

Appendix B

USACE Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Burke Sampling Date: 11/4/10
 Applicant/Owner: Embarras State: ND Sampling Point: 32-156-095-11
 Investigator(s): _____ Section, Township, Range: 32-156-095 1
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): concave Slope (%): 8-10
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

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

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

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

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-) _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. _____				
3. _____				
4. _____				
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____)				
1. <u>Snowberry</u>				
2. <u>Am plum</u>				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: _____)				
1. <u>prairie cordgrass</u>	<u>40</u>			
2. <u>Cattail</u>	<u>20</u>			
3. <u>red cordgrass</u>	<u>10</u>			
4. <u>western wheatgrass</u>	<u>5</u>			
5. _____				
6. <u>lamb (smooth)</u>	<u>5</u>			
7. _____	<u>10</u>			
8. _____				
9. <u>intermediate wheatgrass</u>	<u>30</u>			
10. <u>slender wheatgrass on slope</u>	<u>30</u>			
_____ = Total Cover				Hydrophytic Vegetation Present? Yes _____ No _____
Woody Vine Stratum (Plot size: _____)				
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

EXISTING PIPELINES

Remarks: prairie cordgrass and cattail determine the edge of wetland in water
existing pipeline, sideslopes planted to slender
+ int. wheatgrass

SOIL

Sampling Point _____

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 ¹	Loc ²		
0-4	root mass						SIL -	
4-12	10YR/2-1	100					SIL	
12-18	10YR/4-1	700	10YR/5-6	10%		M	CL →	
18-24	10YR/4-1	700	10YR/5-6	10%				
18+	2.5Y/5-2	100	2.5Y/5-6	15		M	CL	
0-12	10YR/3-1						Sandy loam	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<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 checked="" type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	(LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input checked="" 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 checked="" 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)	³ 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)	(MLRA 72 & 73 of LRR H)	unless disturbed or problematic.

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____
 Hydric Soil Present? Yes No

Remarks: water table at 18 in.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one required; check all that apply)		
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input checked="" 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 type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input checked="" type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	(where filled)
<input type="checkbox"/> Drift Deposits (B3)	(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 checked="" type="checkbox"/> Thin Muck Surface (C7)	<input 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 Depth (inches): _____
 Water Table Present? Yes No Depth (inches): _____
 Saturation Present? (includes capillary fringe) Yes No Depth (inches): _____
 Wetland Hydrology Present? Yes No

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

Remarks:

BLLP

Project

Waterbody Data Sheet

FEATURE ID: 32156095-52

WATERBODY NAME:

SURVEY DATE: 11/4/10

INVESTIGATOR:

FLOW CHARACTERISTICS

EPHEMERAL
 INTERMITTENT
 PERENNIAL

CURRENT WATER WIDTH AT CROSSING: FT

CURRENT WATER DEPTH AT CROSSING: FT

SUBSTRATE

BEDROCK SILT
 GRAVEL CLAY
 SAND
 OTHER _____

RUNS
 POOLS
 RIFFLES

BANK CHARACTERISTICS

LEFT BANK (WHEN FACING DOWNSTREAM)	RIGHT BANK (WHEN FACING DOWNSTREAM)
HEIGHT: 10 FT	HEIGHT: 10 FT
SLOPE <input checked="" type="checkbox"/> 0-30° <input type="checkbox"/> 31-45° <input type="checkbox"/> 46-60° <input type="checkbox"/> 61-90°	SLOPE <input checked="" type="checkbox"/> 0-30° <input type="checkbox"/> 31-45° <input type="checkbox"/> 46-60° <input type="checkbox"/> 61-90°
WIDTH (HIGHEST BANK TO HIGHEST BANK): 15-30 FT	
EVIDENCE OF EROSION: yes	
SCOUR POTENTIAL: yes, scours present pools present 10x10ft	

RIPARIAN HABITAT

RIPARIAN VEGETATION YES NO

RIPARIAN SPECIES PRESENT: reed canary grass, prairie cordgrass

INVASIVES/NOXIOUS VEGETATION YES NO

IF YES, SPECIES PRESENT: Canada thistle, smooth brome

ADJACENT WETLAND YES NO

T & E SPECIES YES NO

IF YES, IDENTIFY SPECIES AND LOCATION:

OHWM CRITERIA

<input type="checkbox"/> CLEAR, NATURAL LINE IMPRESSED ON BANK	<input type="checkbox"/> CHANGES IN SOIL CHARACTER	<input type="checkbox"/> SHELVING
<input type="checkbox"/> VEGETATION MATTED DOWN, BENT OR ABSENT	<input type="checkbox"/> SEDIMENT DEPOSITION	<input checked="" type="checkbox"/> SCOUR
<input type="checkbox"/> LEAF LITTER DISTURBED OR WASHED AWAY	<input type="checkbox"/> SEDIMENT SORTING	<input type="checkbox"/> WATER STAINING
<input checked="" type="checkbox"/> DESTRUCTION OF TERRESTRIAL VEGETATION	<input type="checkbox"/> PRESENCE OF LITTER OR DEBRIS	<input type="checkbox"/> OTHER:
<input checked="" type="checkbox"/> ABRUPT CHANGE IN PLANT COMMUNITY	<input type="checkbox"/> PRESENCE OF WRACK LINE	

PHOTOGRAPHS

WETLAND DETERMINATION DATA FORM – Great Plains Region

2

Project/Site: BLLP City/County: Williams Sampling Date: 08/03/10
 Applicant/Owner: _____ State: _____ Sampling Point: U1
 Investigator(s): Kjar/Krapp Section, Township, Range: 34 156 95
 Landform (hill/slope, terrace, etc.): to slope Local relief (concave, convex, none): convex Slope (%): 10
 Subregion (LRR): _____ Lat: 48.286723 Long: -102.88338 Datum: _____
 Soil Map Unit Name: 2081 Zahl-Williams loam 3-6% slope NWI classification: NA

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

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>X</u>				
2. <u>X</u>				
3. _____				
4. _____				
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Symoc Symphoricarpos</u>	<u>5</u>	<u>NO</u>	<u>FAC-</u>	
2. <u>Brome occidentalis</u>	<u>100</u>	<u>yes</u>		
3. <u>Rosark Rosa arkanson</u>	<u>5</u>	<u>NO</u>	<u>NI</u>	
4. <u>Thalictrum</u>	<u>5</u>			
5. <u>Art</u>				
_____ = Total Cover				
Herb Stratum (Plot size: <u>20x10'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Art and Artemisia ludoviciana</u>	<u>3</u>	<u>N</u>	<u>FACU</u>	
2. <u>Brome Bromus inermis</u>	<u>100</u>	<u>yes</u>	<u>FACU</u>	
3. <u>Thalictrum dasyc</u>	<u>3</u>	<u>N</u>	<u>FAC</u>	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>X</u>				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>NO</u>				
_____ = Total Cover				
Remarks:				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species <u>0</u>	x 1 =	
FACW species <u>0</u>	x 2 =	
FAC species <u>8</u>	x 3 =	<u>24</u>
FACU species <u>103</u>	x 4 =	<u>412</u>
UPL species _____	x 5 =	
Column Totals: <u>111</u>	(A)	<u>436</u> (B)
Prevalence Index = B/A =		<u>3.9</u>

Hydrophytic Vegetation Indicators:

N Dominance Test is >50%

N Prevalence Index is ≤3.0¹

N Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

N Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No X

SOIL

Sampling Point: _____

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 ¹	Loc ²		
0-20	10YR 3/1							
	10YR 3/1							

Handwritten: This is tilled

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ² :	
<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 (F16)	
<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)	² 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:

Handwritten: tilled area, brome seeded

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 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 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:

Handwritten: toe slope

WETLAND DETERMINATION DATA FORM – Great Plains Region

2

Project/Site: BLLP City/County: Williams Sampling Date: 09/03/10
 Applicant/Owner: _____ State: ND Sampling Point: W1/S1
 Investigator(s): Kjor/Krapp Section, Township, Range: 34 156 95
 Landform (hillslope, terrace, etc.): drainage Local relief (concave, convex, none): concave Slope (%): 0
 Subregion (LRR): _____ Lat: 48.286301 Long: -102.883757 Datum: _____
 Soil Map Unit Name: 2081-2ah1-Williams loams 3-6-1-S1 NWI classification: PABFh
 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 _____	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No _____		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No _____		

Remarks:
drainage

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)																
1. _____																				
2. _____																				
3. _____																				
4. _____																				
_____ = Total Cover																				
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet: <table border="0"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species <u>45</u></td> <td>x 1 = <u>45</u></td> </tr> <tr> <td>FACW species <u>20</u></td> <td>x 2 = <u>40</u></td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = _____</td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: <u>65</u> (A)</td> <td><u>85</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>1.3</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>45</u>	x 1 = <u>45</u>	FACW species <u>20</u>	x 2 = <u>40</u>	FAC species _____	x 3 = _____	FACU species _____	x 4 = _____	UPL species _____	x 5 = _____	Column Totals: <u>65</u> (A)	<u>85</u> (B)	Prevalence Index = B/A = <u>1.3</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>45</u>	x 1 = <u>45</u>																			
FACW species <u>20</u>	x 2 = <u>40</u>																			
FAC species _____	x 3 = _____																			
FACU species _____	x 4 = _____																			
UPL species _____	x 5 = _____																			
Column Totals: <u>65</u> (A)	<u>85</u> (B)																			
Prevalence Index = B/A = <u>1.3</u>																				
1. _____																				
2. _____																				
3. _____																				
4. _____																				
5. _____																				
_____ = Total Cover																				
Herb Stratum (Plot size: <u>20x20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≥3.0' <input checked="" type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input checked="" type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) <u>NO</u> ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____																
1. <u>Phalaris arundinacea</u> ± <u>20</u>	<u>20</u>	<u>FACW</u>	<u>+</u>																	
2. <u>Cicuta maculata</u> ± <u>5</u>	<u>5</u>	<u>OBL</u>	<u>-</u>																	
3. <u>Polygonum amphibium</u> ± <u>30</u>	<u>30</u>	<u>OBL</u>	<u>+</u>																	
4. _____																				
5. <u>Sparganium angustifolium</u> ± <u>10</u>	<u>10</u>	<u>OBL</u>	<u>-</u>																	
6. _____																				
7. <u>Open water</u>																				
8. _____																				
9. _____																				
10. _____																				
<u>65</u> = Total Cover																				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____																				
2. _____																				
_____ = Total Cover																				
% Bare Ground in Herb Stratum <u>double veg no soil</u>																				

SOIL

Sampling Point: W1

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	Loc ¹		
0-21"	10YR 2/1						sl	Saturated
21-29"	10YR 3/1						sl	
30"	2-5Y 4/1						sl	
32"			7.5YR	4.0			c	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<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)	(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 checked="" 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)	³ 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)	(MLRA 72 & 73 of LRR H)	

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____
 Hydric Soil Present? Yes No

Remarks:
 Saturated, sandy gleyed matrix

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required, check all that apply)	Secondary Indicators (minimum of two required)
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input checked="" type="checkbox"/> High Water Table (A2) < 30"	<input checked="" type="checkbox"/> Aquatic Invertebrates (B13)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input checked="" type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)
<input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input checked="" type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<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 tilled)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input checked="" type="checkbox"/> Geomorphic Position (D2)
	<input type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations:
 Surface Water Present? Yes No Depth (inches): to 24"
 Water Table Present? Yes No Depth (inches): ~30"
 Saturation Present? (includes capillary fringe) Yes No Depth (inches): throughout
 Wetland Hydrology Present? Yes No

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

Remarks:
 standing water in corridor, not at pipeline crossing, but wetland contains

FEATURE ID: 34156 095 - 51-w
 WATERBODY NAME: Dry Fork Creek + NWI

SURVEY DATE: 8-3-10
 INVESTIGATOR: RJK - KJK

FLOW CHARACTERISTICS

EPHEMERAL
 INTERMITTENT
 PERENNIAL

CURRENT WATER WIDTH AT CROSSING: 45 FT
 CURRENT WATER DEPTH AT CROSSING: 0.5 FT

SUBSTRATE

BEDROCK
 GRAVEL
 SAND
 OTHER _____

RUNS
 POOLS
 RIFFLES

Upper Reach
 Stock Dam

BANK CHARACTERISTICS

LEFT BANK (WHEN FACING DOWNSTREAM)	RIGHT BANK (WHEN FACING DOWNSTREAM)
HEIGHT: 0 FT	HEIGHT: 0 FT
SLOPE <input checked="" type="checkbox"/> 0-30° <input type="checkbox"/> 31-45° <input type="checkbox"/> 46-60° <input type="checkbox"/> 61-90°	SLOPE <input checked="" type="checkbox"/> 0-30° <input type="checkbox"/> 31-45° <input type="checkbox"/> 46-60° <input type="checkbox"/> 61-90°
WIDTH (HIGHEST BANK TO HIGHEST BANK): 0 FT	
EVIDENCE OF EROSION: —	
SCOUR POTENTIAL: —	

RIPARIAN HABITAT

RIPARIAN VEGETATION YES NO

RIPARIAN SPECIES PRESENT:
 Water Plantain - *Alisma subcordatum*
 Canary reed grass - *Phalaris arundinacea*
 Water knotweed - *Polygonum amphibium*

INVASIVES/NOXIOUS VEGETATION YES NO

IF YES, SPECIES PRESENT:

ADJACENT WETLAND YES NO

T & E SPECIES YES NO

IF YES, IDENTIFY SPECIES AND LOCATION:

OHWM CRITERIA

<input type="checkbox"/> CLEAR, NATURAL LINE IMPRESSED ON BANK	<input type="checkbox"/> CHANGES IN SOIL CHARACTER	<input type="checkbox"/> SHELVING
<input type="checkbox"/> VEGETATION MATTED DOWN, BENT OR ABSENT	<input checked="" type="checkbox"/> SEDIMENT DEPOSITION	<input type="checkbox"/> SCOUR
<input type="checkbox"/> LEAF LITTER DISTURBED OR WASHED AWAY	<input type="checkbox"/> SEDIMENT SORTING	<input checked="" type="checkbox"/> WATER STAINING
<input type="checkbox"/> DESTRUCTION OF TERRESTRIAL VEGETATION	<input type="checkbox"/> PRESENCE OF LITTER OR DEBRIS	<input type="checkbox"/> OTHER:
<input checked="" type="checkbox"/> ABRUPT CHANGE IN PLANT COMMUNITY	<input type="checkbox"/> PRESENCE OF WRACK LINE	

PHOTOGRAPHS

Yes

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Williams Sampling Date: 8/3/10
 Applicant/Owner: _____ State: ND Sampling Point: W1
 Investigator(s): Kyu/Krapp Section, Township, Range: 36 156 095
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: 48.288308 Long: -102.8491078 Datum: _____
 Soil Map Unit Name: 2015 Williams-Bowbells loams 3rd slope NWI classification: _____

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

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

Hydrophytic Vegetation Present? Yes _____ No _____	Hydic Soil Present? Yes _____ No _____	Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks: <u>wetland is divided by road, but connected via culvert; topo characteristics - wetland pre-road</u>			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
1. _____	_____	_____	_____															
2. <u>X</u>	_____	_____	_____															
3. <u>X</u>	_____	_____	_____															
4. _____	_____	_____	_____	= Total Cover														
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: <table border="1"> <tr> <th>Total % Cover of</th> <th>Multiply by</th> </tr> <tr> <td>OBL species <u>135</u></td> <td>x 1 = <u>135</u></td> </tr> <tr> <td>FACW species <u>15</u></td> <td>x 2 = <u>30</u></td> </tr> <tr> <td>FAC species <u>35</u></td> <td>x 3 = <u>105</u></td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: <u>185</u> (A)</td> <td><u>270</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.5</u>	Total % Cover of	Multiply by	OBL species <u>135</u>	x 1 = <u>135</u>	FACW species <u>15</u>	x 2 = <u>30</u>	FAC species <u>35</u>	x 3 = <u>105</u>	FACU species _____	x 4 = _____	UPL species _____	x 5 = _____	Column Totals: <u>185</u> (A)	<u>270</u> (B)
Total % Cover of	Multiply by																	
OBL species <u>135</u>	x 1 = <u>135</u>																	
FACW species <u>15</u>	x 2 = <u>30</u>																	
FAC species <u>35</u>	x 3 = <u>105</u>																	
FACU species _____	x 4 = _____																	
UPL species _____	x 5 = _____																	
Column Totals: <u>185</u> (A)	<u>270</u> (B)																	
1. _____	_____	_____	_____															
2. <u>X</u>	_____	_____	_____															
3. <u>X</u>	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____	= Total Cover														
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
1. <u>Polygonum amphibium</u>	<u>50</u>	<u>+</u>	<u>OBL</u>															
2. <u>Spartina pedinata</u>	<u>50</u>	<u>+</u>	<u>OBL</u>															
3. <u>Ambrosia trifida</u>	<u>5</u>	<u>-</u>	<u>FAC</u>															
4. <u>Rumex crispus</u>	<u>5</u>	<u>-</u>	<u>FACW</u>															
5. <u>Cicuta maculatum</u>	<u>5</u>	<u>-</u>	<u>OBL</u>															
6. <u>Carex lasiocarpa</u>	<u>30</u>	<u>+</u>	<u>OBL</u>															
7. <u>Agropyron repens</u>	<u>30</u>	<u>+</u>	<u>FAC</u>															
8. <u>Mentha arvensis</u>	<u>5</u>	<u>-</u>	<u>FACW</u>															
9. <u>Hordeum jubatum</u>	<u>5</u>	<u>-</u>	<u>FACU</u>															
10. _____	_____	_____	_____	= Total Cover														
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes _____ No _____														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____	= Total Cover														
% Bare Ground in Herb Stratum <u>0</u>																		
Remarks:																		

SOIL

Sampling Point: _____

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 ¹	Loc ²		
1-5"	10YR 2/1						sil	
5-12	10YR 2/1		7.5YR 4/5				sil	mottles
12-24	10YR 3/1						lc	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<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 (F15)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input checked="" type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input checked="" type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	⁴ 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:
 Water area impounded by road - wetland connected w/ culvert

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 checked="" 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 (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input 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? (includes capillary fringe) Yes No Depth (inches): _____

Wetland Hydrology Present? Yes No

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

Remarks: