

SOIL

23156089-414

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		
0-6	10YR 3/1	100						
6-18	2.5Y 4/2	80	7.5YR 5/6	20	C	nk	2/1	

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 Soils³:

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

muck

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____Water Table Present? Yes ☐ No ☒ Depth (inches): _____Saturation Present? 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:

Muck = Peat
Cultivated in 2009

WETLAND DETERMINATION DATA FORM – Great Plains Region

Kevin
2/20/10
30 acres

Project/Site: BLLP City/County: Ward Sampling Date: 8/3/2010
 Applicant/Owner: McCaig State: ND Sampling Point: Wet 1
 Investigator(s): GWM, NPH Section, Township, Range: 23-156-87
 Landform (hillslope, terrace, etc.): Top Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): F Lat: 48.324641 Long: -101.819665 Datum: NAD 83
 Soil Map Unit Name: Wic Williams loamy, undulating NWI classification: PEMCD
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	
Remarks: <u>Depression has cattails in interior</u> <u>Obs. PL in native prairie area (Wet meadow)</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	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. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
<u> </u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
5. <u> </u>				
<u> </u> = Total Cover				
Herb Stratum (Plot size: <u>20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% <u> </u> Prevalence Index is ≤3.0' <u> </u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>HEP</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	
2. <u>SPAR</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3. <u>LTA</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
4. <u>HELIOPSIS</u>	<u>15</u>	<u>N</u>	<u>UPL</u>	
5. <u>GLY</u>	<u>15</u>	<u>N</u>	<u>FACW</u>	
6. <u> </u>				
7. <u> </u>				
8. <u> </u>				
9. <u> </u>				
10. <u> </u>				
<u>100</u> = Total Cover				
Woody Vine Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
1. <u> </u>				
2. <u> </u>				
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: <u>Cattails in interior</u>				

23/56087-001

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		
0-3	10YR 3/1	100					sil	
3-7	2.5Y 4/1	95	7.5YR 3/6	5	C	m	sil	
7-12	2.5Y 5/1	90	7.5YR 5/6	10	C	m	sil	
12-12+	2.5Y 4/1	90	7.5YR 5/6	10	C	m	sil	

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 Soils³:

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

Tomb Series

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (minimum of two required)

- | | | |
|--|---|---|
| ☒ Surface Water (A1) | ☐ Salt Crust (B11) | ☐ Surface Soil Cracks (B6) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) | ☐ Sparsely Vegetated Concave Surface (B8) |
| ☒ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) | ☐ Drainage Patterns (B10) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) | ☐ (where tilled) |
| ☐ Drift Deposits (B3) | ☐ (where not tilled) | ☐ Crayfish Burrows (C8) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) | ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) | ☐ Geomorphic Position (D2) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) | ☐ FAC-Neutral Test (D5) |
| ☐ Water-Stained Leaves (B9) | | ☐ 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): 10"Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: 23/56087-01 Sampling Date: 8/3/2010
 Applicant/Owner: McCain State: ND Sampling Point: 01
 Investigator(s): GWM, NPH Section, Township, Range: 23, 56, 087
 Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): _____ Slope (%): <1
 Subregion (LRR): F Lat: 48.321647 Long: -101.821255 Datum: NAD83
 Soil Map Unit Name: WLC Williams loams, undulating NWI classification: Nme
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: <u>upland comparison</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>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. _____				
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. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				Hydrophytic Vegetation Indicators: _____ Dominance Test is >50% _____ Prevalence Index is ≤3.0' _____ 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: <u>20'</u>)				
1. <u>Amr RCT</u>	<u>40</u>	<u>Y</u>	<u>UPL</u>	
2. <u>SUN-wood</u> <u>SUNDAV</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
3. <u>Wheat cliff</u>	<u>30</u>	<u>Y</u>	<u>UPL</u>	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>50</u>	_____ = Total Cover			
Hydrophytic Vegetation Present? Yes _____ No <u>X</u>				
Remarks:				

SOIL

23, 156 087-111

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		
0-6	10YR 3/1	100					sil	
6-11"	10YR 3/3	100					sil	

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 Soils³:

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

upland

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (minimum of two required)

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLP City/County: Ward Sampling Date: 8/3/2010
 Applicant/Owner: McCaig State: ND Sampling Point: Up 1
 Investigator(s): GWM, NPH Section, Township, Range: 24-156-087
 Landform (hillslope, terrace, etc.): hilltop Local relief (concave, convex, none): none Slope (%): 1
 Subregion (LRR): F Lat: 48.324483 Long: -101.80297 Datum: NAD83
 Soil Map Unit Name: Wic Williams loam, undulating NWI classification: upland
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present? Yes <u> </u> No <u>X</u>	
Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	
Remarks: <u>Upland Comparison</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </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> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				Prevalence Index worksheet: Total % Cover of: <u> </u> Multiply by: <u> </u> OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
Sapling/Shrub Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				Hydrophytic Vegetation Indicators: <u> </u> Dominance Test is >50% <u> </u> Prevalence Index is ≤3.0 ¹ <u> </u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: <u>20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Wheat</u>	<u>100</u>	<u>Y</u>	<u>UPL</u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
6. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
7. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
8. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
9. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
10. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>100</u> = Total Cover				Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>
Woody Vine Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: <u> </u>				

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		
0-3	10YR 3/1	100						
3-10	2.5Y 5/3	60						
	10YR 3/1	90						

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.)

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

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (LRR I, J)
 - ☐ Coast Prairie Redox (A16) (LRR F, G, H)
 - ☐ Dark Surface (S7) (LRR G)
 - ☐ High Plains Depressions (F16)
 - ☐ (LRR H outside of MLRA 72 & 73)
 - ☐ Reduced Vertic (F18)
 - ☐ Red Parent Material (TF2)
 - ☐ Other (Explain in Remarks)
- ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? 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:

WETLAND DETERMINATION DATA FORM – Great Plains Region

24115687-42

Project/Site: BLLP City/County: Ward Sampling Date: 8/3/2010
 Applicant/Owner: McCain State: ND Sampling Point: Wet 2
 Investigator(s): GWM, NPH Section, Township, Range: 24-156-87
 Landform (hillslope, terrace, etc.): dep Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): F Lat: 48.325404 Long: -101.798628 Datum: NAD83
 Soil Map Unit Name: Pa Pinell silty clay loam NWI classification: 7E1MF
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☒ No ☐	Is the Sampled Area within a Wetland? Yes ☒ No ☐
Hydric Soil Present?	Yes ☒ No ☐	
Wetland Hydrology Present?	Yes ☒ No ☐	
Remarks: <u>Large dep. wetland - cattails & willows throughout wetland</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>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____				
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. _____				
2. _____				
3. _____				
_____ = Total Cover				
Herb Stratum (Plot size: <u>20'</u>)				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>TOLAME</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
2. <u>OTRANV</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
3. <u>PROANE</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
4. <u>SPAPAC</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
5. <u>TYPANG</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
6. _____				
7. _____				
8. _____				
9. _____				
_____ = 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: 245087-04

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		
0-12	7.5Y 2.3/1	100						
10-18	7.5Y 4/1	98	7.5YR 5/6	2	C	m	sil	

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 Soils³:

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

Sediment along edge of ditch is runoff from field

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (minimum of two required)

- | | | |
|---|---|---|
| ☒ Surface Water (A1) | ☐ Salt Crust (B11) | ☐ Surface Soil Cracks (B6) |
| ☐ High Water Table (A2) | ☐ Aquatic Invertebrates (B13) | ☐ Sparsely Vegetated Concave Surface (B8) |
| ☒ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) | ☐ Drainage Patterns (B10) |
| ☐ Water Marks (B1) | ☐ Dry-Season Water Table (C2) | ☐ Oxidized Rhizospheres on Living Roots (C3) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) | ☐ (where tilled) |
| ☐ Drift Deposits (B3) | ☐ (where not tilled) | ☐ Crayfish Burrows (C8) |
| ☐ Algal Mat or Crust (B4) | ☐ Presence of Reduced Iron (C4) | ☒ Saturation Visible on Aerial Imagery (C9) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) | ☒ Geomorphic Position (D2) |
| ☒ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) | ☐ FAC-Neutral Test (D5) |
| ☐ Water-Stained Leaves (B9) | | ☐ Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): 12" - indeterminateWater Table Present? Yes ☐ No ☒ Depth (inches): _____Saturation Present? Yes ☒ No ☐ Depth (inches): 2"
(includes capillary fringe)Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLP City/County: Ward 24156 87-42 Sampling Date: 8/3/2010
 Applicant/Owner: McCain State: ND Sampling Point: Upland
 Investigator(s): GWM, NPH Section, Township, Range: 24-156-87
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Plane Slope (%): 1
 Subregion (LRR): F Lat: 48.824979 Long: _____ Datum: NAD 83
 Soil Map Unit Name: WIC Williams loams, undulating NWI classification: PEMC
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: <u>Upland Camp 87.</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-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)														
1. _____																		
2. _____																		
3. _____																		
4. _____																		
_____ = Total Cover				Prevalence Index worksheet: <table border="0"> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</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: _____</td> <td>(A) _____ (B) _____</td> </tr> </table> Prevalence Index = B/A = _____	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) _____
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) _____																	
Sapling/Shrub 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. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
_____ = Total Cover																		
Herb Stratum (Plot size: <u>20'</u>)																		
1. <u>Wheat</u>	<u>90</u>	<u>4</u>	<u>UPL</u>															
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
<u>90</u> = Total Cover																		
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>														
1. _____																		
2. _____																		
_____ = Total Cover																		
% Bare Ground in Herb Stratum <u>10</u>																		
Remarks: _____																		

2415687-42

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			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-6	10YR 3/1	100					silt	
6-13	2.5Y 5/3	80						
	2.5Y 4/1	20					silt	

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 Soils³:

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

Upland soil

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____

Water Table Present? Yes _____ No ☒ Depth (inches): _____

Saturation Present? 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:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: TJLP City/County: Ward Sampling Date: 4/3 8/3/2010
 Applicant/Owner: McCain State: ND Sampling Point: 43
 Investigator(s): GWM, NPH Section, Township, Range: 24 156 87
 Landform (hillslope, terrace, etc.): 5/100 Local relief (concave, convex, none): none Slope (%): 2
 Subregion (LRR): F Lat: 48.324661 Long: -101.813127 Datum: NAD 83
 Soil Map Unit Name: WcB W711ans - Homely loams, undulating NWI classification: Nue
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes x 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 <u> </u> No <u>x</u>	Is the Sampled Area within a Wetland? Yes <u>x</u> No <u> </u>
Hydric Soil Present? Yes <u> </u> No <u>x</u>	
Wetland Hydrology Present? Yes <u> </u> No <u>x</u>	
Remarks: <u>upl. pl. above wetland edge</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </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> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
<u> </u> = Total Cover				Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
<u> </u> = Total Cover				
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
<u> </u> = Total Cover				Hydrophytic Vegetation Indicators: <u> </u> Dominance Test is >50% <u> </u> Prevalence Index is ≤3.0 ¹ <u> </u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<u> </u> = Total Cover				
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
5. <u> </u>				
6. <u> </u>				
7. <u> </u>				
8. <u> </u>				
<u> </u> = Total Cover				Hydrophytic Vegetation Present? Yes <u> </u> No <u>x</u>
<u> </u> = Total Cover				
Woody Vine Stratum (Plot size: <u> </u>) 1. <u> </u> 2. <u> </u> % Bare Ground in Herb Stratum <u>10</u> <u> </u> = Total Cover				
Remarks: <u> </u>				

SOIL

Sampling Point: 43

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		
0-7	10YR 3/1	100						
7-14	10YR 3/1	40						
	10YR 3/3	60						

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

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <u>X</u>
--	--

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one required, check all that apply)		
☐ Surface Water (A1)	☐ Salt Crust (B11)	☐ Surface Soil Cracks (B6)
☐ High Water Table (A2)	☐ Aquatic Invertebrates (B13)	☐ Sparsely Vegetated Concave Surface (B8)
☐ Saturation (A3)	☐ Hydrogen Sulfide Odor (C1)	☐ Drainage Patterns (B10)
☐ Water Marks (B1)	☐ Dry-Season Water Table (C2)	☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)	☐ Crayfish Burrows (C8)
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)	☐ Saturation Visible on Aerial Imagery (C9)
☐ Algal Mat or Crust (B4)	☐ Thin Muck Surface (C7)	☐ Geomorphic Position (D2)
☐ Iron Deposits (B5)	☐ Other (Explain in Remarks)	☐ FAC-Neutral Test (D5)
☐ Inundation Visible on Aerial Imagery (B7)		☐ Frost-Heave Hummocks (D7) (LRR F)
☐ Water-Stained Leaves (B9)		
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes _____ No <u>X</u> Depth (inches): _____		Wetland Hydrology Present? Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BELP City/County: Ward Sampling Date: 2415487-43 8/3/2010
 Applicant/Owner: McCain State: ND Sampling Point: Wet 3
 Investigator(s): GLM, NPH Section, Township, Range: 24, 154, 87
 Landform (hillslope, terrace, etc.): Shallow dip Local relief (concave, convex, none): concave Slope (%): 41
 Subregion (LRR): F Lat: 48.344144 Long: -101.902032 Datum:
 Soil Map Unit Name: WIC Williams loam, undulating NWI classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No <u></u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u></u>
Hydric Soil Present? Yes <u>X</u> No <u></u>	
Wetland Hydrology Present? Yes <u>X</u> No <u></u>	
Remarks: <u>Shallow depression bare + lower mostly barren due to cultivation</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u></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></u>				
2. <u></u>				
3. <u></u>				
4. <u></u>				
<u></u> = Total Cover				Prevalence Index worksheet: Total % Cover of: <u></u> Multiply by: <u></u> OBL species <u></u> x 1 = <u></u> FACW species <u></u> x 2 = <u></u> FAC species <u></u> x 3 = <u></u> FACU species <u></u> x 4 = <u></u> UPL species <u></u> x 5 = <u></u> Column Totals: <u></u> (A) <u></u> (B) Prevalence Index = B/A = <u></u>
Sapling/Shrub Stratum (Plot size: <u></u>)				
1. <u></u>				
2. <u></u>				
3. <u></u>				
4. <u></u>				
5. <u></u>				
<u></u> = Total Cover				Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% <u></u> Prevalence Index is ≤3.0 ¹ <u></u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u></u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: <u>20'</u>)				
1. <u>ELACN</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
2. <u>PERFO</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
3. <u>PRACAB</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
4. <u>W600</u>	<u>10</u>	<u>N</u>	<u>UPL</u>	
5. <u></u>				
6. <u></u>				
7. <u></u>				
8. <u></u>				
9. <u></u>				
10. <u></u>				
<u>20</u> = Total Cover				Hydrophytic Vegetation Present? Yes <u>X</u> No <u></u>
Woody Vine Stratum (Plot size: <u></u>)				
1. <u></u>				
2. <u></u>				
<u></u> = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: <u>Barren in 20'</u>				

SOIL

24156087-103

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		
0-7	10YR 3/1	100					SFI	
7-18	2.5Y 8/2	85	7.5YR 5/6	15	2	m	SFI	

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 Soils³:

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

Tuxley Series

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____Water Table Present? Yes ☐ No ☒ Depth (inches): _____Saturation Present? 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:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Ward Sampling Date: 24/15/08 8/3/2010
 Applicant/Owner: McCain State: ND Sampling Point: Wet 4
 Investigator(s): GWM, NPH Section, Township, Range: 24-56-87
 Landform (hillslope, terrace, etc.): dep Local relief (concave, convex, none): _____ Slope (%): 1
 Subregion (LRR): F Lat: 48.324 108 Long: -101.802 306 Datum: NAD83
 Soil Map Unit Name: WIC Williams loam, undulating NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>✓</u> No _____	Is the Sampled Area within a Wetland? Yes <u>✓</u> No _____
Hydric Soil Present? Yes <u>✓</u> No _____	
Wetland Hydrology Present? Yes <u>✓</u> No _____	
Remarks: <u>depression wetland</u> <u>mostly barren due to cultivation</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>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67</u> (A/B)
1. _____				
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. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% _____ Prevalence Index is ≤3.0' _____ 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: <u>20'</u>)				
1. <u>BECSY2</u>	<u>10</u>	<u>2</u>	<u>OBL</u>	
2. <u>STMAQU</u>	<u>10</u>	<u>4</u>	<u>OBL</u>	
3. <u>WIKET</u>	<u>10</u>	<u>2</u>	<u>UPL</u>	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>70</u>	_____ = Total Cover			
Remarks: _____				

2415687-154

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		
0-8"	10YR3/1	100					sil	
4-	2.5Y 4/2	80	7.5YR5/6	20	C	m	sil	

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 Soils³:

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

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Tonka

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (minimum of two required)

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

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

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): 6"

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

Saturation Present? Yes ☒ No ☐ Depth (inches): 10"

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Ward Sampling Date: 8/3/2010
 Applicant/Owner: McCain State: ND Sampling Point: Wet 5
 Investigator(s): GMM, NPH Section, Township, Range: 24 156 87
 Landform (hillslope, terrace, etc.): dip Local relief (concave, convex, none): _____ Slope (%): 1
 Subregion (LRR): F Lat: 48.324531 Long: -101.803792 Datum: NAD 83
 Soil Map Unit Name: WIC Williams loam, undulating NWI classification: PEMA
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes _____ No _____	
Wetland Hydrology Present? Yes _____ No _____	
Remarks: <u>depression wetland - wheat along upland ridge</u> <u>water in interior</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>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67</u> (A/B)
1. _____	_____	_____	_____	
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. _____	_____	_____	_____	
2. _____	_____	_____	_____	
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: <u>20'</u>)	_____	_____	_____	
1. <u>PERN</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
2. <u>PERO</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3. <u>W4=4</u>	<u>20</u>	<u>Y</u>	<u>UPL</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
Woody Vine Stratum (Plot size: _____)	_____	_____	_____	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>40</u>	_____ = Total Cover			
Remarks: <u>Bare soil</u>				

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Ward Sampling Date: 24156087-026
 Applicant/Owner: McCain State: ND Sampling Point: Wet 6
 Investigator(s): GWM, NPH Section, Township, Range: 24-156-87
 Landform (hillslope, terrace, etc.): dep. Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): F Lat: 48.325365 Long: -101.802847 Datum: NAD83
 Soil Map Unit Name: WIC Williams loam, undulating NWI classification: 1010
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present?	Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present?	Yes <u>X</u> No <u> </u>	
Remarks: <u>Small dep. wetland</u>		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </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>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet: Total % Cover of: <u> </u> Multiply by: <u> </u> OBL species <u> </u> x 1 = <u> </u> FACW species <u>80</u> x 2 = <u>160</u> FAC species <u> </u> x 3 = <u> </u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u>100</u> (A) <u>240</u> (B) Prevalence Index = B/A = <u>2.4</u>
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				
Herb Stratum (Plot size: <u>20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% <u>X</u> 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>SPARCC</u>	<u>80</u>	<u>Y</u>	<u>FACW</u>	
2. <u>POARPA</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
6. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
7. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
8. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
9. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
10. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>100</u> = Total Cover				
Woody Vine Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: <u>Cattails in interior</u>				

SOIL

Sampling Point: 21-60

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		
0-2	10YR 3/1						sil	
2-18	2.5Y 5/1	85	7.5YR 5/6	15	C	m	sil	

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 Soils³:

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

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Tonka series

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): 10"Water Table Present? Yes ☐ No ☒ Depth (inches): _____Saturation Present? Yes ☒ No ☐ Depth (inches): 4"
(includes capillary fringe)Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

NW1-PEMIC

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLUP City/County: Wood 24 156 087 07 Sampling Date: 8/3/04
 Applicant/Owner: McCain State: ND Sampling Point: Wet 7
 Investigator(s): GWM, NPH Section, Township, Range: 24 156 087
 Landform (hillslope, terrace, etc.): Shallow dpt Local relief (concave, convex, none): concave Slope (%): <1
 Subregion (LRR): F Lat: 48-324995 Long: -101.50787 Datum: NAD 83
 Soil Map Unit Name: WIC Williams loam, undulating NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	
Remarks: <u>Shallow dpt. wetland</u> <u>Bare soil rim</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	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>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
<u> </u> = Total Cover				Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% <u> </u> Prevalence Index is ≤3.0 ¹ <u> </u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<u> </u> = Total Cover				
<u> </u> = Total Cover				
<u> </u> = Total Cover				
<u> </u> = Total Cover				
<u> </u> = Total Cover				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
<u> </u> = Total Cover				
Woody Vine Stratum (Plot size: <u> </u>)				
1. <u> </u>				
2. <u> </u>				
% Bare Ground in Herb Stratum <u>50</u>				
Remarks: <u>C-tails / Arisaema plantago - August 1st in interior</u>				

SOIL

24 136 087-47

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		
0-7	10YR 3/1	100					sil	
7-10	10YR 3/2	100					sil	
10-20+	2.5Y 4/2	90	7.5YR 5/6	10	C	-	sil	

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 Soils³:

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

Tulsa Survey

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____Water Table Present? Yes ☐ No ☒ Depth (inches): _____Saturation Present? Yes ☒ No ☐ Depth (inches): 0-10" ☒Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

NW 1/4 - 10-10-10

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Ward Sampling Date: 8/3/2010
 Applicant/Owner: McCain State: ND Sampling Point: Wet 8
 Investigator(s): GWM, NPH Section, Township, Range: 24, 156, 87
 Landform (hillslope, terrace, etc.): dip Local relief (concave, convex, none): concave Slope (%): 51
 Subregion (LRR): F Lat: 48.324908 Long: -101.808804 Datum: NAD83
 Soil Map Unit Name: WIC Williams loams, undulating NWI classification: 7E2m

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	
Remarks: <u>Shallow dip wetland</u> <u>Barren in most of wetland</u> <u>Alfalfa / corn field in center</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </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> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				Prevalence Index worksheet: Total % Cover of: <u> </u> Multiply by: <u> </u> OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
<u> </u> = Total Cover				
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% <u> </u> Prevalence Index is ≤3.0 ¹ <u> </u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
<u> </u> = Total Cover				
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<u> </u> = Total Cover				
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				Hydrophytic Vegetation Present? Yes <u> </u> No <u> </u>
<u> </u> = Total Cover				
% Bare Ground in Herb Stratum <u>15</u> Remarks: <u> </u>				

SOIL

24-56 87-48

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		
0-5	10YR 3/1	100					sil	
5-24	2.5Y	70	7.5YR 5/6	30	C	m	sil	

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 Soils³:

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

Tonka Series

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____Water Table Present? Yes ☐ No ☒ Depth (inches): _____Saturation Present? 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:

2415087-WT

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Ward Sampling Date: 8/3/2010
 Applicant/Owner: McCain State: ND Sampling Point: Wet 9
 Investigator(s): GWM, NPH Section, Township, Range: 24-156-87
 Landform (hillslope, terrace, etc.): dep Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): F Lat: 48.324917 Long: -101.81153 Datum: NAD 83
 Soil Map Unit Name: Wrb Williams-Hamery loams, undulating NWI classification: PERC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: <u>Depression wetland - water in interior</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	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>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67</u> (A/B)														
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
<u> </u> = Total Cover				Prevalence Index worksheet: <table style="width:100%;"> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> <tr> <td>OBL species <u> </u></td> <td>x 1 = <u> </u></td> </tr> <tr> <td>FACW species <u> </u></td> <td>x 2 = <u> </u></td> </tr> <tr> <td>FAC species <u> </u></td> <td>x 3 = <u> </u></td> </tr> <tr> <td>FACU species <u> </u></td> <td>x 4 = <u> </u></td> </tr> <tr> <td>UPL species <u> </u></td> <td>x 5 = <u> </u></td> </tr> <tr> <td>Column Totals: <u> </u> (A)</td> <td><u> </u> (B)</td> </tr> </table> Prevalence Index = B/A = <u> </u>	Total % Cover of:	Multiply by:	OBL species <u> </u>	x 1 = <u> </u>	FACW species <u> </u>	x 2 = <u> </u>	FAC species <u> </u>	x 3 = <u> </u>	FACU species <u> </u>	x 4 = <u> </u>	UPL species <u> </u>	x 5 = <u> </u>	Column Totals: <u> </u> (A)	<u> </u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u> </u>	x 1 = <u> </u>																	
FACW species <u> </u>	x 2 = <u> </u>																	
FAC species <u> </u>	x 3 = <u> </u>																	
FACU species <u> </u>	x 4 = <u> </u>																	
UPL species <u> </u>	x 5 = <u> </u>																	
Column Totals: <u> </u> (A)	<u> </u> (B)																	
Sapling/Shrub Stratum (Plot size: <u> </u>) 1. <u> </u> 2. <u> </u> 3. <u> </u> 4. <u> </u> 5. <u> </u> <u> </u> = Total Cover																		
Herb Stratum (Plot size: <u>20'</u>) 1. <u>wheat</u> <u>25</u> <u>Y</u> <u>NPL</u> 2. <u>SPICEL</u> <u>25</u> <u>Y</u> <u>FACW</u> 3. <u>Rumex</u> <u>30</u> <u>Y</u> <u>FACW</u> 4. <u>ALL PLANTS</u> <u>10</u> <u>N</u> <u>OBL</u> 5. <u> </u> 6. <u> </u> 7. <u> </u> 8. <u> </u> 9. <u> </u> 10. <u> </u> <u>90</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u> </u>) 1. <u> </u> 2. <u> </u> <u> </u> = Total Cover																		
% Bare Ground in Herb Stratum <u>10</u> Remarks: <u> </u>				Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% <u> </u> Prevalence Index is ≤3.0 ¹ <u> </u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>														

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		
0-7	10YR 3/1	100					sil	
7-10	10YR 3/1	30						
	2.5Y 4/2	60	2.5YR 5/6	10	C	m	sil	
10-	2.5Y 4/2	95	2.5YR 5/6	5	C	m	sil	

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 Soils³:

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

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Tunka Series

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): 10"
 Water Table Present? Yes ☐ No ☒ Depth (inches):
 Saturation Present? Yes ☒ No ☐ Depth (inches): 0
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

NW 1/4 PEMA

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Ward Sampling Date: 24/08/87 WIO 8/3/2010
 Applicant/Owner: MCCain State: ND Sampling Point: WIO
 Investigator(s): GWM, NPH Section, Township, Range: 24/56/87
 Landform (hillslope, terrace, etc.): clay Local relief (concave, convex, none): concave Slope (%): <1
 Subregion (LRR): F Lat: 48.324827 Long: -101.812674 Datum: NAD 83
 Soil Map Unit Name: W.B. Williams-Hamerly / same undulating NWI classification: none
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	
Remarks: <u>depression wetland</u> <u>Barren in center due to cultivation</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </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>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u>55</u> x 2 = <u>110</u> FAC species <u> </u> x 3 = <u> </u> FACU species <u>25</u> x 4 = <u>100</u> UPL species <u>10</u> x 5 = <u>50</u> Column Totals: <u>90</u> (A) <u>240</u> (B) Prevalence Index = B/A = <u>2.67</u>
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				
Herb Stratum (Plot size: <u>20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: <u> </u> Dominance Test is >50% <u>X</u> Prevalence Index is ≤3.0' <u> </u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>RHCRN</u>	<u>45</u>	<u>Y</u>	<u>FACW</u>	
2. <u>AMA BIL</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Whect</u>	<u>10</u>	<u>N</u>	<u>UPL</u>	
4. <u>RHCRN</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
6. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
7. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
8. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
9. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
10. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>90</u> = Total Cover				
Woody Vine Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				
% Bare Ground in Herb Stratum <u>10</u>				
Remarks: <u> </u>				

SOIL

Sampling Point: W10

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		
0-10	10YR 3/1	100					sil	
10-22	7.5YR 4/2	70	7.5YR 4/6	10	C	M	sil	

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 Soils³:

- ☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5) (LRR F)
☐ 1 cm Muck (A9) (LRR F, G, H)
☒ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
☐ 5 cm Mucky Peat or Peat (S3) (LRR F)

- ☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ High Plains Depressions (F16)
 (MLRA 72 & 73 of LRR H)

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐Remarks: Tanka Series

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____Water Table Present? Yes ☐ No ☒ Depth (inches): _____Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks: AWIC PIMA

Project/Site: BLLP City/County: Warr ^{24 156 87} Sampling Date: 8/3/2010
Applicant/Owner: McCaig State: ND Sampling Point: W11
Investigator(s): GWM, NPH Section, Township, Range: 24 156 87
Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): _____ Slope (%): 1
Subregion (LRR): F Lat: 48.324555 Long: -101.812807 Datum: NAD 83
Soil Map Unit Name: WCB Williams - Hamerly loamy undulating NWI classification: PCMA
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.)

Hydrophytic Vegetation Present?	Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u>X</u> No <u> </u>
Hydric Soil Present?	Yes <u>X</u> No <u> </u>		
Wetland Hydrology Present?	Yes <u>X</u> No <u> </u>		
Remarks: <u>dep wetland</u> <u>wetland barren due to saline conditions & cultivation</u>			

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-): <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)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
_____ = Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</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: _____</td> <td>(A) _____ (B) _____</td> </tr> </table> Prevalence Index = B/A = _____	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) _____
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) _____																	
Sapling/Shrub Stratum (Plot size: _____)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover																		
Herb Stratum (Plot size: <u>20'</u>)																		
1. <u>SONARV</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>															
2. <u>Rumex</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>															
3. <u>AMARIL</u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
4. <u>wheat</u>	<u>10</u>	<u>Y</u>	<u>UPL</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
<u>40</u> = Total Cover																		
Woody Vine Stratum (Plot size: _____)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
_____ = Total Cover																		
% Bare Ground in Herb Stratum <u>90</u>																		
Remarks: <u>Alisma plantago-aquatica would be present if area was uncultivated</u>																		

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		
0-6	10YR 3/1	100					sil	
6-18 ⁺	2.5Y 4/2	90	2.5YR 5/6	10	e	m	sil	

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 Soils³:

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

Tonka series

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____Water Table Present? Yes ☐ No ☒ Depth (inches): _____Saturation Present? 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:

NWJ = PEMA

WETLAND DETERMINATION DATA FORM – Great Plains Region

2415087-41

Project/Site: BLLP City/County: ward Sampling Date: 8/3/2010
 Applicant/Owner: McCain State: ND Sampling Point: W1
 Investigator(s): GWM, NPLI Section, Township, Range: 24 150 87-2
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): <1
 Subregion (LRR): F Lat: 48.32499 Long: -101.793099 Datum: NAD 83
 Soil Map Unit Name: W1A Williams heavy level NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	
Remarks: <u>Depression</u> <u>Cattails / Carex athrodes in interior</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
<u> </u> = Total Cover				Prevalence Index worksheet: Total % Cover of: <u> </u> Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
Sapling/Shrub Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
5. <u> </u>				
<u> </u> = Total Cover				Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% <u> </u> Prevalence Index is ≤3.0 ¹ <u> </u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>ICUMERI</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
2. <u>POAPAL</u>	<u>15</u>	<u>N</u>	<u>FACW</u>	
3. <u>EPICIL</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>	
4. <u>SONARV</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
5. <u>AXFAT</u>	<u>20</u>	<u>N</u>	<u>UPL</u>	
6. <u> </u>				
7. <u> </u>				
8. <u> </u>				
9. <u> </u>				
10. <u> </u>				
<u>100</u> = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u> </u>				
2. <u> </u>				
<u> </u> = Total Cover				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: <u>Cattails in pond</u>				

SOIL

211 156 87- w

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		
0-12	2.5Y 2-4	100					S:1	
12-16	2.5Y 4/1	90	2.5Y 2-4	10	C	W	S:1	

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 Soils³:

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

Thickened due to sediment

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? 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:

WMI-PCMC

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BULP City/County: Wood Sampling Date: 8/3/2010
 Applicant/Owner: McCain State: ND Sampling Point: Wet 1
 Investigator(s): GWM, NPLI Section, Township, Range: 19-156-86
 Landform (hillslope, terrace, etc.): dgs Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): F Lat: 48.32499 Long: -101.798099 Datum: NAD 83
 Soil Map Unit Name: Ba Bontells-Tonka complex NWI classification: PERA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	
Remarks: <u>shallow dgs in corn field</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </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>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u> </u>)				Prevalence Index worksheet: Total % Cover of: <u>60</u> Multiply by: OBL species <u>60</u> x 1 = <u>60</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u>20</u> x 5 = <u>100</u> Column Totals: <u>90</u> (A) <u>180</u> (B) Prevalence Index = B/A = <u>20</u>
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				
Herb Stratum (Plot size: <u>201</u>)				Hydrophytic Vegetation Indicators: <u> </u> Dominance Test is >50% <u>X</u> Prevalence Index is ≤3.0 ¹ <u> </u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>ELIPAR</u>	<u>60</u>	<u>Y</u>	<u>OBL</u>	
2. <u>BIDFRB</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
3. <u>Canola</u>	<u>20</u>	<u>Y</u>	<u>UPL</u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
6. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
7. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
8. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
9. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
10. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>90</u> = Total Cover				
Woody Vine Stratum (Plot size: <u> </u>)				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				
% Bare Ground in Herb Stratum <u>10</u>				
Remarks:				

SOIL

Sampling Point: 19136050-14

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		
0-7	13YR 2/3	100					3	
7-12	2.5Y 7/2	90	2.5Y 7/2	10			4R	

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 Soils³:

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

Faint handwritten notes.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____Water Table Present? Yes _____ No ☒ Depth (inches): _____Saturation Present? 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:

Faint handwritten notes.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Ward Sampling Date: 8/3/2010
 Applicant/Owner: McCain State: ND Sampling Point: Wet 2
 Investigator(s): GWM, APEI Section, Township, Range: 17, 156, 86
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): <1
 Subregion (LRR): F Lat: 48.323995 Long: -106.723343 Datum: NAD 83
 Soil Map Unit Name: Br Bowbells-Tonka complex NWI classification: PBMC

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

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

Hydrophytic Vegetation Present? Yes ☒ No ☐	Is the Sampled Area within a Wetland? Yes ☒ No ☐
Hydric Soil Present? Yes ☒ No ☐	
Wetland Hydrology Present? Yes ☒ No ☐	
Remarks: <u>edge of deep wetland with open water</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>1</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>50</u> (A/B)
1. _____				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species <u>60</u> x 2 = <u>120</u> FAC species _____ x 3 = _____ FACU species <u>30</u> x 4 = <u>120</u> UPL species <u>10</u> x 5 = <u>50</u> Column Totals: <u>100</u> (A) <u>290</u> (B) Prevalence Index = B/A = <u>2.90</u>
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
Herb Stratum (Plot size: <u>20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ☒ Prevalence Index is ≤3.0' ___ 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>Carex</u>	<u>10</u>	<u>N</u>	<u>UPL</u>	
2. <u>Sagittaria</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
3. <u>Rumex</u>	<u>60</u>	<u>N</u>	<u>FACW</u>	
4. <u>Amaranth</u>	<u>20</u>	<u>N</u>	<u>FACU</u>	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes ☒ No ☐
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: <u>Plants on indicator</u> <u>weedy species</u> <u>able to grow due to cultivation</u>				

SOIL

195686-1002 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		
0-2	10YR 5/1	100					sil	
2-11	10YR 5/1	80	2.5YR 5/1	2				
11-20	2.5YR 5/1	80	2.5YR 5/1	20	2	m	2-1	

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 Soils³:

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): 12" = 12 inchesWater Table Present? Yes ☐ No ☒ Depth (inches): _____Saturation Present? Yes ☐ No ☒ Depth (inches): _____Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLP City/County: Ward Sampling Date: 8/13/2010
 Applicant/Owner: McCain State: ND Sampling Point: Wet 3
 Investigator(s): GWM, NPH Section, Township, Range: 19 156 086
 Landform (hillslope, terrace, etc.): shallow dep. Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): F Lat: 48.324209 Long: -101.774961 Datum: NAD83
 Soil Map Unit Name: Bc NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>✓</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>✓</u> No <u> </u>
Hydric Soil Present?	Yes <u>✓</u> No <u> </u>	
Wetland Hydrology Present?	Yes <u>✓</u> No <u> </u>	
Remarks: <u>Shallow dep. ALI TRI</u> <u>BCCSYZ</u>		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>3</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>75</u> (A/B)
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				Prevalence Index worksheet: Total % Cover of: <u> </u> Multiply by: <u> </u> OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
Sapling/Shrub Stratum (Plot size: <u> </u>)				
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				
Herb Stratum (Plot size: <u> </u>)				Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% <u> </u> Prevalence Index is ≤3.0 ¹ <u> </u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>TIOPHO</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	
2. <u>CANOLA</u>	<u>20</u>	<u>N</u>	<u>UPL</u>	
3. <u>RUMCR</u>	<u>80</u>	<u>Y</u>	<u>FACW</u>	
4. <u>MENARY</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
6. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
7. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
8. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
9. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
10. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				
Woody Vine Stratum (Plot size: <u> </u>)				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: <u> </u>				

SOIL

Sampling Point: 17156086-33

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 ²		
0-7	10YR2/2	100					sil	
7-11	2.5YR 4/1	92	2.5YR 3/2	5			sil	
11-24*	2.5Y 4/3	90	2.5YR 2/2	10			sil	

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 Soils³:

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____Water Table Present? Yes ☐ No ☒ Depth (inches): _____Saturation Present? Yes ☒ No ☐ Depth (inches): 8"

(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

MLR - PPMC

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BCLP City/County: Wichita Sampling Date: 8/3/200
 Applicant/Owner: McGinn State: ND Sampling Point: Wet 4
 Investigator(s): CWM/NJA Section, Township, Range: 19, 156, 80
 Landform (hillslope, terrace, etc.): Sp. Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): F Lat: 48.324741 Long: -101.784937 Datum: NAD 83
 Soil Map Unit Name: WIA NWI classification: PERC

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

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

Hydrophytic Vegetation Present? Yes ☒ No ☐	Is the Sampled Area within a Wetland? Yes ☒ No ☐
Hydric Soil Present? Yes ☒ No ☐	
Wetland Hydrology Present? Yes ☒ No ☐	
Remarks: <u>Depression wetland</u>	

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-): <u>0</u> (A)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Total Number of Dominant Species Across All Strata: <u>3</u> (B)
Sapling/Shrub Stratum (Plot size: _____)				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67</u> (A/B)
1. _____	_____	_____	_____	Prevalence Index worksheet:
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				Total % Cover of: _____ Multiply by: _____
Herb Stratum (Plot size: <u>20'</u>)				OBL species _____ x 1 = _____
1. <u>SPARCE</u>	<u>4/10</u>	<u>FACW</u>	<u>UPL</u>	FACW species _____ x 2 = _____
2. <u>FIAZ</u>	<u>20</u>	<u>UPL</u>	<u>FACW</u>	FAC species _____ x 3 = _____
3. <u>TEUACRI</u>	<u>20</u>	<u>FACW</u>		FACU species _____ x 4 = _____
4. _____	_____	_____	_____	UPL species _____ x 5 = _____
5. _____	_____	_____	_____	Column Totals: _____ (A) _____ (B)
6. _____	_____	_____	_____	Prevalence Index = B/A = _____
7. _____	_____	_____	_____	Hydrophytic Vegetation Indicators:
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover	_____	_____	_____	
Woody Vine Stratum (Plot size: _____)				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes ☒ No ☐
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>20</u>				
Remarks: <u>Details/potential in interior</u>				

SOIL

19156086-134

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		
0-11	10YR 3/1						sil	
11-28	2.5Y 5/1	90	7.5YR 5/6	10	C	ni	sil	

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 Soils³:

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

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Tonka Series

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): 12" - 14"Water Table Present? Yes ☐ No ☒ Depth (inches):Saturation Present? Yes ☒ No ☐ Depth (inches): 8"Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

NW1: peime

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Ward Sampling Date: 8/13/2010
 Applicant/Owner: McCain State: ND Sampling Point: UPI 1
 Investigator(s): GWM, NPH Section, Township, Range: 19-156-86
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): plane Slope (%): 2
 Subregion (LRR): F Lat: 48.323974 Long: -101.774132 Datum: NAD-83
 Soil Map Unit Name: Br Bowbells-Tonka Complex NWI classification: Upland
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present? Yes <u> </u> No <u>X</u>	
Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	
Remarks: <u>Upland Comp. point</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </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> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				Hydrophytic Vegetation Indicators: <u> </u> Dominance Test is >50% <u> </u> Prevalence Index is ≤3.0 ¹ <u> </u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<u> </u> = Total Cover				
<u> </u> = Total Cover				
<u> </u> = Total Cover				
<u> </u> = Total Cover				
<u> </u> = Total Cover				Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>
<u> </u> = Total Cover				
Remarks:				

Sampling Point:

HYDROLOGY

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

- Secondary Indicators (minimum of two required)

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

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:

US Army Corps of Engineers

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLP City/County: Ward Sampling Date: 19156086-42
 Applicant/Owner: McCain State: ND Sampling Point: UPI 2
 Investigator(s): GWM, NPH Section, Township, Range: 19, 156, 086
 Landform (hillslope, terrace, etc.): dep. Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): F Lat: 48.324696 Long: -101.780666 Datum: NAD 83
 Soil Map Unit Name: W1A Williams loam, level NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes x 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 <u> </u> No <u>x</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>x</u>
Hydric Soil Present? Yes <u> </u> No <u>x</u>	
Wetland Hydrology Present? Yes <u>x</u> No <u> </u>	
Remarks: <u>Shallow depression upland soils</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </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> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u> </u>)				Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
5. <u> </u>				
<u> </u> = Total Cover				
Herb Stratum (Plot size: <u>20'</u>)				Hydrophytic Vegetation Indicators: <u> </u> Dominance Test is >50% <u> </u> Prevalence Index is ≤3.0 ¹ <u> </u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Flax</u>	<u>90</u>	<u>Yes UPL</u>		
2. <u> </u>	<u> </u>	<u> </u>		
3. <u> </u>	<u> </u>	<u> </u>		
4. <u> </u>	<u> </u>	<u> </u>		
5. <u> </u>	<u> </u>	<u> </u>		
6. <u> </u>	<u> </u>	<u> </u>		
7. <u> </u>	<u> </u>	<u> </u>		
8. <u> </u>	<u> </u>	<u> </u>		
9. <u> </u>	<u> </u>	<u> </u>		
10. <u> </u>	<u> </u>	<u> </u>		
<u>91</u> = Total Cover				
Woody Vine Stratum (Plot size: <u> </u>)				Hydrophytic Vegetation Present? Yes <u> </u> No <u>x</u>
1. <u> </u>				
2. <u> </u>				
<u> </u> = Total Cover				
% Bare Ground in Herb Stratum <u>10</u>				
Remarks:				

SOIL

A150086-02

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		
0-7	10YR 4/3	100				2		
7-14	2.5Y 4/3	70				2		
	10YR 4/3	30						

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains²Location: PL=Pore Lining, M=Matrix

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

Indicators for Problematic Hydric Soils³:

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

upland soils

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____Water Table Present? Yes _____ No ☒ Depth (inches): _____Saturation Present? 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:

WETLAND DETERMINATION DATA FORM – Great Plains Region

20156860-W

Project/Site: BLLP City/County: Wood Sampling Date: 8/3/2010
 Applicant/Owner: McCain State: ND Sampling Point: Wet 1
 Investigator(s): GWM, NPH Section, Township, Range: 20-156-86
 Landform (hillslope, terrace, etc.): Shallow dip Local relief (concave, convex, none): concave Slope (%): <1
 Subregion (LRR): F Lat: 48.323444 Long: -101.752660 Datum: NAD83
 Soil Map Unit Name: WIA Williams loam, level NWI classification: Nme

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	
Remarks: <u>Shallow depression water in section</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	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. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Prevalence Index worksheet: Total % Cover of: <u> </u> Multiply by: <u> </u> OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
= Total Cover				
Sapling/Shrub Stratum (Plot size: <u> </u>)				Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% <u> </u> Prevalence Index is ≤3.0 ¹ <u> </u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
= Total Cover				
Herb Stratum (Plot size: <u>20'</u>)				
1. <u>NOR SUB</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
2. <u>RUM MAR</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3. <u>TOL PEN</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>	
4. <u>ECE PAR</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
5. <u>DEM CRN</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
6. <u>WHE AT</u>	<u>10</u>	<u>N</u>	<u>UPL</u>	
7. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
8. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
9. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
10. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>70</u> = Total Cover				
Woody Vine Stratum (Plot size: <u> </u>)				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
= Total Cover				
% Bare Ground in Herb Stratum <u>20</u>				
Remarks:				

SOIL

20150806-01

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			
0-7	2YR 3/1	100	2YR 3/1	100		SiS		
7-10	10YR 3/2	100				SiS		
10-18	2.5Y 3/2	75	2.5Y 3/2	75	C	SiS		

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 :
☐ Histosol (A1)	☐ 1 cm Muck (A9) (LRR I, J)
☐ Histic Epipedon (A2)	☐ Coast Prairie Redox (A16) (LRR F, G, H)
☐ Black Histic (A3)	☐ Dark Surface (S7) (LRR G)
☐ Hydrogen Sulfide (A4)	☐ High Plains Depressions (F16)
☐ Stratified Layers (A5) (LRR F)	☐ (LRR H outside of MLRA 72 & 73)
☐ 1 cm Muck (A9) (LRR F, G, H)	☐ Reduced Vertic (F18)
☒ Depleted Below Dark Surface (A11)	☐ Red Parent Material (TF2)
☐ Thick Dark Surface (A12)	☐ Other (Explain in Remarks)
☐ Sandy Mucky Mineral (S1)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	
☐ 5 cm Mucky Peat or Peat (S3) (LRR F)	

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

Remarks: *Tanka Gmina*

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required, check all that apply)	Secondary Indicators (minimum of two required)
☒ Surface Water (A1)	☐ Surface Soil Cracks (B6)
☐ High Water Table (A2)	☐ Sparsely Vegetated Concave Surface (B8)
☐ Saturation (A3)	☐ Drainage Patterns (B10)
☐ Water Marks (B1)	☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
☐ Sediment Deposits (B2)	☐ Crayfish Burrows (C8)
☐ Drift Deposits (B3)	☒ Saturation Visible on Aerial Imagery (C9)
☐ Algal Mat or Crust (B4)	☐ Geomorphic Position (D2)
☐ Iron Deposits (B5)	☐ FAC-Neutral Test (D5)
☐ Inundation Visible on Aerial Imagery (B7)	☐ Frost-Heave Hummocks (D7) (LRR F)
☐ Water-Stained Leaves (B9)	
Field Observations: Surface Water Present? Yes ☒ No ☐ Depth (inches): <u>4</u> Water Table Present? Yes ☐ No ☒ Depth (inches): <u>2</u> Saturation Present? Yes ☒ No ☐ Depth (inches): <u>6</u> (includes capillary fringe)	Wetland Hydrology Present? Yes ☒ No ☐
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLUP City/County: Ward Sampling Date: 8/3/2010
 Applicant/Owner: McCain State: ND Sampling Point: Upl 1
 Investigator(s): GWM, NPH Section, Township, Range: 20-156-86
 Landform (hillslope, terrace, etc.): low slope Local relief (concave, convex, none): none Slope (%): 2
 Subregion (LRR): F Lat: 48.323799 Long: -101.753000 Datum: NAD 83
 Soil Map Unit Name: W1A Williams loamy level NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u> No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u> No <u>X</u>	
Remarks: <u>Wetland Comparison</u>		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </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> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
<u> </u> = Total Cover				Prevalence Index worksheet: Total % Cover of: <u> </u> Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
Sapling/Shrub Stratum (Plot size: <u> </u>) 1. <u> </u> 2. <u> </u> 3. <u> </u> 4. <u> </u> 5. <u> </u>				
<u> </u> = Total Cover				
Herb Stratum (Plot size: <u>20'</u>) 1. <u>Wheat</u> <u>80</u> <u>Y</u> <u>UPL</u> 2. <u> </u> 3. <u> </u> 4. <u> </u> 5. <u> </u> 6. <u> </u> 7. <u> </u> 8. <u> </u> 9. <u> </u> 10. <u> </u>				
<u>80</u> = Total Cover				
Woody Vine Stratum (Plot size: <u> </u>) 1. <u> </u> 2. <u> </u>				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.
<u> </u> = Total Cover				
% Bare Ground in Herb Stratum <u>20</u> Remarks: <u> </u>				Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>

SOIL

Sampling Point: 2015686-01

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		
0-7	10YR 8/1	100					
7-11	2.5Y 5/3	100					

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.)

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No ☒	Depth (inches): _____
Water Table Present? Yes _____ No ☒	Depth (inches): _____
Saturation Present? 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:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Ward Sampling Date: 2/15/10
 Applicant/Owner: McCaig State: ND Sampling Point: Wet 2
 Investigator(s): GWM, NPH Section, Township, Range: 20-156-86
 Landform (hillslope, terrace, etc.): Shallow dip Local relief (concave, convex, none): concave Slope (%): <1
 Subregion (LRR): F Lat: 48.323031 Long: -101.763871 Datum: NAD83
 Soil Map Unit Name: WIA Williams loam, level NWI classification: W1E
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No <u> </u>	Hydric Soil Present? Yes <u>X</u> No <u> </u>	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: <u>Shallow dip, Runnel 100' across drain in pond area</u>			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </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> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				Prevalence Index worksheet: Total % Cover of: <u> </u> Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
Sapling/Shrub Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% <u> </u> Prevalence Index is ≤3.0 ¹ <u> </u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: <u>20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>RUMEX</u>	<u>90</u>	<u>Y</u>	<u>FACW</u>	
2. <u>TOLP</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
3. <u>ART</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
6. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
7. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
8. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
9. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
10. <u> </u>	<u>100</u>	<u> </u>	<u> </u>	
<u>100</u> = Total Cover				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
Woody Vine Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: <u> </u>				

SOIL

Sampling Point: 20-1686-100

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		
0-10	2.5Y 4/2	95	2.5Y 4/2	5	<	SL	SL	
10-18	2.5Y 4/1	80	2.5Y 4/2	20	<	—	SL	

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 Soils³:

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

2.5Y 4/2

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (minimum of two required)

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

2015096

Project/Site: BLUP City/County: Ward Sampling Date: 8/3/2010
 Applicant/Owner: McGinn State: ND Sampling Point: Upl 2
 Investigator(s): GWM, NPH Section, Township, Range: 20-156-86
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): F Lat: 48.322534 Long: -101.87275 Datum: NAD 83
 Soil Map Unit Name: W1A Williams loam, level NWI classification: 1012

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>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: <u><5% wetland veg in shallow depression</u> <u>also in depression along grade</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>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. _____				
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. _____				
2. _____				
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. Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
Herb Stratum (Plot size: <u>20'</u>)				
1. <u>W1A</u>	<u>45</u>	<u>Y</u>	<u>UPL</u>	
2. <u>W1A</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
3. <u>W1A</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
4. <u>W1A</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>25</u>	_____ = Total Cover			
Remarks: _____				

2015686 -
02

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		Type	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-12	10YR 8/2	100						
12-15	10YR 8/2	100						
15-20	7.5YR 4/4	95	7.5YR 5/6	5				

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

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

Remarks: *Has reduced matrix but not developed a muck*

HYDROLOGY

Wetland Hydrology Indicators:	
<u>Primary Indicators (minimum of one required; check all that apply)</u>	<u>Secondary Indicators (minimum of two required)</u>
☐ Surface Water (A1) ☐ High Water Table (A2) ☐ Saturation (A3) ☐ Water Marks (B1) ☐ Sediment Deposits (B2) ☐ Drift Deposits (B3) ☐ Algal Mat or Crust (B4) ☐ Iron Deposits (B5) ☐ Inundation Visible on Aerial Imagery (B7) ☐ Water-Stained Leaves (B9)	☐ Salt Crust (B11) ☐ Aquatic Invertebrates (B13) ☐ Hydrogen Sulfide Odor (C1) ☐ Dry-Season Water Table (C2) ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled) ☐ Presence of Reduced Iron (C4) ☐ Thin Muck Surface (C7) ☐ Other (Explain in Remarks)
☐ Surface Soil Cracks (B6) ☐ Sparsely Vegetated Concave Surface (B8) ☐ Drainage Patterns (B10) ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled) ☐ Crayfish Burrows (C8) ☐ Saturation Visible on Aerial Imagery (C9) ☐ Geomorphic Position (D2) ☐ FAC-Neutral Test (D5) ☐ Frost-Heave Hummocks (D7) (LRR F)	

Field Observations:		Wetland Hydrology Present? Yes ☐ No ☒
Surface Water Present? Yes ☐ No ☐ Depth (inches): _____		
Water Table Present? Yes ☐ No ☐ Depth (inches): _____		
Saturation Present? Yes ☐ No ☐ Depth (inches): _____ (includes capillary fringe)		

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

Remarks: *Sign of slope*

WETLAND DETERMINATION DATA FORM – Great Plains Region

2015/08/06-2013

Project/Site: BLLP City/County: Wood Sampling Date: 8/3/2010
 Applicant/Owner: McCain State: ND Sampling Point: Wet 3
 Investigator(s): GWM, NPH Section, Township, Range: 20-156-86
 Landform (hillslope, terrace, etc.): Shallow depression Local relief (concave, convex, none): concave Slope (%): 2%
 Subregion (LRR): F Lat: 48.323215 Long: -101.766050 Datum: NAD 83
 Soil Map Unit Name: W1A Williams loam, level 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 ☒ No ☐	Is the Sampled Area within a Wetland? Yes ☒ No ☐
Hydric Soil Present? Yes ☒ No ☐	
Wetland Hydrology Present? Yes ☒ No ☐	
Remarks: <u>Shallow depression crop-free in center</u> <u>Per field - Rows along edge</u>	

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-): <u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:
1. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____
2. _____	_____	_____	_____	OBL species _____ x 1 = _____
3. _____	_____	_____	_____	FACW species _____ x 2 = _____
4. _____	_____	_____	_____	FAC species _____ x 3 = _____
5. _____	_____	_____	_____	FACU species _____ x 4 = _____
_____ = Total Cover				UPL species _____ x 5 = _____
Herb Stratum (Plot size: <u>20'</u>)	_____	_____	_____	Column Totals: _____ (A) _____ (B)
1. <u>Summar</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	Prevalence Index = B/A = _____
2. <u>Summar</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. _____	_____	_____	_____	☒ Dominance Test is >50%
2. _____	_____	_____	_____	☐ Prevalence Index is ≤3.0 ¹
_____ = Total Cover				☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
_____ = Total Cover				☐ Problematic Hydrophytic Vegetation ¹ (Explain)
% Bare Ground in Herb Stratum <u>40</u>	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Remarks: <u>Linear edge</u>				Hydrophytic Vegetation Present? Yes ☒ No ☐

2015686 -

SOIL

Sampling Point: W3

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		
0-12	2.5Y 4/2	75	2.5Y 4/2	5	C	sil	
12-14	10YR 2/1	100				sil	
14-24	2.5Y 4/2	95	2.5Y 4/2	5	C	sil	

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required, check all that apply)	Secondary Indicators (minimum of two required)
☐ Surface Water (A1)	☒ Surface Soil Cracks (B6)
☐ High Water Table (A2)	☒ Sparsely Vegetated Concave Surface (B8)
☐ Saturation (A3)	☐ Drainage Patterns (B10)
☐ Water Marks (B1)	☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Sediment Deposits (B2)	☐ (where tilled)
☐ Drift Deposits (B3)	☐ Crayfish Burrows (C8)
☐ Algal Mat or Crust (B4)	☒ Saturation Visible on Aerial Imagery (C9)
☐ Iron Deposits (B5)	☒ Geomorphic Position (D2)
☐ Inundation Visible on Aerial Imagery (B7)	☐ FAC-Neutral Test (D5)
☐ Water-Stained Leaves (B9)	☐ Frost-Heave Hummocks (D7) (LRR F)
☐ Salt Crust (B11)	
☐ Aquatic Invertebrates (B13)	
☐ Hydrogen Sulfide Odor (C1)	
☐ Dry-Season Water Table (C2)	
☐ Oxidized Rhizospheres on Living Roots (C3)	
☐ (where not tilled)	
☐ Presence of Reduced Iron (C4)	
☐ Thin Muck Surface (C7)	
☐ Other (Explain in Remarks)	

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:

WETLAND DETERMINATION DATA FORM – Great Plains Region

20156086-43

Project/Site: BLLP City/County: Wichita Sampling Date: 8/2/2010
 Applicant/Owner: McCain State: KS Sampling Point: Upl 3
 Investigator(s): GWM, NPH Section, Township, Range: 2015L 086
 Landform (hillslope, terrace, etc.): edge of wetland Local relief (concave, convex, none): none Slope (%):
 Subregion (LRR): F Lat: 48.323838 Long: -101.770499 Datum: NAD83
 Soil Map Unit Name: W1A Williams loam, level NWI classification: 1002

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present? Yes <u> </u> No <u>X</u>	
Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	
Remarks: <u>Upland comparison</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </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> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
<u> </u> = Total Cover				Prevalence Index worksheet: Total % Cover of: <u> </u> Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
Sapling/Shrub Stratum (Plot size: <u> </u>)				
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
5. <u> </u>				
<u> </u> = 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: <u>20'</u>)				
1. <u>Pens</u>	<u>100</u>	<u>Y</u>	<u>UPL</u>	
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
5. <u> </u>				
6. <u> </u>				
7. <u> </u>				
8. <u> </u>				
9. <u> </u>				
10. <u> </u>				
<u>100</u> = Total Cover				Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>
Woody Vine Stratum (Plot size: <u> </u>)				
1. <u> </u>				
2. <u> </u>				
<u> </u> = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: <u>7-1</u>				

SOIL

Sampling Point: 20156086-U³

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		
0-10	2.5Y 5/2	100						
10-14	2.5Y 5/2	100						

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

HYDROLOGY

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

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:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Ward Sampling Date: 8/3/2010
 Applicant/Owner: McCain State: ND Sampling Point: Wet 4
 Investigator(s): GLWM, NPH Section, Township, Range: 207S10E8R
 Landform (hillslope, terrace, etc.): depr. Local relief (concave, convex, none): concave Slope (%): <1
 Subregion (LRR): F Lat: 48.723843 Long: -101.770251 Datum: NAD83
 Soil Map Unit Name: W1A Williams loamy, level NWI classification: NONE

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present?	Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present?	Yes <u>X</u> No <u> </u>	
Remarks: <u>Tringidromis - Sarcine in center</u>		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	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>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67</u> (A/B)
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
= Total Cover				Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% <u> </u> Prevalence Index is ≤3.0 ¹ <u> </u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Sapling/Shrub Stratum (Plot size: <u> </u>)				
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
= Total Cover				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
Herb Stratum (Plot size: <u>20'</u>)				
1. <u> </u>	<u>20</u>	<u>Y</u>	<u>NPL</u>	Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
2. <u> </u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3. <u> </u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
4. <u> </u>				
5. <u> </u>				
6. <u> </u>				
7. <u> </u>				
8. <u> </u>				
9. <u> </u>				
10. <u> </u>				
= Total Cover				% Bare Ground in Herb Stratum <u>30</u> = Total Cover
Woody Vine Stratum (Plot size: <u> </u>)				
1. <u> </u>				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
2. <u> </u>				
Remarks:				

SOIL

Sampling Point: 20156086-W

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		
0-2	10YR3/1	100				Silt	
2-10	10YR2/2	100				Silt	
10-	2.5Y5/1	90	2.5Y5/2	10	C	Silt	

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

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply) ☐ Surface Water (A1) ☐ Salt Crust (B11) ☐ High Water Table (A2) ☐ Aquatic Invertebrates (B13) ☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1) ☐ Water Marks (B1) ☐ Dry-Season Water Table (C2) ☐ Sediment Deposits (B2) ☐ Oxidized Rhizospheres on Living Roots (C3) ☐ Drift Deposits (B3) ☐ (where not tilled) ☐ Algal Mat or Crust (B4) ☐ Presence of Reduced Iron (C4) ☐ Iron Deposits (B5) ☐ Thin Muck Surface (C7) ☐ Inundation Visible on Aerial Imagery (B7) ☐ Other (Explain in Remarks) ☐ Water-Stained Leaves (B9)	Secondary Indicators (minimum of two required) ☐ Surface Soil Cracks (B6) ☒ Sparsely Vegetated Concave Surface (B8) ☐ Drainage Patterns (B10) ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled) ☐ Crayfish Burrows (C8) ☒ Saturation Visible on Aerial Imagery (C9) ☒ Geomorphic Position (D2) ☐ FAC-Neutral Test (D5) ☐ Frost-Heave Hummocks (D7) (LRR F)
Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): _____ Water Table Present? Yes ☐ No ☒ Depth (inches): _____ Saturation Present? 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:	

WETLAND DETERMINATION DATA FORM – Great Plains Region

2015086-05

Project/Site: BLLP City/County: Wood Sampling Date: 4/8/2010
 Applicant/Owner: McCain State: MO Sampling Point: Wet 5
 Investigator(s): GWM, NPH Section, Township, Range: 20, 156, 246
 Landform (hillslope, terrace, etc.): linear depression Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): F Lat: 48.327436 Long: -101.771362 Datum: NAD-83
 Soil Map Unit Name: W1A Williams loess, level 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 ☒ No _____	Is the Sampled Area within a Wetland? Yes ☒ No _____
Hydric Soil Present? Yes ☒ No _____	
Wetland Hydrology Present? Yes ☒ No _____	
Remarks: <u>Road ditch wetland</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>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				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.
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: <u>20'</u>)				
1. <u>WORMWOOD</u>	<u>65</u>	<u>Y</u>	<u>FAC</u>	
2. <u>HOVEA</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3. <u>RUSSIA</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
4. <u>LOLANN</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>2</u>				
Remarks:				

Hydrophytic Vegetation Present? Yes ☒ No _____

SOIL

Sampling Point: 20-30086-107

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		
0-10	2.5Y 7/1	100					SLT	
10-22	2.5Y 7/1	100						
22-	2.5Y 7/1	98	7.5YR 5/4	2	C	un	SLT	

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 Soils³:

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

expensive to sample 30086-107

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____Water Table Present? Yes ☐ No ☒ Depth (inches): _____Saturation Present? 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: