

SOIL

215689-W7

Sampling Point: W-2

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			
0-4	10YR 3/1	100					silt	
4-10	2.5Y 4/1	90	2.5YR 5/6	10	C	u	silt	
10-15	2.5Y 4/1	60	5YR 4/1	40	C	u	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 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):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks: *Turner*

4pt-7 2-4-10YR 3/1
80% Blue gray 4-8 10YR 3/2
8-11 2.5Y 5/1 100

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): 3"

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

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

(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks: *TEMC*

WETLAND DETERMINATION DATA FORM – Great Plains Region

2115689-W8

Project/Site: BLLP City/County: Mountain Sampling Date: 8/6/2010
 Applicant/Owner: McCain State: ND Sampling Point: Wet 8
 Investigator(s): GWM, NPH Section, Township, Range: 21-156-89
 Landform (hillslope, terrace, etc.): Dep Local relief (concave, convex, none): _____ Slope (%): 1
 Subregion (LRR): F Lat: 48.315295 Long: -102.129792 Datum: NAD 83
 Soil Map Unit Name: Zahl-Williams-Parnell complex, 0-25% slopes NWI classification: PCmC
 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>Small depression wetland</u> <u>CxLANU across basin</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. _____	_____	_____	_____	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 = _____
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
= Total Cover				
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. Hydrophytic Vegetation Present? Yes ☒ No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
Herb Stratum (Plot size: <u>20'</u>)	_____	_____	_____	Hydrophytic Vegetation Present? Yes ☒ No _____
1. <u>MORUB</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
2. <u>POAPAL</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
3. <u>ARTLND</u>	<u>15</u>	<u>N</u>	<u>FACU</u>	
4. <u>POAPRA</u>	<u>15</u>	<u>N</u>	<u>FACU</u>	
5. <u>MENARV</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
6. <u>CxLANU</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
Woody Vine Stratum (Plot size: _____)	_____	_____	_____	% Bare Ground in Herb Stratum <u>0</u> = Total Cover
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	% Bare Ground in Herb Stratum <u>0</u> = Total Cover
3. _____	_____	_____	_____	
Remarks: _____				

SOIL

21/5087-038

Sampling Point: W-8

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 3/1	100					sil	
6-18	2.5Y 5/2	90	5Y 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:

Tonka series

 0-12-10YR 3/1
 12-16-10YR 3/1-50
 10YR 3/3-50

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 215689-09

Project/Site: BLLP City/County: McMurtrei Sampling Date: 8/6/2010
 Applicant/Owner: Mc Cain State: ND Sampling Point: Wet 9
 Investigator(s): GWM / NPH Section, Township, Range: 21-156-89
 Landform (hillslope, terrace, etc.): dcp Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): F Lat: 48.31206 Long: -102.129913 Datum: NAD83
 Soil Map Unit Name: Zahl-Williams-Parnell complex, 0-25% slopes NWI classification: 12MC

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 surface 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: 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>)	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				
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 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>POLYTR</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
2. <u>POLYTR</u>	<u>85</u>	<u>Y</u>	<u>FACW</u>	
3. <u>CAL STR</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
4. <u>ART LND</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
5. <u>SPARCE</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
6. <u>MENARV</u>	<u>10</u>	<u>N</u>	<u>FACU</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>105</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> </u>				

SOIL

215689-29

Sampling Point: 21.9

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type	Loc ²		
0-6	10YR3/1	100					Sil	
6-18 ⁺	2.5Y5/2	90	7.5YR3/2	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:

Tonka

 45- 0-12YR 3/
 12-16+ 10YR 3/1-50
 10YR 3/3-50

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): 4"Water Table Present? Yes ☐ No ☒ Depth (inches): _____Saturation Present? Yes ☒ No ☐ Depth (inches): 3"
(includes capillary fringe)Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

TEMC

WETLAND DETERMINATION DATA FORM – Great Plains Region 2154 89-W10

Project/Site: BLLP City/County: Mountain Sampling Date: 8/6/2010
 Applicant/Owner: McCain State: ND Sampling Point: Wet 10
 Investigator(s): GWM, NPH Section, Township, Range: 21-156-89
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): F Lat: 48.314834 Long: -102.132114 Datum: NAD 83
 Soil Map Unit Name: Zahl-Williams-Parnell complex, 0-25% slopes NWI classification: PEM1C
 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</u> <u>Insect + mammalated in interior</u> <u>W-10-POAPRA-40</u> <u>STICOM-40</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>	<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>)																		
1. <u>CYLANU</u>	<u>40</u>	<u>Y</u>	<u>OBL</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.														
2. <u>MENARV</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>															
3. <u>MOR3UB</u>	<u>10</u>	<u>N</u>	<u>FACW</u>															
4. <u>FORPAL</u>	<u>10</u>	<u>N</u>	<u>FACW</u>															
5. <u>POAPRA</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>															
6. <u>MHHASP</u>	<u>10</u>	<u>N</u>	<u>FACW</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>110</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u> </u>)																		
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>														
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>															
% Bare Ground in Herb Stratum <u>0</u> <u> </u> = Total Cover																		
Remarks:																		

SOIL

2115085-1010

Sampling Point: N-10

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR3/1	100						
4-10	2.5Y 4/1	80	7.5YR3/1	20	C	M	sil	
10-18"	2.5Y 5/1	80	5YR5/1	20	C	M	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:

TONEA

11/2-10 0-5-10YR3/1-10
5-10 2.5Y 5/3 100
7.5YR3/1-80
5YR5/1-40

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): 4"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:

PMC

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Minutemen Sampling Date: 3/6/2010
 Applicant/Owner: McCain State: ND Sampling Point: Wet 11
 Investigator(s): GWM, NPH Section, Township, Range: 21 156 87
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): <1
 Subregion (LRR): F Lat: 48.314782 Long: -102.133528 Datum: NAD83
 Soil Map Unit Name: Zahl-Williams-Parnell complex, 0-25% slopes NWI classification: Perme

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> <u>U-11 - Boulton - 600%</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: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
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)
Herb Stratum (Plot size: <u>20</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>HORSUB</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
2. <u>MENMR</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
3. <u>CYLANH</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
4. <u>POAPAL</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	
5. <u>CALSTR</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
6. <u>TOAPRA</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
7. <u>ARTWUD</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
8. <u>SYMSCC</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
9. _____				
10. _____				
<u>105</u> = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>X</u>	_____ = Total Cover			Hydrophytic Vegetation Present? Yes ☒ No ☐
Remarks:				

