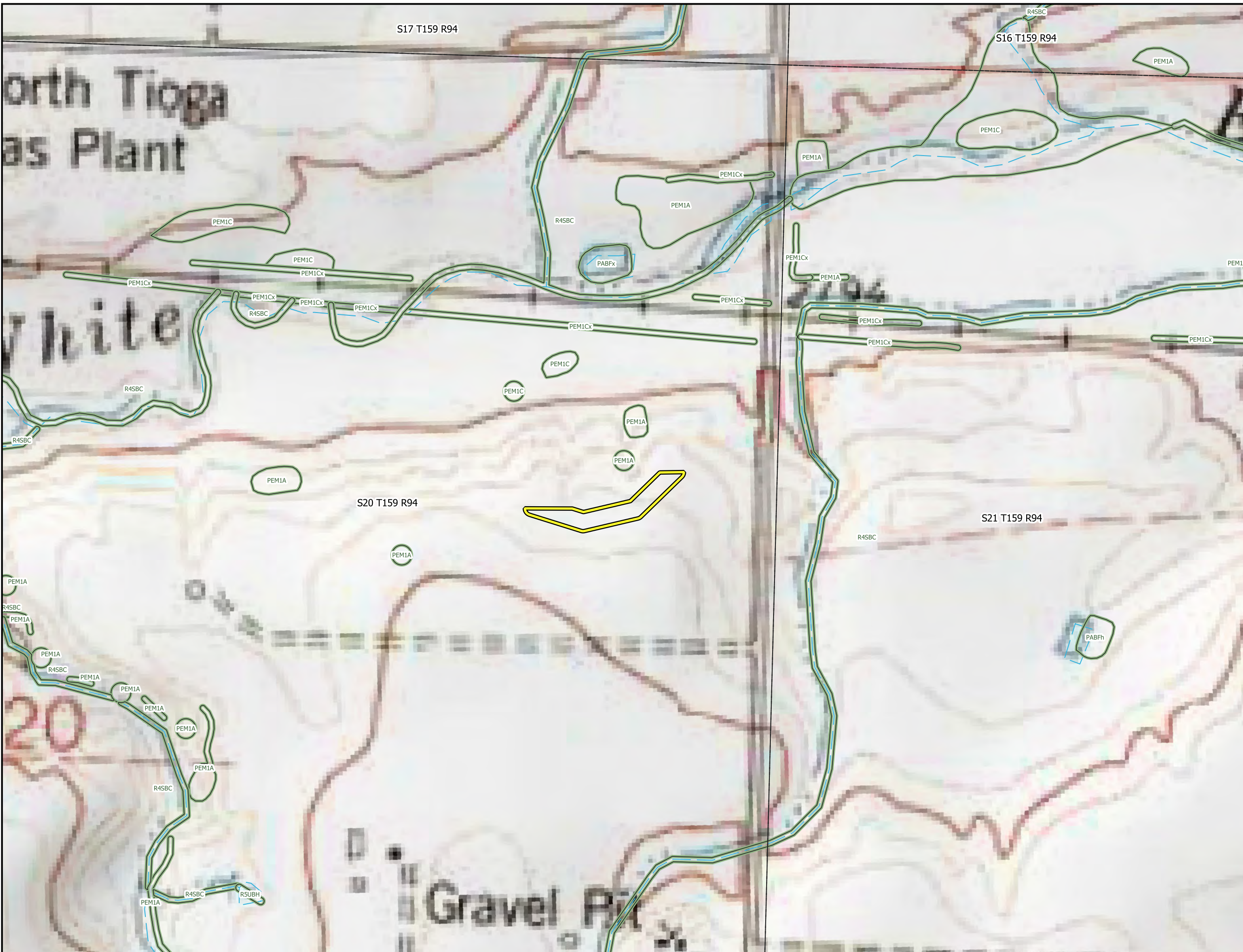
-  Survey Area
-  Aquatic Resources
-  Transect Point
-  Section Boundary
-  Stream (USGS NHD)
-  NWI









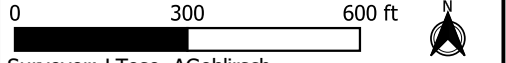
Surveyor: LToso, AGoblirsch  
 Drawn by: LToso  
 Field Date: 6/15/2021, 6/17/2021, 6/30/2021  
 Map Date: 2021-07-09 16:17:22  
 Project Name: NBE Post-IP Reroutes  
 Background Imagery: USGS 7.5" Topos: Grand View



**USGS TOPOGRAPHIC MAP**  
**North Bakken Expansion**  
**Post-IP Reroutes**  
**WBI Energy, Inc.**



-  Survey Area
-  Aquatic Resources
-  Transect Point
-  Section Boundary
-  Stream (USGS NHD)
-  NWI

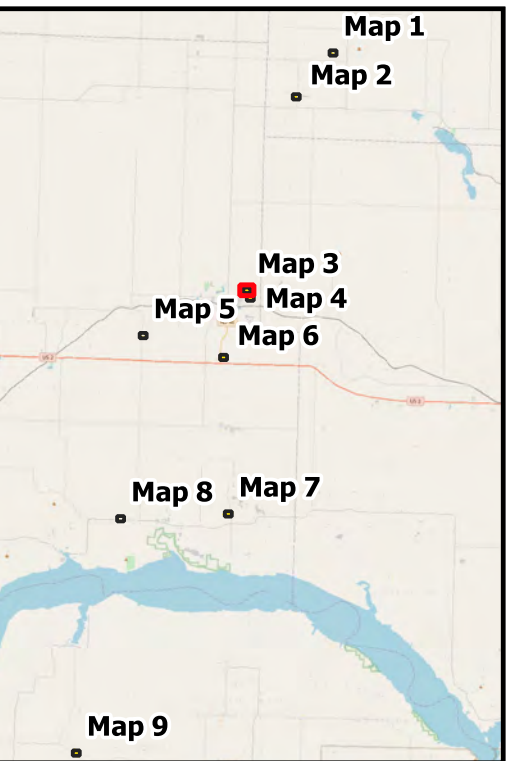
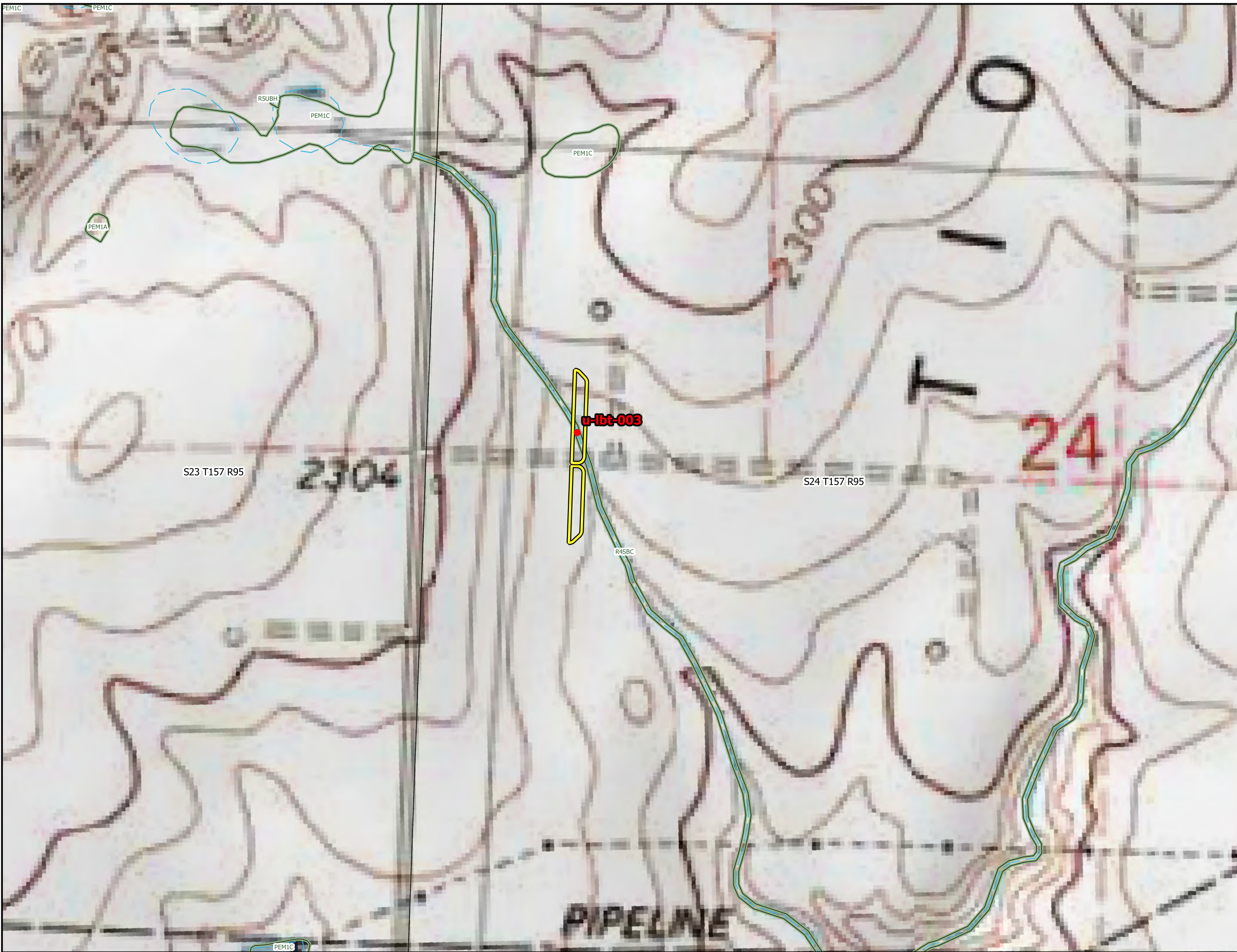








Surveyor: LToso, AGoblirsch  
 Drawn by: LToso  
 Field Date: 6/15/2021, 6/17/2021, 6/30/2021  
 Map Date: 2021-07-09 16:17:43  
 Project Name: NBE Post-IP Reroutes  
 Background Imagery: USGS 7.5" Topos: Battlevieview

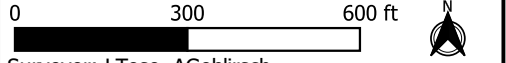


**USGS TOPOGRAPHIC MAP**  
**North Bakken Expansion**  
**Post-IP Reroutes**  
**WBI Energy, Inc.**

**Exhibit 1**  
**Map 2 of 9**



-  Survey Area
-  Aquatic Resources
-  Transect Point
-  Section Boundary
-  Stream (USGS NHD)
-  NWI









Surveyor: LToso, AGoblirsch  
 Drawn by: LToso  
 Field Date: 6/15/2021, 6/17/2021, 6/30/2021  
 Map Date: 2021-07-09 16:18:05  
 Project Name: NBE Post-IP Reroutes  
 Background Imagery: USGS 7.5" Topos: Tioga

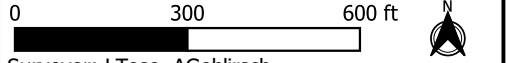


**USGS TOPOGRAPHIC MAP**  
**North Bakken Expansion**  
**Post-IP Reroutes**  
**WBI Energy, Inc.**

**Exhibit 1**  
**Map 3 of 9**



-  Survey Area
-  Aquatic Resources
-  Transect Point
-  Section Boundary
-  Stream (USGS NHD)
-  NWI



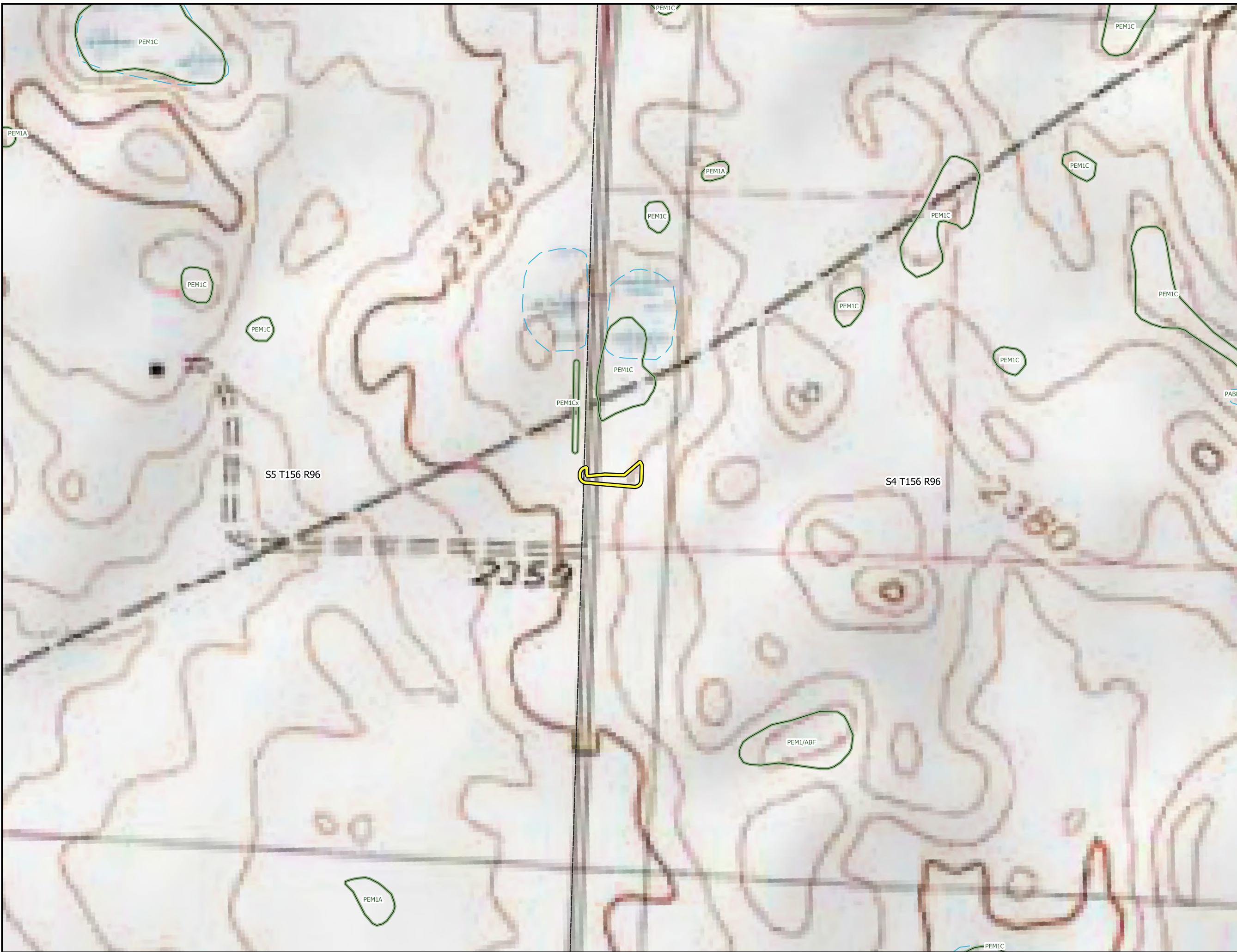
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 Project Name: NBE Post-IP Reroutes  
 Background Imagery: USGS 7.5" Topos: Tioga









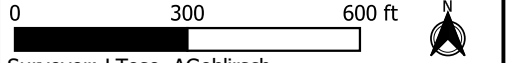
**USGS TOPOGRAPHIC MAP**  
**North Bakken Expansion**  
**Post-IP Reroutes**  
**WBI Energy, Inc.**

**Exhibit 1**  
**Map 4 of 9**





-  Survey Area
-  Aquatic Resources
-  Transect Point
-  Section Boundary
-  Stream (USGS NHD)
-  NWI

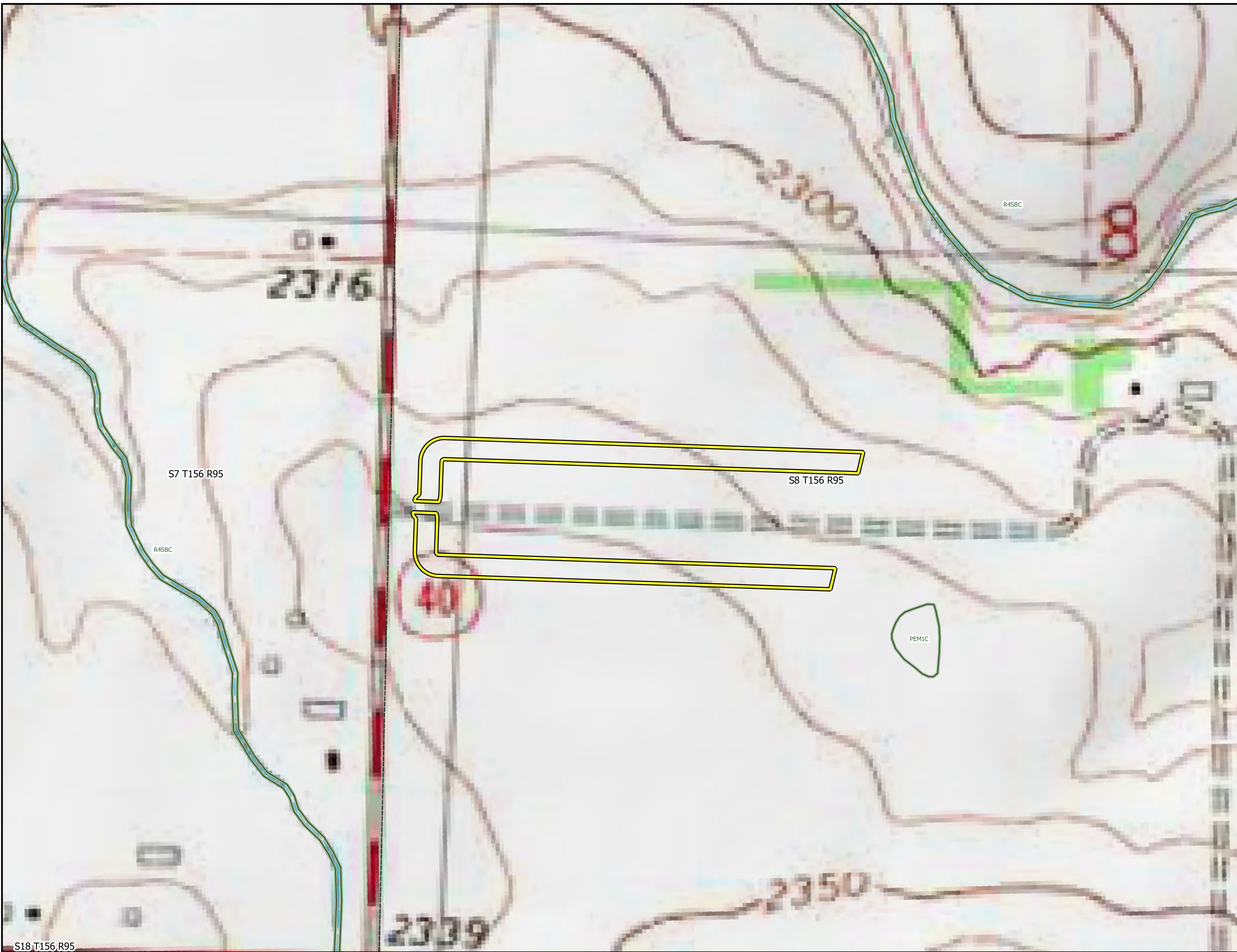








Surveyor: LToso, AGoblirsch  
 Drawn by: LToso  
 Field Date: 6/15/2021, 6/17/2021, 6/30/2021  
 Map Date: 2021-07-09 16:18:47  
 Project Name: NBE Post-IP Reroutes  
 Background Imagery: USGS 7.5" Topos: Tioga SW

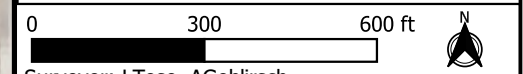


**USGS TOPOGRAPHIC MAP**  
**North Bakken Expansion**  
**Post-IP Reroutes**  
**WBI Energy, Inc.**

**Exhibit 1**  
**Map 5 of 9**



-  Survey Area
-  Aquatic Resources
-  Transect Point
-  Section Boundary
-  Stream (USGS NHD)
-  NWI

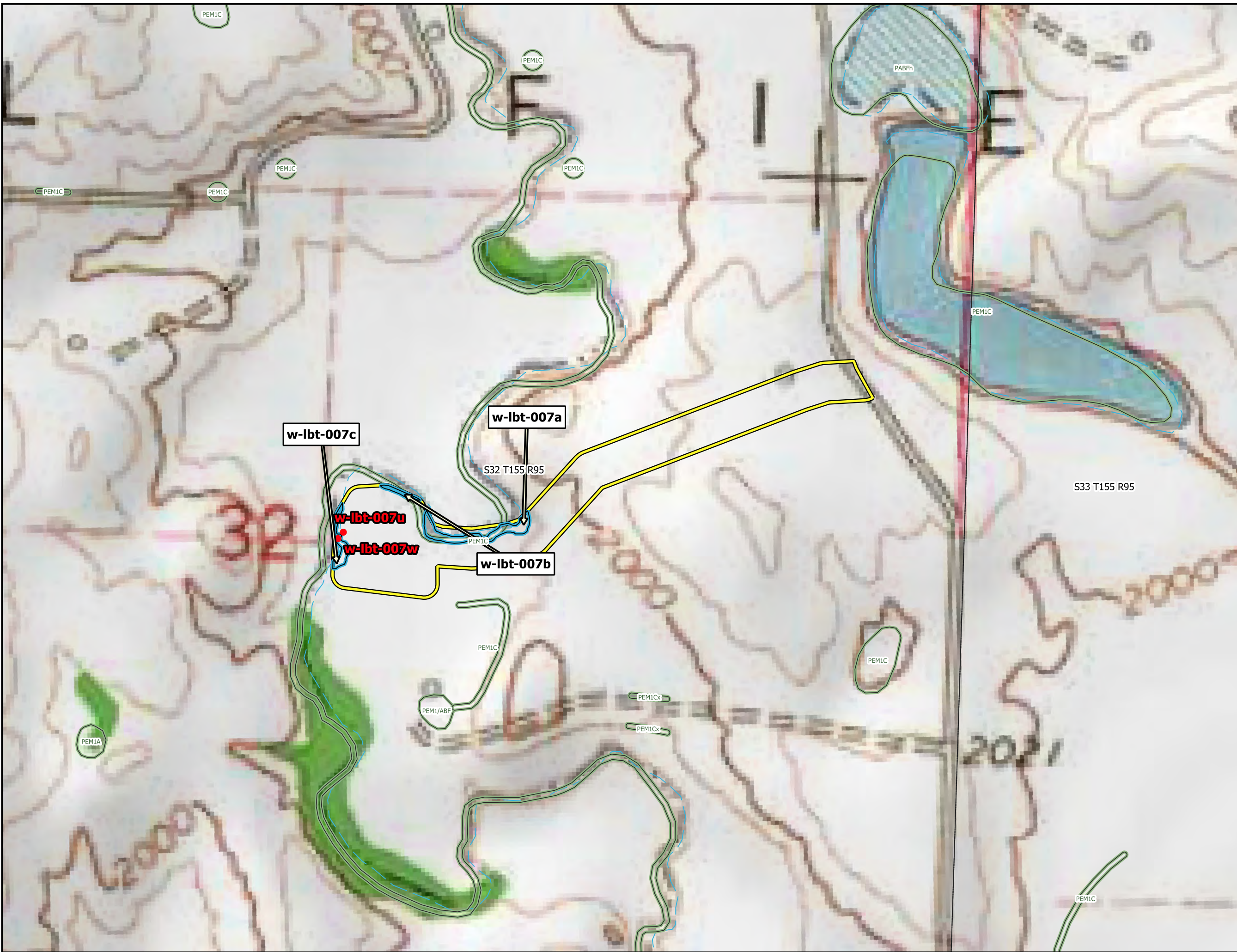








Surveyor: LToso, AGoblirsch  
 Drawn by: LToso  
 Field Date: 6/15/2021, 6/17/2021, 6/30/2021  
 Map Date: 2021-07-09 16:19:12  
 Project Name: NBE Post-IP Reroutes  
 Background Imagery: USGS 7.5" Topos: Ray SE




**USGS TOPOGRAPHIC MAP**  
**North Bakken Expansion**  
**Post-IP Reroutes**  
**WBI Energy, Inc.**

**Exhibit 1**  
**Map 6 of 9**



-  Survey Area
-  Aquatic Resources
-  Transect Point
-  Section Boundary
-  Stream (USGS NHD)
-  NWI

0 300 600 ft 







Surveyor: LToso, AGoblirsch  
 Drawn by: LToso  
 Field Date: 6/15/2021, 6/17/2021, 6/30/2021  
 Map Date: 2021-07-09 16:19:30  
 Project Name: NBE Post-IP Reroutes  
 Background Imagery: USGS 7.5" Topos: Charlson NW




**USGS TOPOGRAPHIC MAP**  
**North Bakken Expansion**  
**Post-IP Reroutes**  
**WBI Energy, Inc.**

**Exhibit 1**  
**Map 7 of 9**



-  Survey Area
-  Aquatic Resources
-  Transect Point
-  Section Boundary
-  Stream (USGS NHD)
-  NWI

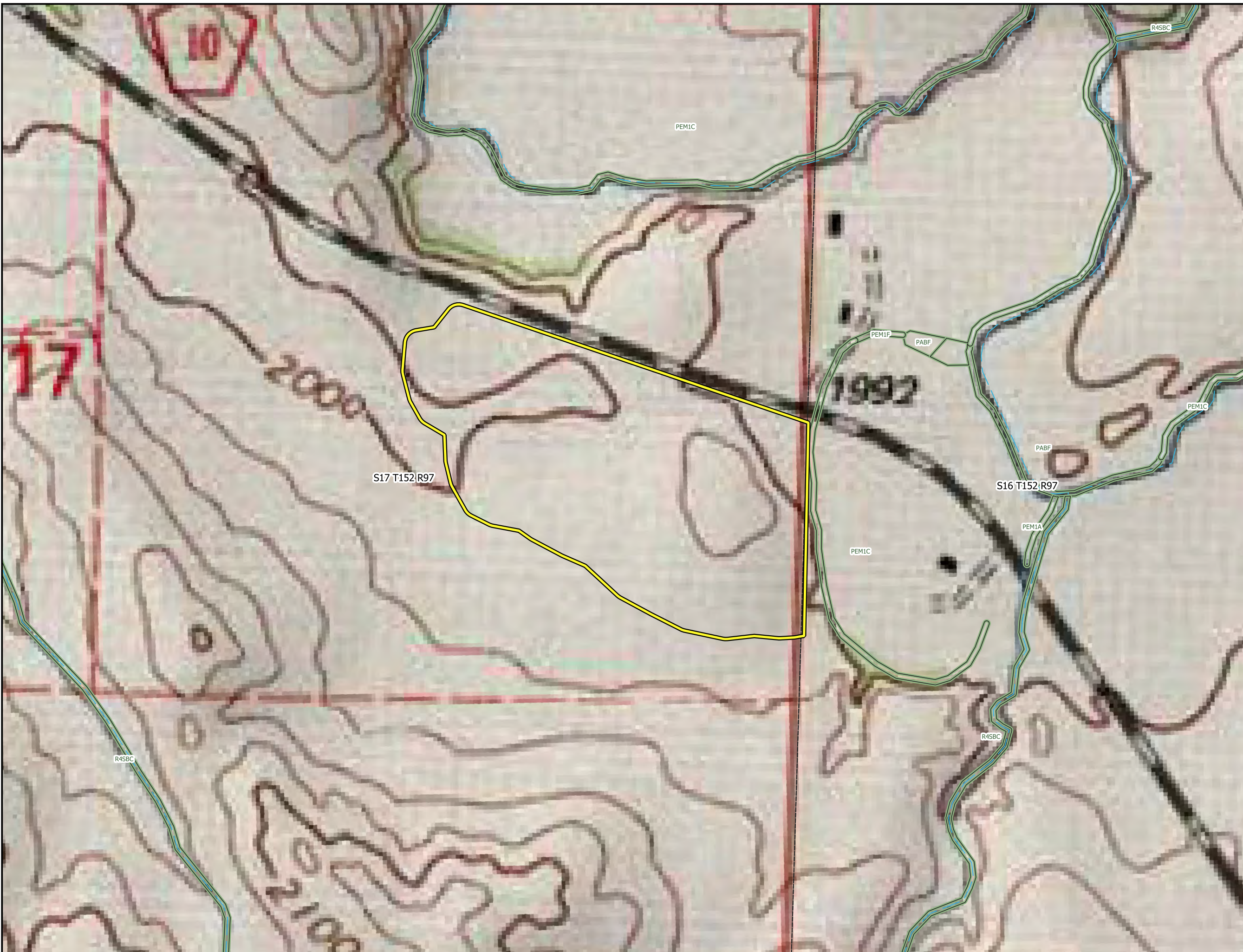
0 300 600 ft 







Surveyor: LToso, AGoblirsch  
 Drawn by: LToso  
 Field Date: 6/15/2021, 6/17/2021, 6/30/2021  
 Map Date: 2021-07-09 16:19:52  
 Project Name: NBE Post-IP Reroutes  
 Background Imagery: USGS 7.5" Topos: Red Mike Hill

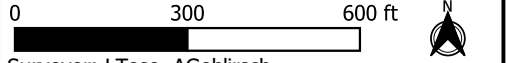


**USGS TOPOGRAPHIC MAP**  
**North Bakken Expansion**  
**Post-IP Reroutes**  
**WBI Energy, Inc.**

**Exhibit 1**  
**Map 8 of 9**



-  Survey Area
-  Aquatic Resources
-  Transect Point
-  Section Boundary
-  Stream (USGS NHD)
-  NWI



Surveyor: LToso, AGoblirsch  
 Drawn by: LToso  
 Field Date: 6/15/2021, 6/17/2021, 6/30/2021  
 Map Date: 2021-07-09 16:20:10  
 Project Name: NBE Post-IP Reroutes  
 Background Imagery: USGS 7.5" Topos: Demicks Lake



**USGS TOPOGRAPHIC MAP**  
**North Bakken Expansion**  
**Post-IP Reroutes**  
**WBI Energy, Inc.**

**Exhibit 1**  
**Map 9 of 9**

## **Appendix C – Photographs**



**Photo 1.** View south of the survey area in S2 T159N R94W, Burke County, ND.



**Photo 2.** View east of the survey area in S20 T159N R94W, Burke County, ND.



**Photo 3.** View east of u-lbt-003 in Section 24, T157N, R95W, Williams County, ND



**Photo 4.** View east of w-lbt-006b in Section 25, T157N, R95W, Williams County, ND.





**Photo 5.** View east of w-lbt-006a in Section 24, T157N, R95W, Williams County, ND.



**Photo 6.** View southeast of the survey area in S5, 6 T156N R96W.



**Photo 7.** View east of the southern portion of the survey area in Section 8, T156N, R95W, Williams County, ND.



**Photo 8.** View east of the northern portion of the survey area in S8, T156N, R95W, Williams County, ND.



**Photo 9.** View west of w-lbt-007a in Section 32, T155N, R95W, Williams County, ND.



**Photo 10.** View north of the survey area in S16, 17 T152N R97W. Source: Google Maps Street View.



**Photo 10.** View northwest of the survey area in S16, 17 T152N R97W.

## **Appendix D - U.S. Army Corps of Engineers Wetland Data Sheets**

**WETLAND DETERMINATION DATA FORM - Great Plains Region**

Project/Site North Bakken Pipeline Reroutes City/County: Williams Sampling Date: 6/30/2021  
 Applicant/Owner: WBI Energy Transmission, Inc. State: ND Sampling Point: u-lbt-003  
 Investigator(s): Aidan Goblirsch Section, Township, Range: S24, T157N, R95W  
 Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave  
 Slope (%): 2 Lat: 48.409113 Long: -102.904983 Datum: WGS 84  
 Soil Map Unit Name William-Bowbells loams, 3 to 6 percent slopes NWI Classification: R4SBC  
 Subregion (MLRA or LRR): F Are climatic/hydrologic conditions of the site typical for this time of the year? Y  
 Are vegetation , soil , or hydrology  significantly disturbed? Are "normal circumstances" present? Y  
 Are vegetation , soil , or hydrology  naturally problematic? (If needed, explain any answers in remarks.)

**SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transect, important features, etc.**

Hydrophytic vegetation present?	<u>N</u>	<b>Is the sampled area within a wetland?</b> <u>N</u>
Hydric soil present?	<u>N</u>	
Indicators of wetland hydrology present?	<u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Point taken in a NWI polygon. Area determined to up upland based on the dominance of upland vegetation and lack of wetland hydrology and soil indicators.

**VEGETATION - Use scientific names of plants.**

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>70</u> x 4 = <u>280</u> UPL species <u>30</u> x 5 = <u>150</u> Column totals <u>100</u> (A) <u>430</u> (B) Prevalence Index = B/A = <u>4.30</u>
1	<u><i>Symphoricarpos occidentalis</i></u>	<u>30</u>	<u>Y</u>	<u>UPL</u>	
2					
3					
4					
5					
		<u>30</u>	= Total Cover		
Herb stratum	(Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid test for hydrophytic vegetation <input type="checkbox"/> Dominance test is >50% <input type="checkbox"/> Prevalence index is ≤3.0* <input type="checkbox"/> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u><i>Pascopyrum smithii</i></u>	<u>40</u>	<u>Y</u>	<u>FACU</u>	
2	<u><i>Poa pratensis</i></u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
3	<u><i>Elymus repens</i></u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
4					
5					
6					
7					
8					
9					
10					
		<u>70</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1					
2					
		<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>&lt;5</u>					

Remarks: (Include photo numbers here or on a separate sheet)  
 Upland vegetation dominates.

**SOIL**

Sampling Point: u-lbt-003

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

Depth (Inches)	Matrix			Mottles				Texture	Remarks
	Color (moist)	%		Color (moist)	%	Type*	Loc**		
0-6	10YR	2/1	100					Loam	
6-12	10YR	4/3	100					Loam	

Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR F) <input type="checkbox"/> 1 cm Muck (A9) (LRR F,G,H) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G,H) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> High Plains Depressions (F16) (MLRA 72, 73 of LRR H)	<p><b>Indicators for Problematic Hydric Soils:</b></p> <input type="checkbox"/> 1 cm Muck (A9) (LRR I,J) <input type="checkbox"/> Moist Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> High Plains Depressions (F16) (LRR H, outside MLRA 72,73) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)
---	---	--

\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Check here if indicators are not present:

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present? <u>N</u></b>
--	--------------------------------------

Remarks:  
Hydric soils are absent.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<p><u>Secondary Indicators (minimum of two required)</u></p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living (tilled) (C3) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Frost-Heaved Hummocks (LRR F)
<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (not tilled) (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	

Check here if indicators are not present:

<p><b>Field Observations:</b></p> Surface water present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water table present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present? <u>N</u></b>
--	--

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
Wetland hydrology indicators are absent.

**WETLAND DETERMINATION DATA FORM - Great Plains Region**

Project/Site North Bakken Pipeline Reroutes City/County: Williams Sampling Date: 6/30/2021  
 Applicant/Owner: WBI Energy Transmission, Inc. State: ND Sampling Point: w-lbt-006u  
 Investigator(s): Aidan Goblirsch Section, Township, Range: S24, T157N, R95W  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex  
 Slope (%): 3 Lat: 48.401765 Long: -102.899222 Datum: WGS 84  
 Soil Map Unit Name Zahl-Max-Arnegard loams, 15 to 60 percent slopes NWI Classification: -

Subregion (MLRA or LRR): F Are climatic/hydrologic conditions of the site typical for this time of the year? Y  
 Are vegetation , soil , or hydrology  significantly disturbed? Are "normal circumstances" present? Y  
 Are vegetation , soil , or hydrology  naturally problematic? (If needed, explain any answers in remarks.)

**SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transect, important features, etc.**

Hydrophytic vegetation present? <u>N</u>	<b>Is the sampled area within a wetland?</b> <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Point taken on a hillslope leading down to a drainageway.

**VEGETATION - Use scientific names of plants.**

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Staus	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )				<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>60</u> x 5 = <u>300</u> Column totals <u>60</u> (A) <u>300</u> (B) Prevalence Index = B/A = <u>5.00</u>
1	<u>Shepherdia argentea</u>	<u>10</u>	<u>Y</u>	<u>UPL</u>	
2					
3					
4					
5					
		<u>10</u> = Total Cover			
Herb stratum	(Plot size: <u>5 ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> ___ Rapid test for hydrophytic vegetation ___ Dominance test is >50% ___ Prevalence index is ≤3.0* ___ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) ___ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Bromus inermis</u>	<u>50</u>	<u>Y</u>	<u>UPL</u>	
2					
3					
4					
5					
6					
7					
8					
9					
10					
		<u>50</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30 ft</u> )				<b>Hydrophytic vegetation present?</b> <u>N</u>
1					
2					
		<u>0</u> = Total Cover			
% Bare Ground in Herb Stratum <u>30</u>					

Remarks: (Include photo numbers here or on a separate sheet)  
 Upland vegetation dominates. Bare ground is from recent pipeline construction.



**SOIL**

Sampling Point: w-lbt-006u

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

Depth (Inches)	Matrix			Mottles			Texture	Remarks
	Color (moist)	%		Color (moist)	%	Type*		
0-6	10YR	2/1	100				Loam	
6-12	10YR	4/3	100				Loam	

Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. \*\*Location: PL = Pore Lining, M = Matrix

**Hydric Soil Indicators:**

- Histisol (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:**

- 1 cm Muck (A9) (LRR I,J)
- Moist Prairie Redox (A16) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- High Plains Depressions (F16) (LRR H, outside MLRA 72,73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (explain in remarks)

\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Check here if indicators are not present:

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_ Depth (inches): \_\_\_\_\_

Hydric soil present? N

Remarks:

Hydric soils absent.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

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

Secondary Indicators (minimum of two required)

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Salt Crust (B11)  | <input type="checkbox"/> Surface Soil Cracks (B6)                            |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Aquatic Fauna (B13)                                     | <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                              | <input type="checkbox"/> Drainage Patterns (B10)                             |
| <input type="checkbox"/> Water Marks (B1)                          | <input type="checkbox"/> Dry Season Water Table (C2)                             | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (tilled) (C3) |
| <input type="checkbox"/> Sediment Deposits (B2)                    | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (not tilled) (C3) | <input type="checkbox"/> Crayfish Burrows (C8)                               |
| <input type="checkbox"/> Drift Deposits (B3)                       | <input type="checkbox"/> Presence of Reduced Iron (C4)                           | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                   | <input type="checkbox"/> Thin Muck Surface (C7)                                  | <input type="checkbox"/> Geomorphic Position (D2)                            |
| <input type="checkbox"/> Iron Deposits (B5)                        | <input type="checkbox"/> Other (Explain in Remarks)                              | <input type="checkbox"/> FAC-Neutral Test (D5)                               |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |  | <input type="checkbox"/> Frost-Heaved Hummocks (LRR F)                       |
| <input type="checkbox"/> Water-Stained Leaves (B9)                 |  |  |

Check here if indicators are not present:

**Field Observations:**

Surface water present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water table present? Yes  No  Depth (inches): \_\_\_\_\_  
 Saturation present? Yes  No  Depth (inches): \_\_\_\_\_  
 (includes capillary fringe)

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland hydrology indicators absent.

**WETLAND DETERMINATION DATA FORM - Great Plains Region**

Project/Site North Bakken Pipeline Reroutes City/County: Williams Sampling Date: 6/30/2021  
 Applicant/Owner: WBI Energy Transmission, Inc. State: ND Sampling Point: w-lbt-006w  
 Investigator(s): Aidan Goblirsch Section, Township, Range: S24, T157N, R95W  
 Landform (hillslope, terrace, etc.): drainageway Local relief (concave, convex, none): concave  
 Slope (%): 1 Lat: 48.401806 Long: -102.899199 Datum: WGS 84  
 Soil Map Unit Name Zahl-Max-Arnegard loams, 15 to 60 percent slopes NWI Classification: -

Subregion (MLRA or LRR): F Are climatic/hydrologic conditions of the site typical for this time of the year? Y  
 Are vegetation , soil , or hydrology  significantly disturbed? Are "normal circumstances" present? Y  
 Are vegetation , soil , or hydrology  naturally problematic? (If needed, explain any answers in remarks.)

**SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transect, important features, etc.**

Hydrophytic vegetation present?	<u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u>
Hydric soil present?	<u>Y</u>	
Indicators of wetland hydrology present?	<u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Point taken in a drainageway.

**VEGETATION - Use scientific names of plants.**

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b>
1					
2					Total Number of Dominant Species Across all Strata: <u>1</u> (B)
3					Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
4					
5					
		<u>0</u>	= Total Cover		
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b>
1					
2					OBL species <u>0</u> x 1 = <u>0</u>
3					FACW species <u>100</u> x 2 = <u>200</u>
4					FAC species <u>0</u> x 3 = <u>0</u>
5					FACU species <u>0</u> x 4 = <u>0</u>
		<u>0</u>	= Total Cover		UPL species <u>0</u> x 5 = <u>0</u>
		<u>100</u>	(A)		Column totals <u>100</u> (A) <u>200</u> (B)
		<u>100</u>	(A)		Prevalence Index = B/A = <u>2.00</u>
Herb stratum	(Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b>
1	<u>Spartina pectinata</u>	<u>100</u>	<u>Y</u>	<u>FACW</u>	
2					<input checked="" type="checkbox"/> Dominance test is >50%
3					<input checked="" type="checkbox"/> Prevalence index is ≤3.0*
4					Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
5					<input type="checkbox"/> Problematic hydrophytic vegetation* (explain)
6					
7					
8					
9					
10					
		<u>100</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1					*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2					
		<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>0</u>					

Remarks: (Include photo numbers here or on a separate sheet)  
 Hydrophytic vegetation dominates.

**SOIL**

Sampling Point: w-lbt-006w

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

Depth (Inches)	Matrix			Mottles				Texture	Remarks	
	Color (moist)	%		Color (moist)	%	Type*	Loc**			
0-12	10YR	2/1	95	10YR	4/6	5	C	M	Loam	

Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR F) <input type="checkbox"/> 1 cm Muck (A9) (LRR F,G,H) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G,H) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> High Plains Depressions (F16) (MLRA 72, 73 of LRR H)	<p><b>Indicators for Problematic Hydric Soils:</b></p> <input type="checkbox"/> 1 cm Muck (A9) (LRR I,J) <input type="checkbox"/> East Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> High Plains Depressions (F16) (LRR H, outside MLRA 72,73) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Check here if indicators are not present:

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present? <u>Y</u></b>
--	--------------------------------------

Remarks:  
Hydric soils are present.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (not tilled) (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary Indicators (minimum of two required)</u></p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (tilled) (C3) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Frost-Heaved Hummocks (LRR F)
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Check here if indicators are not present:

<p><b>Field Observations:</b></p> Surface water present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>6+</u> Water table present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present? <u>Y</u></b>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
Wetland hydrology indicators are present.

**WETLAND DETERMINATION DATA FORM - Great Plains Region**

Project/Site North Bakken Pipeline Reroutes City/County: Williams Sampling Date: 6/17/2021  
 Applicant/Owner: WBI Energy Transmission, Inc. State: ND Sampling Point: w-lbt-007u  
 Investigator(s): Aidan Goblirsch Section, Township, Range: S32, T155N, R95W  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex  
 Slope (%): 3 Lat: 48.204566 Long: -102.924245 Datum: WGS 84  
 Soil Map Unit Name Korchea loam, 0 to 2 percents slopes, occassionally flooded NWI Classification: -

Subregion (MLRA or LRR): F Are climatic/hydrologic conditions of the site typical for this time of the year? Y  
 Are vegetation , soil , or hydrology  significantly disturbed? Are "normal circumstances" present? Y  
 Are vegetation , soil , or hydrology  naturally problematic? (If needed, explain any answers in remarks.)

**SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transect, important features, etc.**

Hydrophytic vegetation present?	<u>N</u>	<b>Is the sampled area within a wetland?</b> <u>N</u>
Hydric soil present?	<u>N</u>	
Indicators of wetland hydrology present?	<u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Point taken on a hillslope.

**VEGETATION - Use scientific names of plants.**

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Staus	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )				<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>100</u> x 5 = <u>500</u> Column totals <u>100</u> (A) <u>500</u> (B) Prevalence Index = B/A = <u>5.00</u>
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		
Herb stratum	(Plot size: <u>5 ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid test for hydrophytic vegetation <input type="checkbox"/> Dominance test is >50% <input type="checkbox"/> Prevalence index is ≤3.0* <input type="checkbox"/> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic hydrophytic vegetation* (explain)  *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Bromus inermis</u>	<u>70</u>	<u>Y</u>	<u>UPL</u>	
2	<u>Symphoricarpos occidentalis</u>	<u>30</u>	<u>Y</u>	<u>UPL</u>	
3					
4					
5					
6					
7					
8					
9					
10					
		<u>100</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30 ft</u> )				
1					
2					
		<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>0</u>					

Remarks: (Include photo numbers here or on a separate sheet)  
 Upland vegetation dominates.

**SOIL**

Sampling Point: w-lbt-007u

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

Depth (Inches)	Matrix			Mottles			Texture	Remarks
	Color (moist)	%		Color (moist)	%	Type*		
0-6	10YR	3/2	100				SCL	
6-12	10YR	4/3	100				SCL	

Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR F) <input type="checkbox"/> 1 cm Muck (A9) (LRR F,G,H) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G,H) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> High Plains Depressions (F16) (MLRA 72, 73 of LRR H)	<p><b>Indicators for Problematic Hydric Soils:</b></p> <input type="checkbox"/> 1 cm Muck (A9) (LRR I,J) <input type="checkbox"/> Moist Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> High Plains Depressions (F16) (LRR H, outside MLRA 72,73) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Check here if indicators are not present:

<p><b>Restrictive Layer (if observed):</b>                  Type: _____ Depth (inches): _____</p>	<p><b>Hydric soil present? <u>N</u></b></p>
---	---

Remarks:  
Hydric soils are absent.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<p><u>Secondary Indicators (minimum of two required)</u></p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living (tilled) (C3) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Frost-Heaved Hummocks (LRR F)

Check here if indicators are not present:

<p><b>Field Observations:</b></p> Surface water present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water table present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<p><b>Indicators of wetland hydrology present? <u>N</u></b></p>
--	---

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
Wetland hydrology indicators are absent.

**WETLAND DETERMINATION DATA FORM - Great Plains Region**

Project/Site North Bakken Pipeline Reroutes City/County: Williams Sampling Date: 6/17/2021  
 Applicant/Owner: WBI Energy Transmission, Inc. State: ND Sampling Point: w-lbt-007w  
 Investigator(s): Aidan Goblirsch Section, Township, Range: S32, T155N, R95W  
 Landform (hillslope, terrace, etc.): drainageway Local relief (concave, convex, none): concave  
 Slope (%): 1 Lat: 48.204498 Long: -102.924324 Datum: WGS 84  
 Soil Map Unit Name Korchea loam, 0 to 2 percents slopes, occassionally flooded NWI Classification: -

Subregion (MLRA or LRR): F Are climatic/hydrologic conditions of the site typical for this time of the year? Y  
 Are vegetation , soil , or hydrology  significantly disturbed? Are "normal circumstances" present? Y  
 Are vegetation , soil , or hydrology  naturally problematic? (If needed, explain any answers in remarks.)

**SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transect, important features, etc.**

Hydrophytic vegetation present?	<u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u>
Hydric soil present?	<u>Y</u>	
Indicators of wetland hydrology present?	<u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Point taken in a drainageway.

**VEGETATION - Use scientific names of plants.**

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Staus	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>90</u> x 1 = <u>90</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>90</u> (A) <u>90</u> (B) Prevalence Index = B/A = <u>1.00</u>
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )				
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		
Herb stratum	(Plot size: <u>5 ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Typha latifolia</u>	<u>90</u>	<u>Y</u>	<u>OBL</u>	
2					
3					
4					
5					
6					
7					
8					
9					
10					
		<u>90</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30 ft</u> )				
1					
2					
		<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>10</u>					

Remarks: (Include photo numbers here or on a separate sheet)  
 Hydrophytic vegetation dominates.

**SOIL**

Sampling Point: w-lbt-007w

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

Depth (Inches)	Matrix			Mottles				Texture	Remarks
	Color (moist)	%		Color (moist)	%	Type*	Loc**		
0-12	10YR	2/1	95	10YR	4/6	5	C	M	SCL

Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR F) <input type="checkbox"/> 1 cm Muck (A9) (LRR F,G,H) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G,H) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> High Plains Depressions (F16) (MLRA 72, 73 of LRR H)	<p><b>Indicators for Problematic Hydric Soils:</b></p> <input type="checkbox"/> 1 cm Muck (A9) (LRR I,J) <input type="checkbox"/> East Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> High Plains Depressions (F16) (LRR H, outside MLRA 72,73) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Check here if indicators are not present:

<b>Restrictive Layer (if observed):</b>	<b>Hydric soil present? <u>Y</u></b>
Type: _____ Depth (inches): _____	

Remarks:  
Hydric soils are present.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (not tilled) (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary Indicators (minimum of two required)</u></p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (tilled) (C3) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Frost-Heaved Hummocks (LRR F)
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Check here if indicators are not present:

<b>Field Observations:</b>	<b>Indicators of wetland hydrology present? <u>Y</u></b>
Surface water present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>6+</u>	
Water table present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	
Saturation present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
Wetland hydrology indicators are present.

## **Appendix E: Waterbody Data Sheets**



# Waterbody Data Sheet

Description			
<b>Project Name:</b> North Bakken Expansion Project		<b>Date:</b> 06/17/2021	<b>Waterbody Survey ID:</b> w-lbt-007a,b,c
<b>State:</b> North Dakota	<b>County/Parish:</b> Williams	<b>USGS Waterbody Name:</b> Dry Fork Creek	
<b>Company:</b> Beaver Creek	<b>Crew Member Initials:</b> LBT	<b>Latitude:</b> 48.204498	<b>Longitude:</b> -102.924324
<b>Survey Type:</b> <i>(check one)</i>	<input type="checkbox"/> Centerline <input checked="" type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Facility <input type="checkbox"/> Other		
<b>Waterbody Type:</b> <i>(check one)</i>	<input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Swale <input type="checkbox"/> Canal <input type="checkbox"/> Other		
<b>Water Appearance:</b> <i>(check one)</i>	<input type="checkbox"/> No Water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on Surface <input type="checkbox"/> Surface Scum <input type="checkbox"/> Algal Mats <input type="checkbox"/> Other		
<b>Existing Condition<sup>a</sup>:</b> <i>(check one)</i>	<input type="checkbox"/> Highly Functional Stream <input checked="" type="checkbox"/> Moderately Functional Stream <input type="checkbox"/> Functionally Impaired Stream		
<b>Feature Description:</b> <i>(check one)</i>	<input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated		
<b>Flow Regime:</b> <i>(check one)</i>	<input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial <input type="checkbox"/> Connecting Swale		
<b>Sinuosity within Survey Corridor:</b> <i>(check one)</i>	<input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering		
<b>Description Notes:</b> Feature is Dry Fork Creek, a perennial waterway.			
Measurements			
<b>Depth of Water:</b> _____ ft.    N/A <input type="checkbox"/> Unknown <input checked="" type="checkbox"/>		<b>Water Edge to Water Edge:</b> <u>3-6</u> ft.    N/A <input type="checkbox"/>	
<b>OHWM Width:</b> <u>25</u> ft.			
<b>OHWM Indicator:</b> <i>(check all that apply)</i>	<input checked="" type="checkbox"/> Clear line on bank <input checked="" type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining <input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change		
<b>Dominant Substrate:</b> <i>(check all that apply)</i>	<input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic		
Observations			
<b>Riparian Zone Present:</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>(check one)</i>			
<b>Vegetation Layers:</b> <input type="checkbox"/> Trees <input type="checkbox"/> Saplings/Shrubs <input checked="" type="checkbox"/> Herbs <i>(check all that apply)</i>			
<b>Dominant Bank Vegetation (list):</b> Typha latifolia			
<b>Aquatic Habitats</b> (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.): Overhanging banks/roots, deep pools			
<b>Aquatic Organisms Observed (list):</b> N/A			
<b>Disturbances</b> (ex: livestock access, manure in waterbody, waste discharge pipes): None observed.			
<b>Observation Notes:</b>			