

# STRUCTURE REPAIR

**Project No.**

**PCN**

ABC-1-234(567)890

12345

Structure Repair RP 890



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Prepared by

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION  
BISMARCK, NORTH DAKOTA

<http://www.dot.nd.gov/>

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## I. Introduction

The North Dakota Department of Transportation (NDDOT), in cooperation with the Federal Highway Administration (FHWA), is planning roadway improvements within a project area along ND 234 near Reference Point (RP) 890. **Please refer to Exhibit 1, Project Location Map.** The project consists of structural repair and incidentals. The project is planned to be built during the 2011 construction season.

Jane Doe and John Doe of the NDDOT conducted a field wetland delineation for the proposed project on December 25, 2009. Supplementary project area information can be found in **Appendix A, Additional Information for Jurisdictional Requests.**

## II. Methods

The field wetland delineation was conducted in accordance with the 1987 Corps of Engineers Wetland Delineation Manual and the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region. Wetland boundaries within the study area were determined by completing USACE Wetland Determination Data Forms for paired test hole points and observing vegetation and hydrology in the area.

The project area was extended to 200 feet on either side of the roadway due to the potential addition of a bypass during project design.

Wetland Maps were developed using NDDOT 2004 aerial photography in combination with the National Wetlands Inventory (NWI) layer. Pictures taken onsite are provided in **Appendix B, Site Photos.** Specific data for each sample point can be found on data sheets included in **Appendix C, Data Sheets.**

## III. Results

Three wetlands were identified within the project area. Two of the delineated wetlands (1-E and 1-W) are part of a natural stream. The remaining wetland (2) is a natural basin. The USGS topographic layer indicates that the stream delineated within the project area is Otter Creek, which flows into Square Butte Creek, and later into the Missouri River. **Please refer to Table 1, Wetland Table.**

Approximately 1.64 acres of wetlands were delineated. Some wetlands extended beyond the limits of the project area; however, wetlands were only delineated to the boundary of the project area. **Please refer to Exhibit 2, Wetland Map.**

Pursuant to Section II-03.12 of the NDDOT Design Manual, a tree count was also completed during the field wetland delineation process because the project area is along a riparian corridor. Trees that met the following criteria were included in the tree count:

- Deciduous trees – if the diameter breast height (dbh) of the tree is 3 inches or more and the tree is 15 feet or more in height.
- Evergreen trees – if the tree is 5 feet or more in height.

The tree count yielded 8 trees within the study area that met the above criteria. Tree impacts will be quantified during project design, and a mitigation plan for unavoidable tree impacts will be developed at that time.

#### IV. References

Cowardin, L. M., V. Carter, F. C. Golet, E. T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. *U.S. Department of the Interior, Fish and Wildlife Service*. Available online: [http://www.fws.gov/wetlands/\\_documents/gNSDI/ClassificationWetlandsDeepwaterHabitatsUS.pdf](http://www.fws.gov/wetlands/_documents/gNSDI/ClassificationWetlandsDeepwaterHabitatsUS.pdf)

National Hydric Soils List by State [Electronic Database]. 2009. United States Department of Agriculture: Natural Resources Conservation Service. Available online: <http://soils.usda.gov/use/hydric/lists/state.html>

North Dakota Department of Transportation. 2009. *NDDOT Design Manual*. Available online: <http://www.dot.nd.gov/manuals/design/designmanual/designmanual.htm>

Plants Database [Electronic Database]. 2009. United States Department of Agriculture: Natural Resources Conservation Service. Available online: <http://plants.usda.gov/>

U.S. Army Corps of Engineers. 1987. *US Army Corps of Engineers Wetlands Delineation Manual*. Available online: <http://www.wetlands.com/regs/tlpge02e.htm>

#### V. Delineator's Credentials

Education: University of North Dakota – BS Biology

Professional Membership: Society of Wetland Scientists  
Wetland Professionals Association

Training: Society of Wetland Scientists – Introduction to Wetlands  
Wetland Training Institute – Basic Wetland Delineation Field Practicum  
Wetland Training Institute – Wetland Delineation with Emphasis on Soils and Hydrology  
NRCS – Field Indicators of Hydric Soil  
NRCS – Regulatory IV - Wetland Delineation, US Army Corps of Engineers

**Table 1, Wetland Table**

The field wetland delineation for PCN 12345, Project ID # ABC-1-234(567)890 (Structure Repair RP 890), was conducted on December 25, 2009 by Jane Doe and John Doe of the North Dakota Department of Transportation. The wetland delineations were conducted in accordance with the 1987 Corps of Engineers Wetland Delineation Manual and the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region. Observations at each sample location were recorded on standard Corps of Engineers data sheets. Wetland boundaries and paired sample locations were recorded by GPS. The project is located within the Painted Woods / Square Butte Creek (10130101) Hydrologic Unit Code (HUC).

Wetland Number	Test Hole (in wetland)	Location	LONG / LAT (Dec. Deg.)	Cowardin Classification	Wetland Type	Wetland Size (acres)	Wetland Feature	Physical Characteristics of Potential Tributary*
1-E	3	T140N, R81W, Section 18	-100.953145 / 46.940198	R4SBF	Stream	1.34	Natural	4, 11,13,23,25
2	8	T140N, R81W, Section 18	-100.955542 / 46.940846	PEMC	Basin	0.18	Natural	N/A
1-W	10	T140N, R81W, Section 18	-100.954241 / 46.939917	R4SBF	Stream	0.12	Natural	4, 11,13,23,25
<b>TOTAL</b>						<b>1.64</b>		

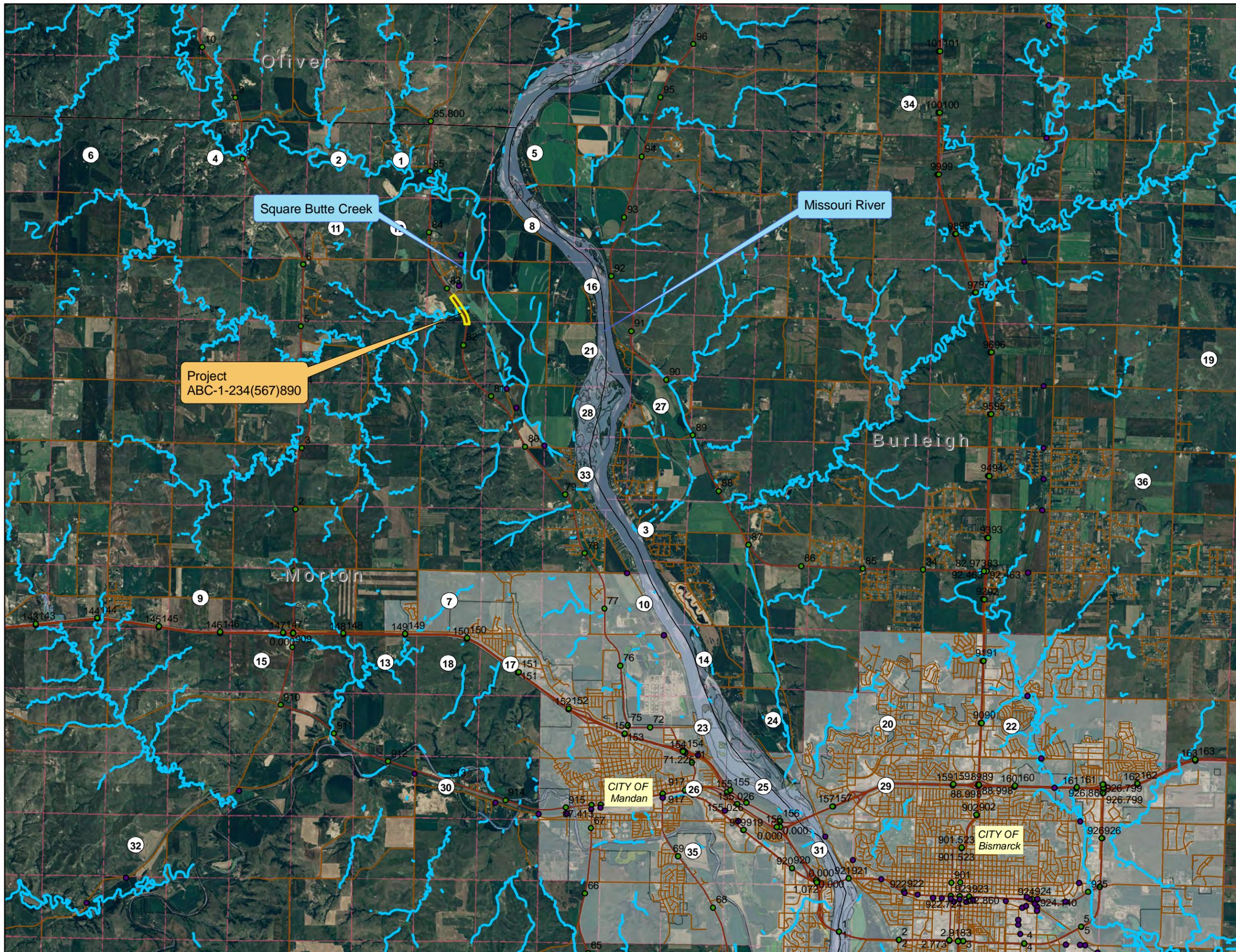
\* Physical Characteristics of Potential Tributary:

Substrate composition:

- 1) Silts
- 2) Sands
- 3) Concrete
- 4) Cobbles
- 5) Gravel
- 6) Muck
- 7) Bedrock
- 8) Vegetation (Type/% Cover)
- 9) Other. Explain:

Other Tributary Features:

- 10) Bed and banks
- 11) Ordinary High Water Mark
- 12) Clear, natural line impressed on the bank
- 13) The presence of litter and debris
- 14) Changes in the character of soil
- 15) Destruction of terrestrial vegetation
- 16) Shelving
- 17) The presence of wrack line
- 18) Vegetation matted down, bent, or absent
- 19) Sediment sorting
- 20) Leaf litter disturbed or washed away
- 21) Scour
- 22) Sediment deposition
- 23) Multiple observed or predicted flow events
- 24) Water staining
- 25) Abrupt change in plant community



**Morton County,  
North Dakota**

- Linear Wetlands
- NDHUB.Counties\_Poly
- Delineated Wetlands

**NDHUB.Wetlands**

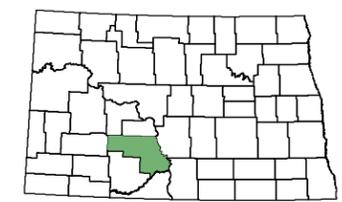
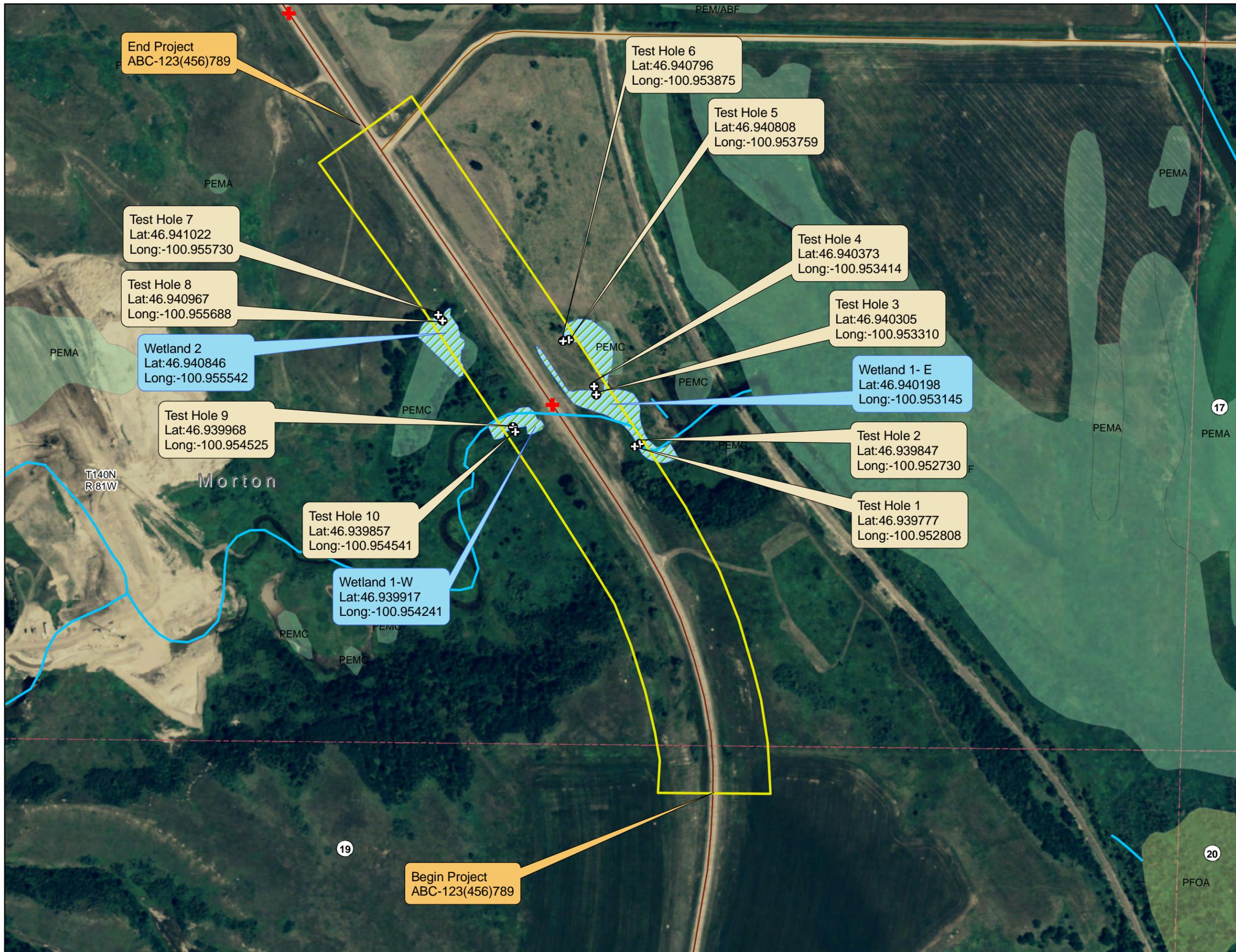
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine
- Corporate Boundaries
- PLSS Sections

Orthophoto Source: NRCS  
Date of Photography: 2004  
Data Source: NDGIS Hub & NDDOT

**Exhibit 1  
Project Location Map**

Drawn By: MAD	Date: 12/25/09	Project ID: ABC-1-234(567)890	PCN: 12345	Sheet: 1 of 1
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**Morton County,  
North Dakota**

- Test\_Holes
- Culvert
- Reference Points
- Linear Wetlands
- NDHUB.Counties\_Poly
- Delineated Wetlands

**NDHUB.Wetlands**

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine
- Corporate Boundaries
- PLSS Sections
- PLSS Townships

Orthophoto Source: NRCS  
Date of Photography: 2004  
Data Source: NDGIS Hub & NDDOT

<b>Exhibit 2</b>				
<b>Wetland Map</b>				
Drawn By: MAD	Date: 12/25/09	Project ID: ABC-123(456)-789	PCN: 12345	Sheet: 1 of 1



**Appendix A**  
**Additional Information for Jurisdictional Requests**

**ADDITIONAL INFORMATION FOR WETLAND JURISDICTIONAL REQUESTS  
ON NDDOT PROJECTS**

**A. Project Location and Background Information**

1. PCN / Project Number: **12345 / ABC-1-234(567)890**
  - a. City: **Mandan**
  - b. County: **Morton**
  - c. State: **North Dakota**
2. Short project description: **Structure Repair RP 890**
3. Name of nearest waterbody: **Square Butte Creek**
4. Name of nearest Traditional Navigable Water (TNW): **Missouri River**
5. Name of watershed or Hydrologic Unit Code (HUC): **Painted Woods - Square Butte Creek / 10130101**
6. Number of wetlands being considered in this cumulative analysis: **2 (see comments below)**
7. Approximate acreage being considered in this cumulative analysis (Total Basin Size): **1.64 ac.**

**B. Review Performed for Site Evaluation (Check all that apply)**

1. Office Determination Date:
2. Field Determination Date: **12/25/09**

**C. General Information**

1. General area conditions:
  - a. HUC watershed size (specify acres or square miles): **40.01 sq. miles**
  - b. Average annual rainfall (inches): **16.35**
    - i. Source: **High Plains Regional Climate Center**
  - c. Average annual snowfall (inches): **32.60**
    - i. Source: **High Plains Regional Climate Center**
2. Biological characteristics (*Field Determination only; list applicable wetland numbers*):
  - a. The wetland supports (use space below each to elaborate for applicable wetlands):
    - i. Riparian buffer characteristics (type, average width):
    - ii. Habitat for:
      - \_\_\_ Federally Listed species. Explain findings:
      - \_\_\_ Fish/spawn areas. Explain findings:
      - \_\_\_ Other environmentally-sensitive species. Explain findings:
      - \_\_\_ Aquatic/wildlife diversity. Explain findings:

**D. Data Sources (Check all that apply)**

- Maps, plans, plots, or plat submitted by or on behalf of the applicant/consultant
- Data Sheets prepared/submitted by or on behalf of the applicant/consultant
- U.S. Geological Survey Hydrologic Atlas
- USGS NHD data:
- USGS 8 and 12 digit HUC maps:
- U.S. Geological Survey map(s)  
Cite scale & quad name: **24K - Harmon**
- USDA Natural Resources Conservation Service Soil Survey

- Citation: **SSURGO, ND GIS Data Hub**
- National Wetlands Inventory map(s)  
Cite name/date: **USFWS NWI Maps ND GIS Data Hub**
- State/Local wetland inventory map(s)  
Cite name/date:
- 100-year Floodplain Elevation is: \_\_\_\_\_ (National Geodetic Vertical Datum of 1929)
- Aerial Photographs  
Cite name/date: **NDDOT / 2004**
- Applicable/supporting scientific literature:
- Other information (please specify):

#### **E. Additional Comments**

**Wetlands 1-E, and 1-W are all part of the same continuous intermittent stream. The entire region is / are the headwaters of Square Butte Creek, which flows into the Missouri River.**

**Appendix B**  
**Site Photos**



**Photo 1: Wetlands 1-E & 1-S**



**Photo 2: Wetland 2**

**Appendix C**  
**Wetland Determination Data Forms**



**SOIL**

Sampling Point: TH 1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-5	10yr2/1	100	---					no redox
5-11	10yr2/2	100	---					no redox

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> (LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<sup>3</sup> Indicators of hydrophytic vegetation and
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)	wetland hydrology must be present,
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> (MLRA 72 & 73 of LRR H)	unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: Hardpack from road construction

Depth (inches): 11

Hydric Soil Present? Yes  No

Remarks:

At 11 inches hardpack from road construction encountered, unable to dig beyond.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>
<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 Invertebrates (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 (C3)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> (where filled)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> (where not tilled)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

**Field Observations:**

Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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:

No wetland hydrology present.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: ABC-1-234(567)890 City/County: Mandan / Morton Sampling Date: 12-25-09  
 Applicant/Owner: North Dakota Department of Transportation State: ND Sampling Point: TH2  
 Investigator(s): Jane Doe and John Doe Section, Township, Range: Sec. 18, T140N, R81W  
 Landform (hillslope, terrace, etc.): Intermittent Stream Local relief (concave, convex, none): concave Slope (%): ----  
 Subregion (LRR): Upper Great Plains Lat: 46.939847 Long: -100.952730 Datum: NAD-83  
 Soil Map Unit Name: Velva Soils NWI classification: R4SBF

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Meets 3/3 criteria and therefore is considered a wetland.	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>10x10</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. <u>none</u>	<u>0</u>			Number of Dominant Species That Are OBL, FACW, or FAC (excluding 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</u> (A/B)														
2. _____																		
3. _____																		
4. _____																		
<u>    </u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>80</u></td> <td>x 1 = <u>80</u></td> </tr> <tr> <td>FACW species <u>20</u></td> <td>x 2 = <u>40</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>120</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.2</u>	Total % Cover of:	Multiply by:	OBL species <u>80</u>	x 1 = <u>80</u>	FACW species <u>20</u>	x 2 = <u>40</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>100</u> (A)	<u>120</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>80</u>	x 1 = <u>80</u>																	
FACW species <u>20</u>	x 2 = <u>40</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>100</u> (A)	<u>120</u> (B)																	
<b>Sapling/Shrub Stratum (Plot size: <u>10x10</u>)</b> 1. <u>none</u> 0																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
<u>    </u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>10x10</u>)</b> 1. <u>Typha angustifolia</u> 60      Y      OBL 2. <u>Hordeum jubatum</u> 20      N      FACW 3. <u>Elyocharis sp.</u> 20      N      OBL 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____																		
<u>100</u> = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>10x10</u>)</b> 1. <u>none</u> 0 2. _____																		
<u>0</u> = Total Cover																		
% Bare Ground in Herb Stratum <u>0</u>																		
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																		
Remarks: Meets requirements for hydrophytic vegetation.																		

**SOIL**

Sampling Point: TH 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-5	10yr2/1	80	10yr6/7	20	C	M		redox
5+	10yr7/2	100	---					depleted

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> (LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Reduced Vertic (F18)
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<sup>3</sup> Indicators of hydrophytic vegetation and welland hydrology must be present, unless disturbed or problematic.
<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)	

**Restrictive Layer (if present):**  
 Type: none  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No \_\_\_\_\_

Remarks:  
 Redox and depleted subsurface indicate hydric soils.

**HYDROLOGY**

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one 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 checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" 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 (C3) (where tilled)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)
<input type="checkbox"/> Water-Stained Leaves (B9)		

Field Observations:		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Water Table Present? Yes <input checked="" type="checkbox"/> No _____	Depth (inches): <u>4</u>	
Saturation Present? Yes <input checked="" type="checkbox"/> No _____	Depth (inches): <u>1</u>	

(Includes capillary fringe)

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

Remarks:  
 Wetland hydrology present.

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

Project/Site: ABC-1-234(567)890 City/County: Mandan / Morton Sampling Date: 12-25-09  
 Applicant/Owner: North Dakota Department of Transportation State: ND Sampling Point: TH3  
 Investigator(s): Jane Doe and John Doe Section, Township, Range: Sec. 18, T140N, R81W  
 Landform (hillslope, terrace, etc.): Intermittent Stream Local relief (concave, convex, none): concave Slope (%): ----  
 Subregion (LRR): Upper Great Plains Lat: 46.940305 Long: -100.953310 Datum: NAD-83  
 Soil Map Unit Name: Velva Soils NWI classification: R4SBF

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:  
 Meets 3/3 criteria and therefore is considered a wetland.

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

Tree Stratum (Plot size: <u>10x10</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>none</u>	<u>0</u>			Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A)
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</u> (A/B)
4. _____	_____			
_____ = Total Cover				<b>Prevalence Index worksheet:</b>
<b>Sapling/Shrub Stratum (Plot size: <u>10x10</u>)</b>				<u>Total % Cover of:</u>
1. <u>none</u>	<u>0</u>			<u>Multiply by:</u>
2. _____	_____			OBL species <u>100</u> x 1 = <u>100</u>
3. _____	_____			FACW species <u>0</u> x 2 = <u>0</u>
4. _____	_____			FAC species <u>0</u> x 3 = <u>0</u>
5. _____	_____			FACU species <u>0</u> x 4 = <u>0</u>
_____ = Total Cover				UPL species <u>0</u> x 5 = <u>0</u>
<b>Herb Stratum (Plot size: <u>10x10</u>)</b>				Column Totals: <u>100</u> (A) <u>100</u> (B)
1. <u>Typha angustifolia</u>	<u>80</u>	<u>Y</u>	<u>OBL</u>	Prevalence Index = B/A = <u>1</u>
2. <u>Ellocharis sp.</u>	<u>20</u>	<u>N</u>	<u>OBL</u>	
3. _____	_____			<b>Hydrophytic Vegetation Indicators:</b>
4. _____	_____			<input checked="" type="checkbox"/> Dominance Test is >50%
5. _____	_____			<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>
6. _____	_____			<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
7. _____	_____			<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
8. _____	_____			
9. _____	_____			<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
10. _____	_____			
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<b>Woody Vine Stratum (Plot size: <u>10x10</u>)</b>				
1. <u>none</u>	<u>0</u>			
2. _____	_____			
_____ = Total Cover				
<b>% Bare Ground in Herb Stratum <u>0</u></b>				

Remarks:  
 Meets requirements for hydrophytic vegetation.

**SOIL**

Sampling Point: TH 3

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-5	10yr2/1	80	10yr6/7	20	C	M		redox
5+	10yr7/2	100	---					depleted

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> (LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)	
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> (MLRA 72 & 73 of LRR H)	

<b>Restrictive Layer (if present):</b> Type: none Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:  
 Redox and depleted subsurface indicate hydric soils, same throughout stream channel.

**HYDROLOGY**

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one 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 checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" 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 (C3)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> (where tilled)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> (where not tilled)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): 4 Saturation Present? (Includes capillary fringe) Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): 1	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Wetland hydrology present.

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

Project/Site: ABC-1-234(567)890 City/County: Mandan / Morton Sampling Date: 12-25-09  
 Applicant/Owner: North Dakota Department of Transportation State: ND Sampling Point: TH 4  
 Investigator(s): Jane Doe and John Doe Section, Township, Range: Sec. 18, T140N, R81W  
 Landform (hillslope, terrace, etc.): Ditch Local relief (concave, convex, none): concave Slope (%): ---  
 Subregion (LRR): Upper Great Plains Lat: 46.940373 Long: -100.953414 Datum: NAD-83  
 Soil Map Unit Name: Amor-Cabba loams NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Remarks:  
 Meets 0/3 criteria and therefore is not considered a wetland.

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

Tree Stratum (Plot size: <u>10x10</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>0</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>0</u> (A/B)														
1. <u>none</u>	<u>0</u>																	
2. _____																		
3. _____																		
4. _____																		
<u>---</u> = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>10x10</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Prevalence Index worksheet:</b> <table border="0"> <tr> <td><b>Total % Cover of:</b></td> <td><b>Multiply by:</b></td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>80</u></td> <td>x 4 = <u>320</u></td> </tr> <tr> <td>UPL species <u>20</u></td> <td>x 5 = <u>100</u></td> </tr> <tr> <td><b>Column Totals:</b> <u>100</u> (A)</td> <td><u>420</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.2</u>	<b>Total % Cover of:</b>	<b>Multiply by:</b>	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>80</u>	x 4 = <u>320</u>	UPL species <u>20</u>	x 5 = <u>100</u>	<b>Column Totals:</b> <u>100</u> (A)	<u>420</u> (B)
<b>Total % Cover of:</b>	<b>Multiply by:</b>																	
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>80</u>	x 4 = <u>320</u>																	
UPL species <u>20</u>	x 5 = <u>100</u>																	
<b>Column Totals:</b> <u>100</u> (A)	<u>420</u> (B)																	
1. <u>none</u>	<u>0</u>																	
2. _____																		
3. _____																		
4. _____																		
5. _____																		
<u>---</u> = Total Cover																		
Herb Stratum (Plot size: <u>10x10</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Poa pratensis</u>	<u>60</u>	<u>Y</u>	<u>FACU</u>															
2. <u>Thinopyrum intermedium</u>	<u>10</u>	<u>N</u>	<u>UPL</u>															
3. <u>Bromus arvensis</u>	<u>20</u>	<u>N</u>	<u>FACU</u>															
4. <u>Meiblotus sp.</u>	<u>10</u>	<u>N</u>	<u>UPL</u>															
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
<u>100</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>10x10</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>none</u>	<u>0</u>																	
2. _____																		
<u>0</u> = Total Cover																		
% Bare Ground in Herb Stratum <u>0</u>																		

**Hydrophytic Vegetation Indicators:**  
 \_\_\_ Dominance Test is >50%  
 \_\_\_ Prevalence Index is ≤3.0<sup>1</sup>  
 \_\_\_ Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 \_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No

Remarks:  
 Does not meet requirements for hydrophytic vegetation.

**SOIL**

Sampling Point: TH 4

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-5	10yr2/1	100	---					no redox
5-11	10yr2/2	100	---					no redox
11+	10yr2/1	100	---					no redox

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>2</sup>:</b>
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> (LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)	
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> (MLRA 72 & 73 of LRR H)	

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No

Remarks:  
 Non-hydric soils, soils pit dug to a depth of 40 inches approx.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one required; check all that apply)</b>		<b>Secondary indicators (minimum of two required)</b>
<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 Invertebrates (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 (C3)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> (where tilled)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> (where not tilled)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

**Field Observations:**

Surface Water Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Water Table Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	

(Includes capillary fringe)

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

Remarks:  
 No wetland hydrology present.



**SOIL**

Sampling Point: TH 5

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-11	10yr2/1	80	10yr6/7	20	C	M		redox
11+	10yr3/2	100	---					---

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<input type="checkbox"/> Histosol (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 checked="" 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)
	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) <input type="checkbox"/> Dark Surface (S7) (LRR G) <input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if present):</b> Type: none Depth (inches):	<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
---	---

Remarks:  
Redox and thick, dark subsurface indicate hydric soils.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>		
<b>Primary Indicators (minimum of one required; check all that apply)</b>		<b>Secondary Indicators (minimum of two required)</b>
<input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" 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 checked="" 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 Invertebrates (B13) <input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not filled) <input checked="" type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where filled) <input type="checkbox"/> Crayfish Burrows (C8) <input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

<b>Field Observations:</b>	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches):	
Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): 5	
Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): 3 (includes capillary fringe)	

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

Remarks:  
Wetland hydrology present.

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

Project/Site: ABC-1-234(567)890 City/County: Mandan / Morton Sampling Date: 12-25-09  
 Applicant/Owner: North Dakota Department of Transportation State: ND Sampling Point: TH 6  
 Investigator(s): Jane Doe and John Doe Section, Township, Range: Sec. 18, T140N, R81W  
 Landform (hillslope, terrace, etc.): Ditch Local relief (concave, convex, none): concave Slope (%): ---  
 Subregion (LRR): Upper Great Plains Lat: 46.940796 Long: -100.953875 Datum: NAD-83  
 Soil Map Unit Name: Amor-Cabba loams NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Remarks:  
 Meets 0/3 criteria and therefore is not considered a wetland.

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

Tree Stratum (Plot size: <u>10x10</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>0</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>0</u> (A/B)
1. <u>none</u>	<u>0</u>			
2. _____				
3. _____				
4. _____				
<u>---</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>10x10</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>none</u>	<u>0</u>			
2. _____				
3. _____				
4. _____				
5. _____				
<u>---</u> = Total Cover				
Herb Stratum (Plot size: <u>10x10</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
1. <u>Poa pratensis</u>	<u>60</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Triticum sp.</u>	<u>10</u>	<u>N</u>	<u>UPL</u>	
3. <u>Bromus arvensis</u>	<u>20</u>	<u>N</u>	<u>FACU</u>	
4. <u>Pascopyrum smithii</u>	<u>10</u>	<u>N</u>	<u>UPL</u>	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
<u>100</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>10x10</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>none</u>	<u>0</u>			
2. _____				
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				

Remarks:  
 Does not meet requirements for hydrophytic vegetation.

**SOIL**

Sampling Point: TH 6

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-5	10yr2/1	100	---					no redox
5-7	10yr2/2	100	---					no redox
7+	10yr3/1	100	---					no redox

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> (LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)	
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> (MLRA 72 & 73 of LRR H)	

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No

Remarks:  
 Non-hydric soils, soils pit dug to a depth of 32 inches approx.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one 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 Invertebrates (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 (C3)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> (where tilled)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> (where not tilled)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

**Field Observations:**

Surface Water Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Water Table Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	

(includes capillary fringe)

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

Remarks:  
 No wetland hydrology present.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: ABC-1-234(567)890 City/County: Mandan / Morton Sampling Date: 12-25-09  
 Applicant/Owner: North Dakota Department of Transportation State: ND Sampling Point: TH 7  
 Investigator(s): Jane Doe and John Doe Section, Township, Range: Sec. 18, T140N, R81W  
 Landform (hillslope, terrace, etc.): Ditch Local relief (concave, convex, none): concave Slope (%): ----  
 Subregion (LRR): Upper Great Plains Lat: 46.941022 Long: -100.955730 Datum: NAD-83  
 Soil Map Unit Name: Amor-Cabba loams NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Meets 0/3 criteria and therefore is not considered a wetland.	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>10x10</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. <u>none</u>	<u>0</u>			Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>0</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>0</u> (A/B)														
2. _____																		
3. _____																		
4. _____																		
_____ = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>80</u></td> <td>x 4 = <u>320</u></td> </tr> <tr> <td>UPL species <u>20</u></td> <td>x 5 = <u>100</u></td> </tr> <tr> <td><b>Column Totals:</b> <u>100</u> (A)</td> <td><u>420</u> (B)</td> </tr> </tbody> </table> Prevalence Index = B/A = <u>4.2</u>	Total % Cover of:	Multiply by:	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>80</u>	x 4 = <u>320</u>	UPL species <u>20</u>	x 5 = <u>100</u>	<b>Column Totals:</b> <u>100</u> (A)	<u>420</u> (B)
Total % Cover of:	Multiply by:																	
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>80</u>	x 4 = <u>320</u>																	
UPL species <u>20</u>	x 5 = <u>100</u>																	
<b>Column Totals:</b> <u>100</u> (A)	<u>420</u> (B)																	
_____ = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>10x10</u>)</b>																		
1. <u>none</u>	<u>0</u>																	
2. _____																		
3. _____																		
4. _____																		
5. _____																		
_____ = Total Cover																		
<b>Herb Stratum (Plot size: <u>10x10</u>)</b>																		
1. <u>Poa pratensis</u>	<u>60</u>	<u>Y</u>	<u>FACU</u>															
2. <u>Triticum sp.</u>	<u>20</u>	<u>N</u>	<u>UPL</u>															
3. <u>Bromus arvensis</u>	<u>20</u>	<u>N</u>	<u>FACU</u>															
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
_____ = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>10x10</u>)</b>																		
1. <u>none</u>																		
2. _____																		
_____ = Total Cover																		
% Bare Ground in Herb Stratum <u>0</u>																		
_____ = Total Cover																		
Prevalence Index = B/A = <u>4.2</u>																		
<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)																		
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																		
<b>Hydrophytic Vegetation Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>																		
Remarks: Does not meet requirements for hydrophytic vegetation.																		

**SOIL**

Sampling Point: TH 7

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-5	10yr2/1	100	---					no redox
5-7+	10yr2/2	100	---					no redox

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> (LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<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)	
<input type="checkbox"/> (MLRA 72 & 73 of LRR H)	

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No

Remarks:  
 Non-hydric soils, soils pit dug to a depth of 40 inches approx.

**HYDROLOGY**

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of two required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> (where tilled)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Crayfish Burrows (CB)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)	
<input type="checkbox"/> Salt Crust (B11)		
<input type="checkbox"/> Aquatic Invertebrates (B13)		
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)		
<input type="checkbox"/> Dry-Season Water Table (C2)		
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)		
<input type="checkbox"/> (where not tilled)		
<input type="checkbox"/> Presence of Reduced Iron (C4)		
<input type="checkbox"/> Thin Muck Surface (C7)		
<input type="checkbox"/> Other (Explain in Remarks)		

**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)

Wetland Hydrology Present? Yes \_\_\_\_\_ No

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

Remarks:  
 No wetland hydrology present.

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

Project/Site: ABC-1-234(567)890 City/County: Mandan / Morton Sampling Date: 12-25-09  
 Applicant/Owner: North Dakota Department of Transportation State: ND Sampling Point: TH 8  
 Investigator(s): Jane Doe and John Doe Section, Township, Range: Sec. 18, T140N, R81W  
 Landform (hillslope, terrace, etc.): Basin Local relief (concave, convex, none): concave Slope (%): ---  
 Subregion (LRR): Upper Great Plains Lat: 46.940967 Long: -100.955688 Datum: NAD-83  
 Soil Map Unit Name: Velva Soils NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Meets 3/3 criteria and therefore is considered a wetland.	

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

Tree Stratum (Plot size: <u>10x10</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																
1. <u>none</u>	<u>0</u>			Number of Dominant Species That Are OBL, FACW, or FAC (excluding 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</u> (A/B)																
2. _____																				
3. _____																				
4. _____																				
_____ = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;"><u>Total % Cover of:</u></td> <td style="width:50%;"><u>Multiply by:</u></td> </tr> <tr> <td>OBL species <u>100</u></td> <td>x 1 = <u>100</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>100</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>1</u></td> </tr> </table>	<u>Total % Cover of:</u>	<u>Multiply by:</u>	OBL species <u>100</u>	x 1 = <u>100</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>100</u> (A)	<u>100</u> (B)	Prevalence Index = B/A = <u>1</u>	
<u>Total % Cover of:</u>	<u>Multiply by:</u>																			
OBL species <u>100</u>	x 1 = <u>100</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>100</u> (A)	<u>100</u> (B)																			
Prevalence Index = B/A = <u>1</u>																				
_____ = Total Cover																				
<b>Sapling/Shrub Stratum (Plot size: <u>10x10</u>)</b>																				
1. <u>none</u>	<u>0</u>																			
2. _____																				
3. _____																				
4. _____																				
5. _____																				
_____ = Total Cover																				
<b>Herb Stratum (Plot size: <u>10x10</u>)</b>																				
1. <u>Typha angustifolia</u>	<u>70</u>	<u>Y</u>	<u>OBL</u>																	
2. <u>Elyocharis sp.</u>	<u>10</u>	<u>N</u>	<u>OBL</u>																	
3. <u>Juncus sp.</u>	<u>20</u>	<u>N</u>	<u>OBL</u>																	
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
_____ = Total Cover																				
<b>Woody Vine Stratum (Plot size: <u>10x10</u>)</b>																				
1. <u>none</u>	<u>0</u>																			
2. _____																				
_____ = Total Cover																				
% Bare Ground in Herb Stratum <u>0</u>																				
_____ = Total Cover																				
<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)																				
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																				
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																				
Remarks: Meets requirements for hydrophytic vegetation.																				

**SOIL**

Sampling Point: TH 8

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-5	10yr2/1	80	10yr6/7	20	C	M		redox
5+	10yr7/2	100	---					depleted

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> (LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)	
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> (MLRA 72 & 73 of LRR H)	

**Restrictive Layer (if present):**  
 Type: none  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:  
 Redox and depleted subsurface indicate hydric soils, same as seen in stream channel.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" 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 (C3)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> (where filled)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> (where not filled)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

**Field Observations:**

Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): 6	
Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): 1	

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

Remarks:  
 Wetland hydrology present.

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

Project/Site: ABC-1-234(567)890 City/County: Mandan / Morton Sampling Date: 12-25-09  
 Applicant/Owner: North Dakota Department of Transportation State: ND Sampling Point: TH 9  
 Investigator(s): Jane Doe and John Doe Section, Township, Range: Sec. 18, T140N, R81W  
 Landform (hillslope, terrace, etc.): Intermittent Stream Local relief (concave, convex, none): concave Slope (%): -----  
 Subregion (LRR): Upper Great Plains Lat: 46.939968 Long: -100.954525 Datum: NAD-83  
 Soil Map Unit Name: Velva Soils NWI classification: R4SBF

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Hydic Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
---	---	--	---

Remarks:  
 Meets 3/3 criteria and therefore is considered a wetland.

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

Tree Stratum (Plot size: <u>10x10</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding 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</u> (A/B)
1. <u>none</u>	<u>0</u>			
2. _____	_____			
3. _____	_____			
4. _____	_____			
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>10x10</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>none</u>	<u>0</u>			
2. _____	_____			
3. _____	_____			
4. _____	_____			
5. _____	_____			
_____ = Total Cover				
Herb Stratum (Plot size: <u>10x10</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Typha angustifolia</u>	<u>80</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Elycharis sp.</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
3. <u>Juncus sp.</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
4. _____	_____			
5. _____	_____			
6. _____	_____			
7. _____	_____			
8. _____	_____			
9. _____	_____			
10. _____	_____			
_____ = Total Cover				
Woody Vine Stratum (Plot size: <u>10x10</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>none</u>	<u>0</u>			
2. _____	_____			
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				

Remarks:  
 Meets requirements for hydrophytic vegetation.

**SOIL**

Sampling Point: TH 9

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-5	10yr2/1	80	10yr6/7	20	C	M		redox
5+	10yr7/2	100	---					depleted

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

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

Indicators for Problematic Hydric Soils<sup>2</sup>:

- |   |   |   |
|---|---|---|
| <input type="checkbox"/> Histosol (A1)                                | <input type="checkbox"/> Sandy Gleyed Matrix (S4)           | <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)  |
| <input type="checkbox"/> Histic Epipedon (A2)                         | <input type="checkbox"/> Sandy Redox (S5)                   | <input type="checkbox"/> Coast Prairie Redox (A1B) (LRR F, G, H)  |
| <input type="checkbox"/> Black Histic (A3)                            | <input type="checkbox"/> Stripped Matrix (S6)               | <input type="checkbox"/> Dark Surface (S7) (LRR G)  |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                        | <input type="checkbox"/> Loamy Mucky Mineral (F1)           | <input type="checkbox"/> High Plains Depressions (F16)  |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F)               | <input type="checkbox"/> Loamy Gleyed Matrix (F2)           | <input type="checkbox"/> (LRR H outside of MLRA 72 & 73)  |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)                 | <input type="checkbox"/> Depleted Matrix (F3)               | <input type="checkbox"/> Reduced Vertic (F18)   |
| <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Red Parent Material (TF2)  |
| <input type="checkbox"/> Thick Dark Surface (A12)                     | <input type="checkbox"/> Depleted Dark Surface (F7)         | <input type="checkbox"/> Other (Explain in Remarks)   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)                     | <input type="checkbox"/> Redox Depressions (F8)             | <sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. |
| <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)    | <input type="checkbox"/> High Plains Depressions (F16)      |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)         | <input type="checkbox"/> (MLRA 72 & 73 of LRR H)            |   |

Restrictive Layer (if present):

Type: none  
Depth (inches):

Hydric Soil Present? Yes  No

Remarks:

Redox and depleted subsurface indicate hydric soils, same throughout stream channel.

**HYDROLOGY**

Wetland Hydrology Indicators:

Primary Indicators (minimum of one 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 checked="" type="checkbox"/> High Water Table (A2)                     | <input checked="" type="checkbox"/> Aquatic Invertebrates (B13)     | <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)              |
| <input checked="" type="checkbox"/> Saturation (A3)                           | <input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)      | <input checked="" 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 (C3)           |
| <input type="checkbox"/> Sediment Deposits (B2)                               | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> (where tilled)                                       |
| <input type="checkbox"/> Drift Deposits (B3)                                  | <input type="checkbox"/> (where not tilled)                         | <input type="checkbox"/> Crayfish Burrows (CB)                                |
| <input type="checkbox"/> Algal Mat or Crust (B4)                              | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Iron Deposits (B5)                                   | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input checked="" type="checkbox"/> Geomorphic Position (D2)                  |
| <input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks)                 | <input checked="" type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Water-Stained Leaves (B9)                            |   | <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)                    |

Field Observations:

Surface Water Present? Yes  No  Depth (inches):  
 Water Table Present? Yes  No  Depth (inches): 4  
 Saturation Present? Yes  No  Depth (inches): 1  
 (Includes capillary fringe)

Wetland Hydrology Present? Yes  No

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

Remarks:

Wetland hydrology present.

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

Project/Site: ABC-1-234(567)890 City/County: Mandan / Morton Sampling Date: 12-25-09  
 Applicant/Owner: North Dakota Department of Transportation State: ND Sampling Point: TH 10  
 Investigator(s): Jane Doe and John Doe Section, Township, Range: Sec. 18, T140N, R81W  
 Landform (hillslope, terrace, etc.): Ditch Local relief (concave, convex, none): concave Slope (%): ---  
 Subregion (LRR): Upper Great Plains Lat: 46.940796 Long: -100.953875 Datum: NAD-83  
 Soil Map Unit Name: Amor-Cabba loams NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Meets 0/3 criteria and therefore is not considered a wetland.	

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

Tree Stratum (Plot size: <u>10x10</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. <u>none</u>	<u>0</u>			Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>0</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>0</u> (A/B)														
2. _____																		
3. _____																		
4. _____																		
_____ = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">Total % Cover of:</td> <td style="width:50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>100</u></td> <td>x 4 = <u>400</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>400</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.0</u>	Total % Cover of:	Multiply by:	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>100</u>	x 4 = <u>400</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u> (A)	<u>400</u> (B)
Total % Cover of:	Multiply by:																	
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>100</u>	x 4 = <u>400</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>100</u> (A)	<u>400</u> (B)																	
<b>Sapling/Shrub Stratum (Plot size: <u>10x10</u>)</b> 1. <u>none</u> 0																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
_____ = Total Cover																		
<b>Herb Stratum (Plot size: <u>10x10</u>)</b> 1. <u>Poa pratensis</u> 60      Y      FACU 2. <u>Bromus arvensis</u> 40      N      FACU 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____																		
_____ = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>10x10</u>)</b> 1. <u>none</u> 2. _____																		
_____ = Total Cover																		
% Bare Ground in Herb Stratum <u>0</u>																		
Remarks: Does not meet requirements for hydrophytic vegetation.																		

**SOIL**

Sampling Point: TH 10

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-5	10yr2/1	100	---					no redox
5-9	10yr2/2	100	---					no redox
9+	10yr3/2	100	---					no redox

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

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> (LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<sup>3</sup> Indicators of hydrophytic vegetation and welland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)	
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> (MLRA 72 & 73 of LRR H)	

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No

Remarks:  
 Non-hydric soils, soils pit dug to a depth of 32 inches approx.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>		
<u>Primary Indicators (minimum of one required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>
<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 Invertebrates (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 (C3)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> (where filled)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> (where not filled)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

**Field Observations:**

Surface Water Present?	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____
Water Table Present?	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____
Saturation Present?	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____

(Includes capillary fringe)

Wetland Hydrology Present? Yes \_\_\_\_\_ No

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

Remarks:  
 No wetland hydrology present.