275689-011

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						
7-10	10YR 3/1	90	7.5YR 5/6	10	C	m	sil	
10-18	2.5Y 4/2	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:

Baka

4 p-11 0-4 - 10YR 3/1 - 100%
4-10 - 10YR 3/1 - 40%
10YR 3/3 - 60%

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): 2"Water Table Present? Yes ☐ No ☐ Depth (inches):Saturation Present? Yes ☒ No ☐ Depth (inches): 3"Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

P2MC

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: 215987-412 Montana Sampling Date: 8/6/2010
 Applicant/Owner: McCain State: ND Sampling Point: Wet 12
 Investigator(s): GWM, NPH Section, Township, Range: 21 15689
 Landform (hillslope, terrace, etc.): dep. Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): F Lat: 48.314818 Long: -102.05932 Datum: NAD83
 Soil Map Unit Name: Zahl-Williams-Parnell complex, 0-25% slopes NWI classification: DEMC
 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>Shallow</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>	<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				
Herb Stratum (Plot size: <u>20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: X 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>CALSTR</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
2. <u>MORJUB</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3. <u>PIDPOL</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
4. <u>EXPRAE</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
5. <u>PAPRA</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
6. <u>CELANK</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
7. <u>MCNARD</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
8. <u>SPMOCC</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
9. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
10. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>110</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> </u>				
Remarks: <u> </u>				

SOIL

215689-412

Sampling Point:

4-12

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	
6-14	2.5Y 7/1	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) | ☐ 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

up 4-12

0-4 = 10YR 3/1

4-8 = 10YR 3/1 - 50

10YR 3/1 - 50

20

25

30

20

10

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"Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Pemo

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: 21 156 89 - W 13 Sampling Date: 9/6/2010
 Applicant/Owner: McCain State: ND Sampling Point: Wet 13
 Investigator(s): Gunn/ NPH Section, Township, Range: 21 156 89
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): S Slope (%): 0
 Subregion (LRR): F Lat: 48.314661 Long: -102.138089 Datum: NAD83
 Soil Map Unit Name: Zahl-Williams-Farnell Complex, 0-25% slopes 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 <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>thick unhardened 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>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>	
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>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				
Herb Stratum (Plot size: <u>20'</u>) 1. <u>WORMS</u> <u>25</u> <u>Y</u> <u>FACW</u> 2. <u>CYLANU</u> <u>25</u> <u>Y</u> <u>OBL</u> 3. <u>BAPAL</u> <u>15</u> <u>N</u> <u>FACW</u> 4. <u>SPARE</u> <u>10</u> <u>N</u> <u>FACW</u> 5. <u>SPMOE</u> <u>10</u> <u>N</u> <u>FACW</u> 6. <u>ZUMCA</u> <u>5</u> <u>N</u> <u>FACW</u> 7. <u>AGRCAN</u> <u>10</u> <u>N</u> <u>FAC</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>) 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

215489-413

Sampling Point: 4-13

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

Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-24	2.5Y 2.7/1	100					sil	
24-30	2.5Y 2.5/1	98	2.5Y 5/2	2	d	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:

Thick overburden silts

 U13 0.4-10912 3/1 - 100
 4-10 10012 3/8 - 100
 10-12 2.5Y 4/3 - 100

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): 18"Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

DEMA

WETLAND DETERMINATION DATA FORM – Great Plains Region

2215089-03

Project/Site: BLLP City/County: Montreal Sampling Date: 8/6/2010
 Applicant/Owner: McCain State: ND Sampling Point: Wet 3
 Investigator(s): GWM, NPH Section, Township, Range: 22 154 89
 Landform (hillslope, terrace, etc.): deep depression Local relief (concave, convex, none): _____ Slope (%): 1
 Subregion (LRR): F Lat: 48.315549 Long: -102.113086 Datum: NAD 83
 Soil Map Unit Name: Zahl-Williams-Parnell complex, 0-25% slopes NWI classification: PEM/C

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 <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: <u>Depressional - expansive OW area in center</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				
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 _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = 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% _____ 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>EIEPAL</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
2. <u>POALMS</u>	<u>15</u>	<u>Y</u>	<u>OBL</u>	
3. <u>CALSTA</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
4. <u>CXBREA</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
5. <u>POAPAL</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	
6. <u>PIAPAL</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
7. <u>STAPAL</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
8. <u>SILVERWING</u> <u>ELECOM</u>	<u>5</u>	<u>N</u>	<u>VI</u>	
9. <u>SOLARS</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
10. _____	_____	_____	_____	
<u>95</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>5</u>				
Remarks: <u>Spike rush in interior</u>				

SOIL

2215089-W3

Sampling Point: W-3

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 7/1							
3-15+	2.5Y 5/2	90	7.5YR 5/6	9	4	in	silt	
			6.5Y 1Y/10W	5	2	in	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:

Tonks Gley depletions

4PL-30-3 10YR 7/1-10

3-61 2.5Y 5/3-10

10Y-50-STICOM

MLRA 72-20
ST/valley-ELECOM-30

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): 24Water 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:

3215639-104

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLP City/County: Montreal Sampling Date: 8/6/2010
 Applicant/Owner: McCain State: ND Sampling Point: Wet 4
 Investigator(s): GWM, NPH Section, Township, Range: 22-156-89
 Landform (hillslope, terrace, etc.): dep. Local relief (concave, convex, none): concave Slope (%): <1
 Subregion (LRR): F Lat: 48.315178 Long: -102.114336 Datum: NAD 83
 Soil Map Unit Name: Zahl-Williams-Parnell complex, 0-25% slopes 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> 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</u> <u>WETSUB across middle with POLAME along front end</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>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</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: 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				
Herb Stratum (Plot size: <u>20</u>) 1. <u>WETSUB</u> <u>30</u> <u>Y</u> <u>FACW</u> 2. <u>POLAME</u> <u>40</u> <u>Y</u> <u>OBL</u> 3. <u>POLPAL</u> <u>10</u> <u>N</u> <u>FACW</u> 4. <u>CKLONA</u> <u>10</u> <u>N</u> <u>OBL</u> 5. <u>TRATCOL</u> <u>5</u> <u>N</u> <u>FACU</u> 6. <u>GRISBA</u> <u>5</u> <u>N</u> <u>FACU</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>) 1. <u> </u> 2. <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.
% Bare Ground in Herb Stratum <u> </u> <u> </u> = Total Cover 1. <u> </u> 2. <u> </u>				
Remarks: <u> </u>				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>

SOIL

22156 99-44

Sampling Point: 60-4

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

Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-4	10YR2/1	100					Sil	
4-11	10YR2/1	95	7.5YR5/6	5	c	m	Sil	
11-18	7.5Y1/2	90	7.5YR5/6	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:

7-10-04

4PL-4

POLYMER - 30
SILICATE - 30
POLYMER - 20

ASTC - 10

SEMI-PART - 10

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:

2215689-W1

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Montana Sampling Date: 8/6/2010
 Applicant/Owner: McCain State: ND Sampling Point: W1
 Investigator(s): GWM, NPH Section, Township, Range: 22 156 89
 Landform (hillslope, terrace, etc.): Shallow dep. Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): F Lat: 48.316139 Long: -102.095325 Datum: NAD83
 Soil Map Unit Name: Williams-Zahl Loams, 3-6% slopes 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 <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>Small depression wetland</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: 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				
Herb Stratum (Plot size: <u>20'</u>) 1. <u>CALSTR</u> <u>40</u> <u>Y</u> <u>FACW</u> 2. <u>SYNCH</u> <u>10</u> <u>N</u> <u>FACW</u> 3. <u>ARTLND</u> <u>5</u> <u>N</u> <u>FACW</u> 4. <u>PIDPAL</u> <u>20</u> <u>Y</u> <u>FACW</u> 5. <u>PAPPA</u> <u>20</u> <u>Y</u> <u>FACW</u> 6. <u>TRICAR</u> <u>5</u> <u>N</u> <u>FACW</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>) 1. <u> </u> 2. <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.
<u> </u> = Total Cover				
% Bare Ground in Herb Stratum <u> </u>				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
Remarks:				

Sampling Point: 42-1

HYDROLOGY 254 8/3-50%

2.54 $\frac{8}{3} = 50\%$

US Army Corps of Engineers

22 156 89-02

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Montreal Sampling Date: 8/6/2010
 Applicant/Owner: McCaig State: ND Sampling Point: WP+2
 Investigator(s): GWM, NPH Section, Township, Range: 22-156-89
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 51
 Subregion (LRR): F Lat: 48.315615 Long: -102.096505 Datum: 11AD 83
 Soil Map Unit Name: Zahl-Williams-Bowbells bars, 3-9% slopes 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 <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 slope</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>				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>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
2. <u> </u>				
3. <u> </u>				
4. <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>60</u> x 2 = <u>120</u> FAC species <u> </u> x 3 = <u> </u> FACU species <u>40</u> x 4 = <u>160</u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u>180</u> (A) <u>220</u> (B) Prevalence Index = B/A = <u>2.2</u>
Sapling/Shrub Stratum (Plot size: <u> </u>) 1. <u> </u> 2. <u> </u> 3. <u> </u> 4. <u> </u> 5. <u> </u> = Total Cover				
Herb Stratum (Plot size: <u>20</u>) 1. <u>POSPAL</u> <u>20</u> <u>Y</u> <u>FACU</u> 2. <u>CALSTR</u> <u>25</u> <u>Y</u> <u>FACU</u> 3. <u>TRAPRA</u> <u>20</u> <u>Y</u> <u>FACU</u> 4. <u>LYMOCC</u> <u>10</u> <u>Y</u> <u>FACU</u> 5. <u>LYMOCC</u> <u>10</u> <u>Y</u> <u>FACU</u> 6. <u>TRISARK</u> <u>10</u> <u>Y</u> <u>FACU</u> 7. <u>ANECAN</u> <u>5</u> <u>N</u> <u>FACU</u> 8. <u> </u> 9. <u> </u> 10. <u> </u> = Total Cover				
Woody Vine Stratum (Plot size: <u> </u>) 1. <u> </u> 2. <u> </u> = Total Cover				
% Bare Ground in Herb Stratum <u>0</u> = Total Cover				
Remarks:				Hydrophytic Vegetation Indicators: 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.
				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>

SOIL

2215489-42

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		
0-30	2.5Y 2.3/1	100					SLR	

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:

Deep water table - can't get description
30"
meets hydric definition

42-0-2 10/4/21
2-6" 10/4/21/3
PAPA (scuff) 80%
SLR 066-40

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:

PEMA

WETLAND DETERMINATION DATA FORM – Great Plains Region

2315689-W1

Project/Site: BLLP City/County: Mountain Sampling Date: 8/6/2010
 Applicant/Owner: McCaig State: ND Sampling Point: Wet 1
 Investigator(s): GWM/NPH Section, Township, Range: 23-156-89
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): F Lat: 48.316189 Long: -102.082878 Datum: NAD83
 Soil Map Unit Name: Zahl-Williams-Parnell complex, 0-25% slopes NWI classification: PCmc

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 in active prairie pasture</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: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: <u>20'</u>)				
1. <u>TUNBAL</u>	<u>38</u>	<u>Y</u>	<u>FACW</u>	
2. <u>HTSEN</u>	<u>22</u>	<u>Y</u>	<u>FACW</u>	
3. <u>TOAPRA</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
4. <u>SOLCAN</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
5. <u>CALSTR</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
6. <u>TOLEME</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
7. <u>CORARY</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks:				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 2 (A)
 Total Number of Dominant Species Across All Strata: 2 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

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 = _____

Hydrophytic Vegetation Indicators:

☒ Dominance Test is >50%
☐ Prevalence Index is $\leq 3.0^1$
☐ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes ☒ No ☐

SOIL

2315689

Sampling Point: W1

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

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type			
0-9	10YR2/1	100					sil	
9-15	10Y4/2	90	7.5YR5/1	10	C	m	sil	
15-18	10Y4/2	90	7.5YR5/1	5	L	m		
			2.5Y4/1	5	d	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:

Tanker Series

POAPRA=60
JOL CAN=10
SAL PHL=10
SURFACE=15

upland

upland 0-8 10YR 2/1 2.5YR 5/2 4.5

hydric

ph. in soil

above water

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:

NW 1/4 P 12 NW

WETLAND DETERMINATION DATA FORM – Great Plains Region

2315689-02

Project/Site: BLLP City/County: Mountain Sampling Date: 8/6/2010
 Applicant/Owner: McCain State: ND Sampling Point: Wet2
 Investigator(s): GWM, NPH Section, Township, Range: 23-156-89
 Landform (hillslope, terrace, etc.): dip Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): F Lat: 48.316319 Long: -102.084983 Datum: NAD83
 Soil Map Unit Name: Zahl-Williams-Parnell complex, 0-25% slopes NWI classification: PFMC

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 in</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>				
<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>				
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 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>POPPA</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
2. <u>SOLCAN</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
3. <u>ANEKAN</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>	
4. <u>POLAME</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
5. <u>SUNDRY</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
6. <u>ARTSIA</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
7. <u>CELANN</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
8. <u> </u>				
9. <u> </u>				
10. <u> </u>				
<u>105</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> </u> = Total Cover				
% Bare Ground in Herb Stratum <u> </u>				
Remarks: <u> </u>				

2315689-02

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 ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-7	10YR 3/1	100					sil	
7-15	2.5Y 4/2	90	2.5YR 5/6	10	C	m	sil	
15-18	2.5Y 4/1	90	2.5YR 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) | |
| ☐ 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) | |

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: *lunka*

up-2
0-5 10YR 3/1-100
5-7 10YR 3/2-100
7-10 2.5Y 4/1-100

up-2
0-5 10YR 3/1-100
5-7 10YR 3/2-100
7-10 2.5Y 4/1-100

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: *P.C.M.C.*

WETLAND DETERMINATION DATA FORM – Great Plains Region

23156-89-03

Project/Site: BLLP City/County: McMurry Co Sampling Date: 9/6
 Applicant/Owner: McCain State: ND Sampling Point: Unit 3
 Investigator(s): GWM, NPH Section, Township, Range: 23 156 89
 Landform (hillslope, terrace, etc.): clay Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): F Lat: 48.316348 Long: -102.086932 Datum: NAD 83
 Soil Map Unit Name: Zahl-Williams-Parnell complex, 0-25% slopes NWI classification: Pcmc
 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>U-3 - SOLRIG-70</u> <u>PUGARA-40</u> <u>ELECOM-30</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>				
<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>				
<u> </u> = Total Cover				
Herb Stratum (Plot size: <u>20'</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>CAL STR</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
2. <u>POTANS</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>	
3. <u>RUPAL</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
4. <u>SCURFERA PSONA</u>	<u>10</u>	<u>N</u>	<u>UPL</u>	
5. <u>PUGARA</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
6. <u>SOLRIG</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
7. <u>CTARV</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
8. <u>ANECAN</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
9. <u> </u>				
10. <u> </u>				
<u>100</u> = Total Cover				
Woody Vine Stratum (Plot size: <u> </u>)				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
1. <u> </u>				
2. <u> </u>				
<u> </u> = Total Cover				
% Bare Ground in Herb Stratum <u>10</u>				
Remarks: <u> </u>				

SOIL

Sampling Point: 10-3

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-11	10YR 3/1	100					silt	
11-18	2.5Y 4/2	90	2.5YR 3/6	10			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:

Fenka

 upl-2 10-4, 10YR 3/1
 4-10, 5Y 5/3 100
 10YR 3/1
 10YR 3/1

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:

Fenka

WETLAND DETERMINATION DATA FORM – Great Plains Region 2315689-04

Project/Site: BLLP City/County: Mantrail Sampling Date: 8/6/2010
 Applicant/Owner: McCain State: ND Sampling Point: Wet 4
 Investigator(s): GWM, NPH Section, Township, Range: 23-156-89
 Landform (hillslope, terrace, etc.): depr. Local relief (concave, convex, none): concave Slope (%): 51
 Subregion (LRR): F Lat: 48.315847 Long: -109.086989 Datum: NAD83
 Soil Map Unit Name: Zahl-Williams-Parnell complex, D-25% slopes NWI classification: PERIC

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 with steep slopes nearby</u> <u>knobtop 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>	<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> </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>	<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>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>CAL STR</u>	<u>15</u>	<u>N</u>	<u>FACU</u>	
2. <u>AST STR</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
3. <u>CLY 6' P</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
4. <u>SON AREV</u>	<u>15</u>	<u>N</u>	<u>FACU</u>	
5. <u>AME CAN</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
6. <u>PUD PRA</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
7. <u> </u>	<u>10</u>	<u>N</u>	<u>FACU</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>170</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> </u>				
Remarks: <u> </u>				

SOIL

Sampling Point: 2-4

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)	%				
0-8	10YR 3/1	100					slt	
8-16	2.5Y 8/2	90	2.5Y 8/6	10	C	m	scd	gritly

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:

up to 4 - slope 2%

0-3-10YR 3/1

3-10 2.5Y 8/2

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): 8"Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

P=MC

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Mountain Sampling Date: 8/6/2010
 Applicant/Owner: McCain State: ND Sampling Point: Wet 5
 Investigator(s): GWM / NPH Section, Township, Range: 23-156-89
 Landform (hillslope, terrace, etc.): dep. Local relief (concave, convex, none): _____ Slope (%): 1
 Subregion (LRR): D Lat: 48.315706 Long: -103.689834 Datum: NAD-83
 Soil Map Unit Name: Zahl-Williams-Parnell complex, 0-25% slopes NWI classification: 7eme
 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 buried in center</u> <u>CALSTR along edge</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>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>60</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				
Herb Stratum (Plot size: <u>20'</u>) 1. <u>CALSTR</u> <u>30</u> <u>Y</u> <u>FACW</u> 2. <u>TRAPA</u> <u>10</u> <u>N</u> <u>FACU</u> 3. <u>STAPAL</u> <u>20</u> <u>Y</u> <u>FACW</u> 4. <u>ARTLUD</u> <u>15</u> <u>Y</u> <u>FACU</u> 5. <u>GLY LEP</u> <u>10</u> <u>Y</u> <u>FACU</u> 6. <u>RUMERT</u> <u>5</u> <u>N</u> <u>FACW</u> 7. <u>AGREAN</u> <u>5</u> <u>N</u> <u>FAC</u> 8. <u>POAPAL</u> <u>10</u> <u>Y</u> <u>FACW</u> 9. _____ 10. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks:				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 _____				

SOIL

23156 89-40

Sampling Point: 60-5

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 3/1	100					Sil	
2-15	2.5Y 4/2	80	2.5Y 4/2	20	C	un	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: Tanker

412-5 0-3 10YR 3/1 - 100%

3-6 10YR 3/2 - 80%

6-12 2.5Y 4/2 - 100%

Slope 2% FAIRLY Good

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" *Intertwined*Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks: Dry at 850 ft 43 ft wetland edge

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLCP City/County: Montreal 2315689-46 Sampling Date: 8/6/10
 Applicant/Owner: McCain State: ND Sampling Point: Wet G
 Investigator(s): GWM, NPH Section, Township, Range: 23-156-89
 Landform (hillslope, terrace, etc.): dep. Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): F Lat: 48.31633 Long: -102.090664 Datum: NAD83
 Soil Map Unit Name: Zahl-Williams-Parnell Complex, 0-25% slopes NWI classification: PLme

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>expansive OBL in deep depression wetland</u> <u>in wetland + TYP LAT 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>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>	<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>	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.
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
= Total Cover				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
Sapling/Shrub Stratum (Plot size: <u> </u>)				
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
= Total Cover				
Herb Stratum (Plot size: <u>20'</u>)				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
1. <u>JUNOBL</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>	
2. <u>3 SC2 PUN</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
3. <u>CA-STR</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	
4. <u>HQ NUT</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
5. <u>ANECAN</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
6. <u>TRAPRA</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
7. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
8. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
9. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
10. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Hydrophytic Vegetation Present? Yes <u>X</u> No <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>	Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
= Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
Remarks:				

2315689-46

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		
0-2	10YR 3/1	100						
2-10+	6.5Y 5/5.5	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 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:

Gley colors with impenetrable rock underneath

up to 6 - 0.3 10YR 3/1
3.0cm top

POSSIBLE - 40-50cm

NT STIFF SAND - 20-30cm

MLRA 71

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): 18" int |
| Water Table Present? | Yes ☒ No ☐ | Depth (inches): 10" |
| Saturation Present? | Yes ☒ No ☐ | Depth (inches): 0 |

Wetland Hydrology Present? Yes ☒ No _____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

2315689-07

Project/Site: BLLP City/County: Mountain Sampling Date: 8/6/2010
 Applicant/Owner: McCain State: ND Sampling Point: West 17
 Investigator(s): GWM, NPH Section, Township, Range: 23 156 89
 Landform (hillslope, terrace, etc.): Shallow dep. Local relief (concave, convex, none): concave Slope (%): 41
 Subregion (LRR): E Lat: 48.31571 Long: -102.094021 Datum: NAD 83
 Soil Map Unit Name: Parnell Sil+Loam NWI classification: PEMc

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

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

Hydrophytic Vegetation Present? Yes ☒ No ☐	Is the Sampled Area within a Wetland? Yes ☒ No ☐
Hydric Soil Present? Yes ☒ No ☐	
Wetland Hydrology Present? Yes ☒ No ☐	
Remarks: <u>depression wetland with EXATHE in interior</u> <u>CAL STR along wetland 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>3</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75</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 = _____
6. _____	_____	_____	_____	Column Totals: _____ (A) _____ (B)
7. _____	_____	_____	_____	Prevalence Index = B/A = _____
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: <u>20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. <u>DRAPAL</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	☒ Dominance Test is >50%
2. <u>STAPAL</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	Prevalence Index is ≤3.0 ¹
3. <u>AST STM</u>	<u>10</u>	_____	_____	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
4. <u>CALSTR</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>	Problematic Hydrophytic Vegetation ¹ (Explain)
5. <u>BIOZAC</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
6. <u>CLPRAF</u>	<u>10</u>	_____	_____	
7. <u>HYMOCC</u>	<u>5</u>	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks: <u>Prime along up and edge</u>				

SOIL

2315489

W7

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	2.57R 5/1	100					S11	
3-9	2.57 5/2	90	7.59R 5/1	10	2	~	S11	
9-18	2.54 5/2	90	Gley 1 4/5 5/4	5	2	~	S12	
			7.57R 5/1	5	2	~	S12	

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 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):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks: Gley depletions in upper 12"

0-3 104R 5/1 100
3-5 2.57 4/2 100
5-18 7.57R 5/1 2.54 5/3 100
7.57R 5/1

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): 8"

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: Mountain Sampling Date: 8/5/2010
 Applicant/Owner: McCain State: ND Sampling Point: Wet 1
 Investigator(s): GLWM, NPH Section, Township, Range: 24-156-089
 Landform (hillslope, terrace, etc.): hillslope-seep Local relief (concave, convex, none): concave Slope (%): 2
 Subregion (LRR): F Lat: 48.317193 Long: -102.07378 Datum: NAD 83
 Soil Map Unit Name: Zahl-Max loams, 25-60% slopes NWI classification: 10A2

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>Seep at head of gully</u> <u>Flows to south</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>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet: 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 = _____
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 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>SPARPE</u>	<u>60</u>	<u>Y</u>	<u>FACW</u>	
2. <u>MORSUB</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
3. <u>ELYCAN</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
4. <u>POPPRA</u>	<u>5</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>ISLAND SPAPE / SAL AMY all below</u> <u>10m edge</u>				

SOIL

2415687-41

Sampling Point: W-1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 3/1	100					sil	
3-4	10YR 3/2	100					sil	
4-7	10YR 3/1	100					sil	
7-15 ⁺	2.5Y 4/2	95	7.5YR 5/6	5	C	m	sil	gravelly

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 hydrophylic 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:

Gravelly soils below sil layers

4PL-1 0-5 10YR 3/1
5-10 10YR 4/3

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): 10"
Saturation Present? (includes capillary fringe)	Yes ☒ No ☐	Depth (inches): 3"

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

1915688-21

Project/Site: BHLP City/County: Maitland Sampling Date: 8/5/2010
 Applicant/Owner: MCCain State: ND Sampling Point: Wet-1
 Investigator(s): GWM/KPH NPH Section, Township, Range: 19, 156, 88
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope (%): <1
 Subregion (LRR): F Lat: 48.318928 Long: -102.031447 Datum: NAD83
 Soil Map Unit Name: Parnell Silt Loam NWI classification: PEM1C

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 depression</u> <u>CRATHE in INTERVIEW</u> <u>41 = 0.4 1012 1/1 - 100</u> <u>4-8 1012 1/1 - 100</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>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)
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> 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>POPPAL</u> <u>80</u> <u>Y</u> <u>FACW</u> 2. <u>HERCAN</u> <u>20</u> <u>Y</u> <u>FAC</u> 3. <u>POAMP</u> <u>20</u> <u>Y</u> <u>OBL</u> 4. <u>POADRA</u> <u>20</u> <u>Y</u> <u>FACU</u> 5. <u>GLYCEP</u> <u>10</u> <u>N</u> <u>FACU</u> 6. <u>SOLCAN</u> <u>10</u> <u>N</u> <u>FACU</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>) 1. <u> </u> 2. <u> </u>				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.
<u> </u> = Total Cover				
% Bare Ground in Herb Stratum <u> </u>				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
Remarks: <u> </u>				

SOIL

Sampling Point: W1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type	Loc ²		
0-6	10YR 2/1	100					il	
6-10	10YR 2/2	90	2.5Y 2/2	5	1	m	il	
10-18	2.5Y 4/2		2.5Y 2/2	5	2	m	il	
		90	2.5Y 2/5	10	2	m	sil	

Type: 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:

Tanka 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

1915688-42

Project/Site: BLUP City/County: Montreal Sampling Date: 8/5/2010
 Applicant/Owner: MCCoin State: ND Sampling Point: Wet 2
 Investigator(s): GWM/ALPH Section, Township, Range: 19 156 88
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): <1
 Subregion (LRR): F Lat: 48.318585 Long: -102.037816 Datum: NAD83
 Soil Map Unit Name: Parnell silt loam NWI classification: PCmc

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 ☐	Hydric Soil Present? Yes ☒ No ☐	Wetland Hydrology Present? Yes ☒ No ☐	Is the Sampled Area within a Wetland? Yes ☒ No ☐
Remarks: <u>Depressional wetland</u> <u>PULASKI in depression</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				Prevalence Index worksheet: <table border="0"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </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>	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) _____																	
= Total Cover				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)														
Herb Stratum (Plot size: <u>20'</u>)																		
1. <u>CULANU</u> <u>50</u> <u>Y</u> <u>OBL</u>																		
2. <u>POTANK</u> <u>20</u> <u>Y</u> <u>FACW</u>																		
3. <u>SOLCAN</u> <u>15</u> <u>N</u> <u>FACU</u>																		
4. <u>AGREAN</u> <u>10</u> <u>N</u> <u>FAC</u>																		
5. <u>SPAREC</u> <u>5</u> <u>N</u> <u>FACW</u>																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
= Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
Woody Vine Stratum (Plot size: _____)																		
1. _____																		
2. _____																		
3. _____																		
= Total Cover				Hydrophytic Vegetation Present? Yes ☒ No ☐														
% Bare Ground in Herb Stratum <u>0</u>																		
Remarks: _____																		

1915688-W2

SOIL

Sampling Point: W-2

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

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type	Loc ²		
0-6	10YR3/1	100					SIL	
6-9	10YR3/1	90	7.5Y5/2	10	d	m	SIL	
9-15	2.5Y 7/2	90	7.5YR 5/4	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) | ☐ 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:

Taka 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:

NW1 = PERRC

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLUP City/County: Menard Sampling Date: 8/5/2010
 Applicant/Owner: McCoin State: ND Sampling Point: Wet-3
 Investigator(s): GWM / NHP Section, Township, Range: 19/156/88
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): F Lat: 48.318354 Long: -102.03907 Datum: NAD83
 Soil Map Unit Name: Zahl-Williams loams, 9-25% slopes 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> 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 heavily grazed</u> <u>upl-1 0-6-104R 1/2 - 100</u> <u>POAEE-25 4-8-104R 3/2 - 100</u> <u>SPAREC-40 10-2-54 1/2 - 75</u> <u>SUMOC-20 7-5-104R</u> <u>LYLEP-20 (100)</u>
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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>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)
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>	
= Total Cover				
Sapling/Shrub Stratum (Plot size: <u> </u>)				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>
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>	
= Total Cover				
Herb Stratum (Plot size: <u>20'</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>AGRCAN</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	
2. <u>JUN BAL</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3. <u>GUYLER</u>	<u>15</u>	<u>N</u>	<u>FACU</u>	
4. <u>ASTERT</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
5. <u>POIANS</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
6. <u>LYCASP</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
7. <u>CYPRAL</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
8. <u>MORJAB</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
9. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
10. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>105</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> </u>				
Remarks: <u>bulrush in interior</u>				

SOIL

Sampling Point: W-3

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type	Loc ²		
0-6	10YR 3/1	100					SIL	
6-8	10YR 3/2	95	7.5YR 5/6	5	C	m	SIL	
8-15	10YR 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.)

☐ 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 hydrophylic 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: Tussock 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): 6"

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

Saturation Present? Yes ☒ No ☐ Depth (inches): 12"

(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: Montreal Sampling Date: 19/5088-24 8/5/2010
 Applicant/Owner: McCain State: ND Sampling Point: W-4
 Investigator(s): GWM/NHP Section, Township, Range: 19 156 088
 Landform (hillslope, terrace, etc.): Shallow slope Local relief (concave, convex, none): concave Slope (%): 41
 Subregion (LRR): F Lat: 48.387666 Long: -102.411624 Datum: NAD83
 Soil Map Unit Name: Parnell Silty Loam NWI classification: Pnmc

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>Hummocks along wetland edge</u> <u>Depression 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>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75</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)
Herb Stratum (Plot size: <u>20'</u>)				
1. <u>POTANS</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
2. <u>HELMNT</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>	
3. <u>GLYLIR</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
4. <u>AGRCAN</u>	<u>15</u>	<u>N</u>	<u>FAC</u>	
5. <u>HAPPA</u>	<u>15</u>	<u>N</u>	<u>FACW</u>	
6. <u>SPAPCC</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
7. <u>CERFIO</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
_____ = Total Cover				Hydrophytic Vegetation Present? Yes ☒ No ☐
Woody Vine Stratum (Plot size: _____)				
1. _____				
2. _____				
3. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks: <u>Upland species growing on</u> <u>Tops of hummocks</u>				

SOIL

19/5688-WY

Sampling Point: N-4

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 3/1	100					sil	
2-15	2.5Y 4/1	98	7.5YR 2/4	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:

Tenka

up 4-0-7 10YR 3/1
7-12-10YR 2 3/212-1 2.5Y 5/2 98 7.5YR 2/4 (20 cm) - hydric
8/15

BROUSE - 100%

No hydrology

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): 14"

(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

AWI = PCMC

WETLAND DETERMINATION DATA FORM – Great Plains Region

20136 88-03

Project/Site: BLLP City/County: Mountain Sampling Date: 8/5/2010
 Applicant/Owner: McCain State: ND Sampling Point: Wet 3
 Investigator(s): GWM, WPH Section, Township, Range: 20-156-88
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): E Lat: 48.3189 Long: -102.027286 Datum: NAD83
 Soil Map Unit Name: Zahl-Max loams, 25-60% slopes NWI classification: Pine

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 ☐ Hydric Soil Present? Yes ☒ No ☐ Wetland Hydrology Present? Yes ☒ No ☐	Is the Sampled Area within a Wetland? Yes ☒ No ☐
Remarks: <u>depression wetland</u> <u>Burred + POLAME in interior</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) 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. _____	_____	_____	_____	
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				
Herb Stratum (Plot size: <u>20'</u>) 1. <u>POA PAL</u> <u>30</u> <u>Y</u> <u>FACW</u> 2. <u>POA PRA</u> <u>20</u> <u>Y</u> <u>FACW</u> 3. <u>GLY LLP</u> <u>10</u> <u>N</u> <u>FACW</u> 4. <u>AGRCAN</u> <u>10</u> <u>N</u> <u>FAC</u> 5. <u>POLAMB</u> <u>25</u> <u>Y</u> <u>OBL</u> 6. <u>STAPAL</u> <u>10</u> <u>N</u> <u>FACW</u> 7. _____ 8. _____ 9. _____ 10. _____				
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____				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)
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				Hydrophytic Vegetation Present? Yes ☒ No ☐
Remarks:				

2015688-43

43

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		
0-5	10YR 3/1	100					sil	
5-15	10YR 5/2	85	7.5YR 5/6	10	c	m	sil	
			2.5Y 9/1	5	d	m	sil	due to nodes

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:

Tooke Series

VPL-2 0-3 10YR 3/1 - 100

3-10" 2.5Y 5/3 100

10YR 5/2 - 10

DAPRA-10
STICOM-50

POOPRA-30

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:

Pema

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLLP City/County: Montreal Sampling Date: 20150828-W2 8/5/2010
 Applicant/Owner: Mc Cain State: ND Sampling Point: W2
 Investigator(s): GWM, NPH Section, Township, Range: 20, 156, 88
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope (%): 41
 Subregion (LRR): F Lat: 48.319482 Long: -102.022065 Datum: NAD83
 Soil Map Unit Name: Zahl-Williams-Parnell complex, 0-25% slopes 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 depression</u> <u>Recessed 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>2</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>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				Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u>20</u> x 1 = <u>20</u> FACW species <u>50</u> x 2 = <u>100</u> FAC species <u> </u> x 3 = <u> </u> FACU species <u>40</u> x 4 = <u>160</u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u>110</u> (A) <u>280</u> (B) Prevalence Index = B/A = <u>2.55</u>
<u> </u> = Total Cover				
Herb Stratum (Plot size: <u>20'</u>)				
1. <u>POA PAL</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	
2. <u>POA PAL</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3. <u>POL AMF</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
4. <u>GUY LEP</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
5. <u>STAPAL</u>	<u>5</u>	<u>N</u>	<u>FACW</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.
6. <u>SILCAN</u>	<u>5</u>	<u>N</u>	<u>FACW</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>	Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
<u>110</u> = Total Cover				
Woody Vine Stratum (Plot size: <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> </u>				Remarks:

SOIL

2013088-42

Sampling Point: 2-2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR3/1	100					silt	
4-8	10YR3/1	90	7.5YR5/6	10	C	m	silt	
8-18	7.5Y 4/1	90	7.5YR5/6	10	C	m	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:

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"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

20 156 88-01

Project/Site: BLLP City/County: Mountain Sampling Date: 8/5/2010
 Applicant/Owner: Mc Cain State: ND Sampling Point: Wet 1
 Investigator(s): BWM, NPH Section, Township, Range: 20-156-88
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 21
 Subregion (LRR): F Lat: 48.319206 Long: -102.021312 Datum: NAD 83
 Soil Map Unit Name: Zah-Williams-Parnell complex 0-25% slopes NWI classification: PERM

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 - shallow in interior</u> <u>Bank run in interior</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>5</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>5</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: _____)	_____	_____	_____	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>SUNBIAL</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	Prevalence Index = B/A = _____
2. <u>XLANK</u>	<u>15</u>	<u>Y</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators:
3. <u>CALINE / STRICTA</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	☒ Dominance Test is >50%
4. <u>POPPA</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	☐ Prevalence Index is ≤3.0 ¹
5. <u>POTANS</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
6. <u>AMECAN</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	☐ Problematic Hydrophytic Vegetation ¹ (Explain)
7. <u>SOLCAN</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
8. <u>OLY LFP</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
9. <u>CIRFID</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes ☒ No ☐
Remarks:				

SOIL

Sampling Point: W-1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type	Loc ²		
0-6	10YR3/1	100					silt	
6-10	10YR3/2	50						
	2.5Y4/2	40	7.5YR5/6	10	2	m	scd	gritty
10-18	2.5Y4/2	90	7.5YR5/6	10	2	m	scd	gritty

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:

L1PL-1 = 0-7-10YR3/1

7-10 10YR3/1

GLYCLER

WETLAND HYDROLOGY

SYMPOC

H. GREEN - D. Smith

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): 12

(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: 362P City/County: Monticelli State: MO Sampling Date: 8/5/2010
 Applicant/Owner: McCain Section, Township, Range: 21-56-88 Sampling Point: Wet 1
 Investigator(s): GWM, MPH Landform (hillslope, terrace, etc.): dep. Local relief (concave, convex, none): concave Slope (%): <1
 Subregion (LRR): F Lat: 48.32207 Long: -101.9907 Datum: NAD 83
 Soil Map Unit Name: Barnett Silt Loam 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 wetland</u> <u>upland area - filled in to decrease erosion</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>	<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				
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. Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
1. <u>ASTSEM</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
2. <u>EXLANH</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
3. <u>CONARV</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
4. <u>ASTERJ</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
5. <u>TRIAMF</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
6. <u>TRAPTEA</u>	<u>10</u>	<u>Y</u>	<u>FACU</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	
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:

Sampling Point: SW-1

HYDROLOGY

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 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)

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: Mountain Sampling Date: 8/5/2010
 Applicant/Owner: McCain State: ND Sampling Point: Wet 2
 Investigator(s): GWM, NPH Section, Township, Range: 21-156-88
 Landform (hillslope, terrace, etc.): dys Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): F Lat: 48.321887 Long: -101.993839 Datum: NAD 83
 Soil Map Unit Name: Zahl-Williams Loams 9-25% slopes NWI classification: PEMC

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

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

Hydrophytic Vegetation Present? Yes ☒ No ☐	Is the Sampled Area within a Wetland? Yes ☒ No ☐
Hydric Soil Present? Yes ☒ No ☐	
Wetland Hydrology Present? Yes ☒ No ☐	
Remarks: <u>depression 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. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: <u>20'</u>) 1. <u>SPADNE</u> <u>20</u> <u>Y</u> <u>FACU</u> 2. <u>ALBCHN</u> <u>20</u> <u>Y</u> <u>FAC</u> 3. <u>SPAPAC</u> <u>20</u> <u>Y</u> <u>FACW</u> 4. <u>ASTSEM</u> <u>10</u> <u>N</u> <u>FACW</u> 5. <u>STAPAL</u> <u>10</u> <u>N</u> <u>FACW</u> 6. <u>POLAME</u> <u>10</u> <u>N</u> <u>OBL</u> 7. <u>MU4AST</u> <u>10</u> <u>N</u> <u>FACW</u> 8. <u>FES40</u> <u>5</u> <u>N</u> <u>OBL</u> 9. _____ 10. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>0</u> _____ = Total Cover				
Remarks: <u>White top + smart weed in inter</u>				

SOIL

215688

W2

Sampling Point: W-2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	2.5Y 4/2	95	7.5YR 3/6	5	RM	in	silt	
3-10	3.1YR 3/1	90	7.5YR 3/6	10	C	in	silt	
10-18	2.5Y 4/1	80	7.5YR 5/6	20	C	in	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:

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): 8" - 10"
Water Table Present?	Yes ☒ No ☐	Depth (inches): 10"
Saturation Present?	Yes ☒ No ☐	Depth (inches): 4"

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

PENC

WETLAND DETERMINATION DATA FORM – Great Plains Region 215688-W8

Project/Site: BLP City/County: Montreal Sampling Date: 8/5/2010
 Applicant/Owner: McCain State: ND Sampling Point: Wet 3
 Investigator(s): GWM, NPH Section, Township, Range: 21-156-88
 Landform (hillslope, terrace, etc.): dep. Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): F Lat: 48.321818 Long: -101.995448 Datum: NAD83
 Soil Map Unit Name: Parnell silt loam 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 wetland</u> <u>Cattails/whiteweed 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>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>	
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: 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>	<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>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>SALEMA</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
2. <u>SON ARV</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
3. <u>POTANS</u>	<u>15</u>	<u>N</u>	<u>FACW</u>	
4. <u>ASTERE</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
5. <u>SOLCAN</u>	<u>15</u>	<u>N</u>	<u>FACU</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>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u> </u>				
Remarks:				

21-5688-43

SOIL

Sampling Point: W-3

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			
0-7	10YR 3/1	100						
7-10	10YR 3/1	60	2.5Y 3/1	30	A	M	sil	
			7.5YR 5/6	10	C	M	sil	
10-18	2.5Y 4/2	90	7.5YR 5/6	5	C	M	sil	
			6.5Y 5/6/100	5	J	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 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: up to 3 0-7 10YR 3/1
7-10 10YR 3/1 Field edge

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): <u>10" - Interior</u> Water Table Present? Yes ☐ No ☒ Depth (inches): _____ Saturation Present? Yes ☒ No ☐ Depth (inches): <u>7"</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

211588-04

Project/Site: BLLP City/County: Montreal Sampling Date: 8/5/2010
 Applicant/Owner: McCain State: ND Sampling Point: Wet 4
 Investigator(s): GWM, NPH Section, Township, Range: 21-156-88
 Landform (hillslope, terrace, etc.): dip Local relief (concave, convex, none): _____ Slope (%): 4
 Subregion (LRR): F Lat: 48.321479 Long: -101.999451 Datum: NAD83
 Soil Map Unit Name: Parnell silt loam NWI classification: P6mc

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 _____ Hydric Soil Present? Yes ☒ No _____ Wetland Hydrology Present? Yes ☒ No _____	Is the Sampled Area within a Wetland? Yes ☒ No _____
Remarks: <u>edges are high</u> <u>obs. pt. in bogged portion</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>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)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
_____ = Total Cover				Prevalence Index worksheet: <table style="width:100%;"> <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: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover																		
Herb Stratum (Plot size: <u>20'</u>) 1. <u>SODAR</u> <u>20</u> <u>Y</u> <u>FAC</u> 2. <u>POAPA</u> <u>20</u> <u>Y</u> <u>FACW</u> 3. <u>ABRUB</u> <u>20</u> <u>Y</u> <u>FACW</u> 4. <u>STAPC</u> <u>30</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>10</u> _____ = Total Cover																		
Remarks: <u>POLARIS / no Hells in interior</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.														
				Hydrophytic Vegetation Present? Yes ☒ No _____														

215688-404

SOIL

Sampling Point: 43-4

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR 2/1						silt	
5-10	10YR 2/1	40						
	2.5Y 4/2	50	7.5YR 5/6	10	C	N	silt	
10-18"	2.5Y 5/2	90	7.5YR 5/6	10	C	N	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:

Terra

UPL-4 0-5 10YR 2/1
 5-8" 10YR 2/1 - 50
 12YR 2/1 - 50
 BROME } 100%
 POA PR

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): 10" —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:

Perc

Lots of plants 2215688-W1

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: BLUP City/County: Wauwatosa Sampling Date: 8/4/2010
 Applicant/Owner: McCain State: ND Sampling Point: Wet 1
 Investigator(s): GWM, NPH Section, Township, Range: 22-156-88
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): F Lat: 48.32107 Long: -101.96986 Datum: NAD 83
 Soil Map Unit Name: Parnell silt+loam NWI classification: PEMCD

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 depression wetland with expansive and bare soil in</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				Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species _____ x 1 = _____ FACW species <u>65</u> x 2 = <u>130</u> FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species <u>30</u> x 5 = <u>150</u> Column Totals: <u>95</u> (A) <u>280</u> (B) Prevalence Index = B/A = <u>2.95</u>
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
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>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>WETZAR</u>	<u>60</u>	<u>Y</u>	<u>FACW</u>	
2. <u>WHEAT</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
3. <u>CHE RUTS</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
4. _____				
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>5</u>				
Remarks: <u>Catfish in stream</u>				

2215688-01

SOIL

Sampling Point: 01

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			
0-4	10YR 3/1	100						
4-12	2.5Y 4/1	70	2.5Y 4/1	20	d	m	sil	
12-			7.5YR 5/6	10	c	m	sil	
12-18"	2.5Y 5/1	90	2.5YR 5/6	5	d	m	sil	
			2.5Y 4/2	5	d		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:

Tanker Springs

4/6/1 0-4-10YR 3/1 - 100
4-12-2.5Y 5/1 - 100

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): 21"Water Table Present? Yes ☐ No ☒ Depth (inches):Saturation Present? Yes ☒ No ☐ Depth (inches): 2'Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks: