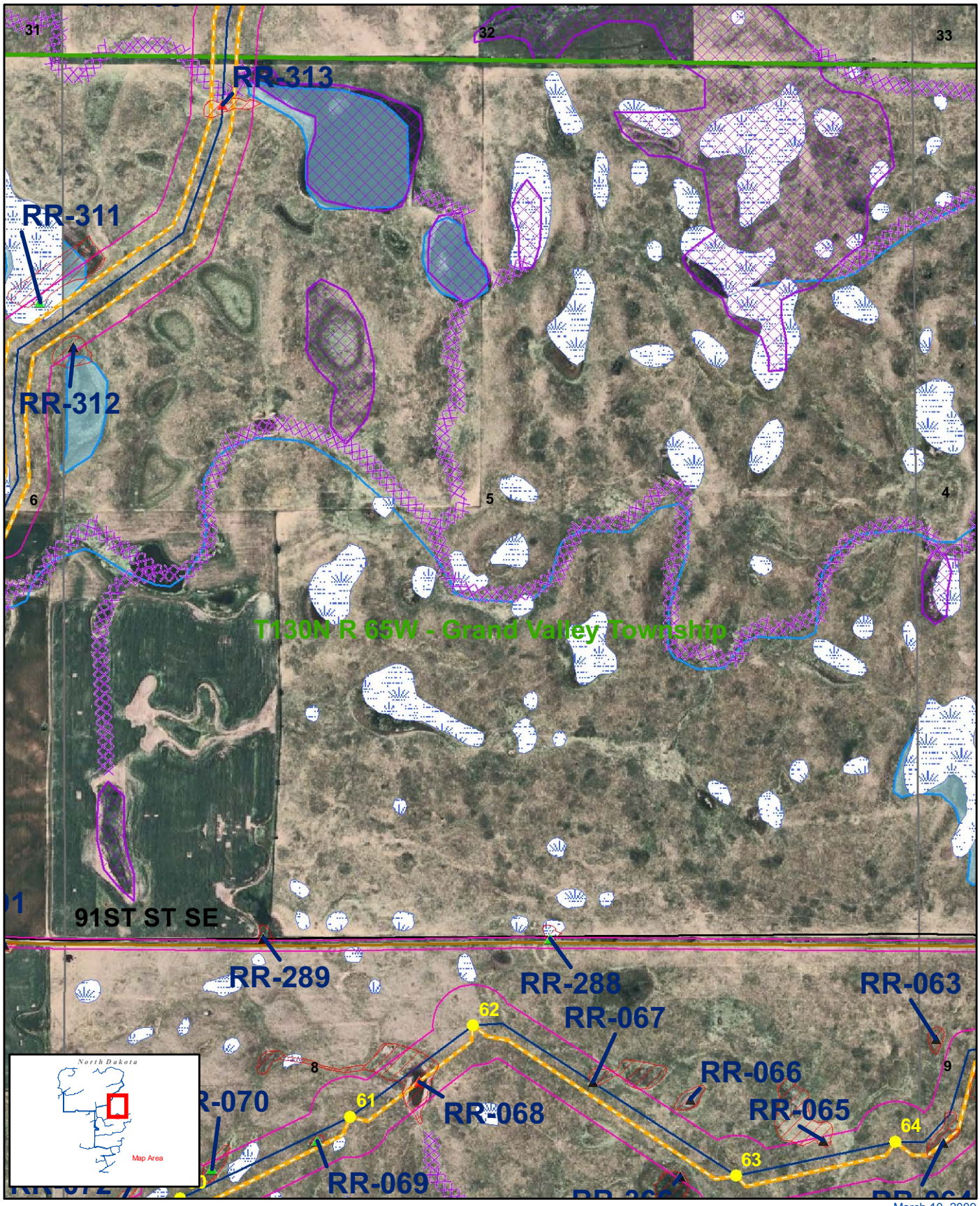
TOWNSHIP 130
RANGE 65
SECTION 5

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Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

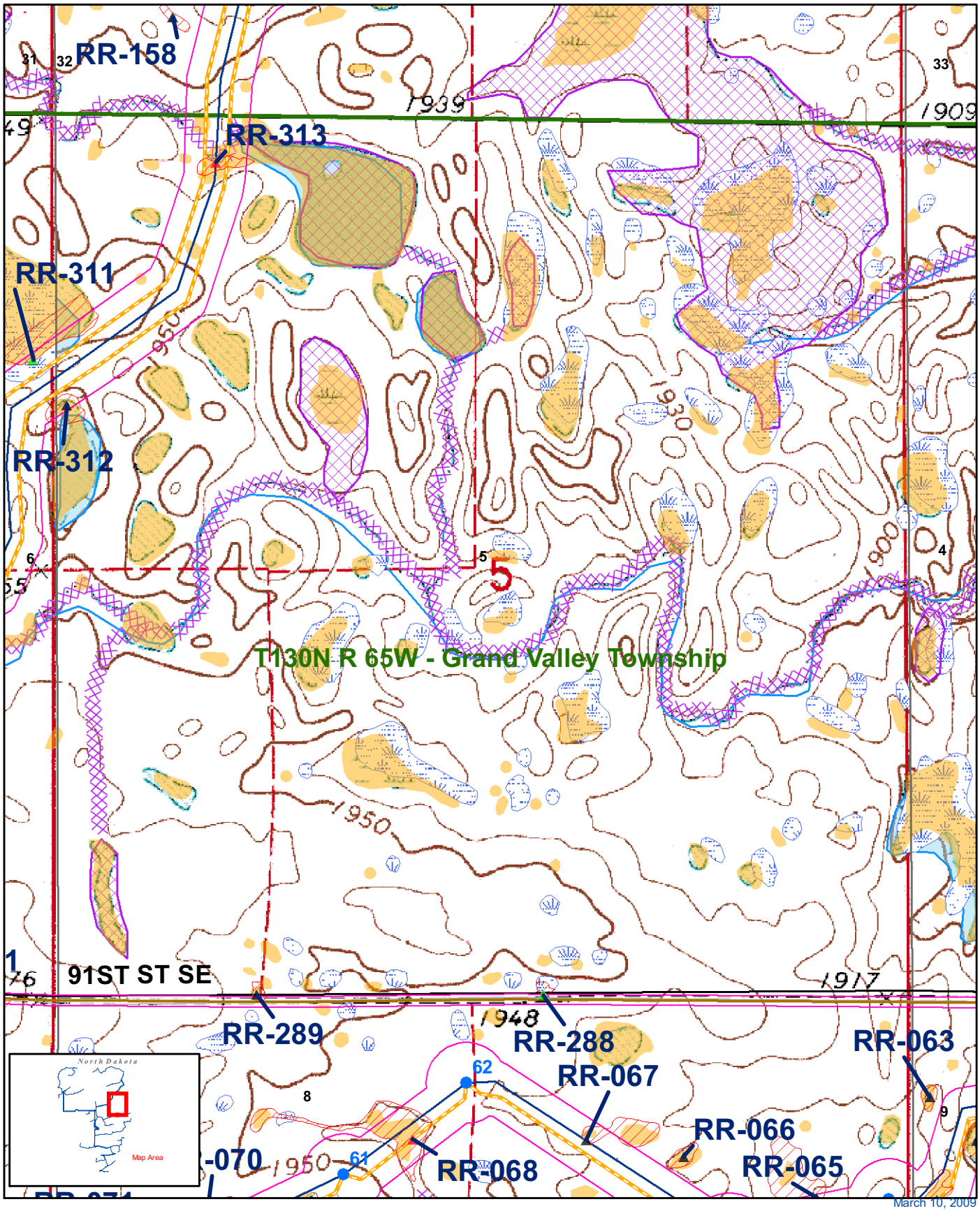
March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Grand Valley Township
Section 5
NAIP Image

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Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

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- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- NWI Wetland Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

March 10, 2009

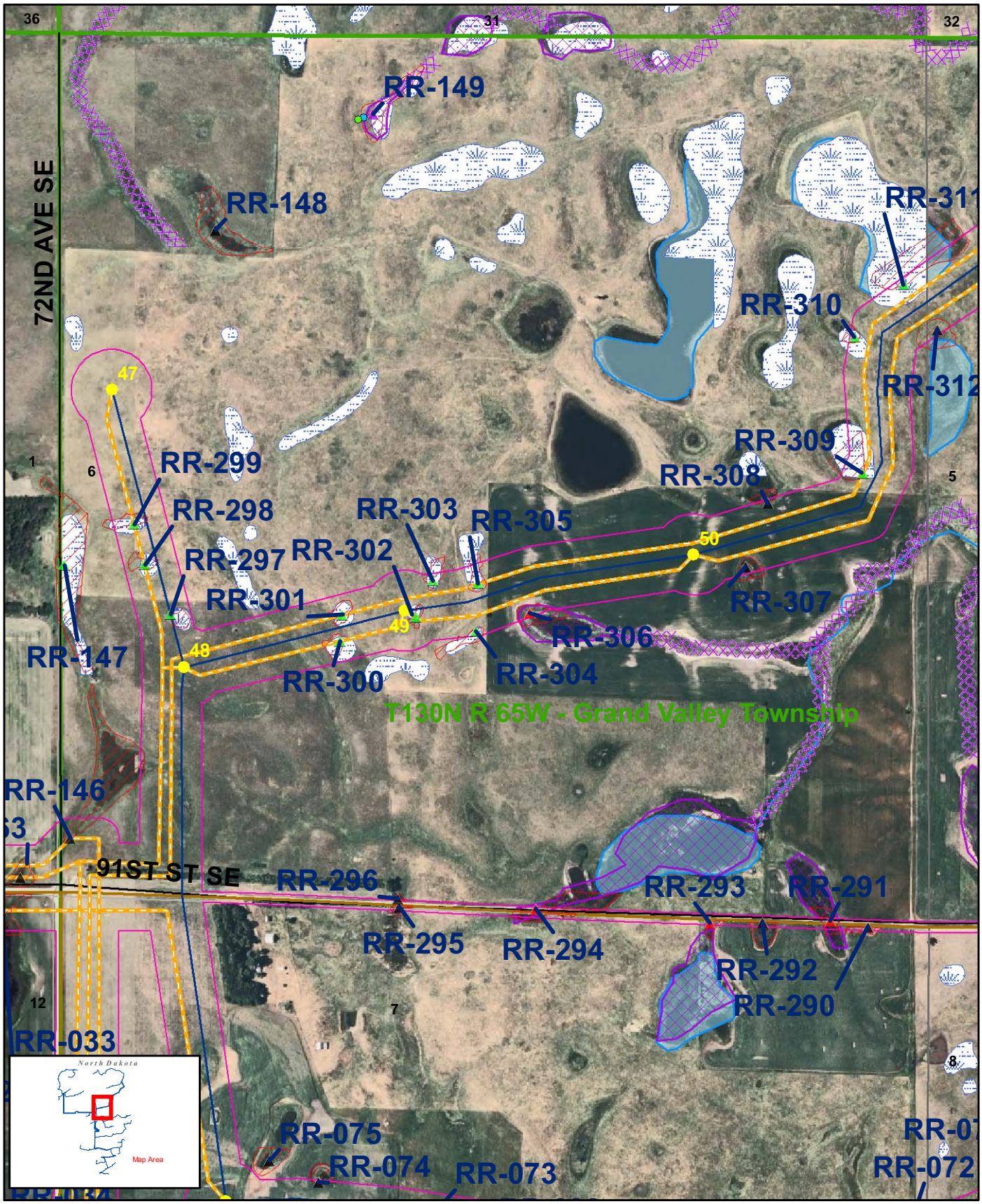
Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Grand Valley Township
Section 5
Quad Image

TOWNSHIP 130
RANGE 65
SECTION 6

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Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

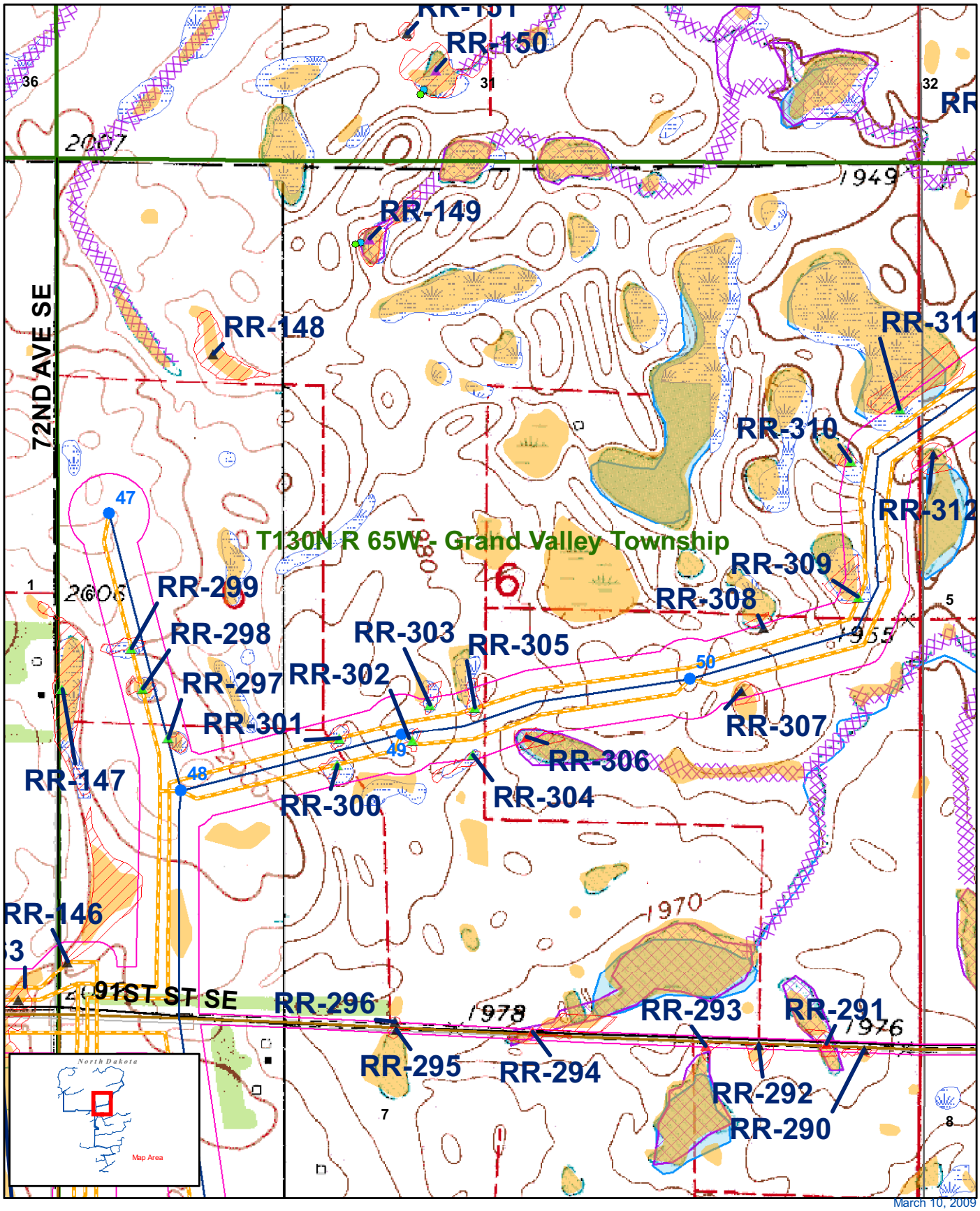
March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Grand Valley Township
Section 6
NAIP Image

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Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- NWI Wetland Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Grand Valley Township
Section 6
Quad Image

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 23-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-076**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 6 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5104375.942 **Long.:** E: 509528.9309 **Datum:** NAD 1983

Soil Map Unit Name: William- Bowbells Loam, 3 to 6 percent slopes **NWI classification:** PEMA

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:

Based on the data collected, this location does not meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		= Total Cover	
Herb Stratum (Plot size:)					
1. Triticum x aestivum	#N/A	100	☑	100.0%	UPL
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		= Total Cover	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	100	x 5 =	500
Column Totals:	100 (A)		500 (B)

Prevalence Index = B/A = 5

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.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:

Vegetation dominated by non-hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-076

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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): 1

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Nothing Evident, Farmed Through = Site shows no evident signs of a typical hydrophitic vegetative community, and is presently or has recently been farmed.



RR-076 View East 11-23-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 23-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-077**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 6 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5104247.536 **Long.:** E: 509500.3314 **Datum:** NAD 1983

Soil Map Unit Name: William- Bowbells Loam, 3 to 6 percent slopes **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species? Rel.Strat. Cover		Indicator Status
Tree Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
			0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
5.			0	☐		
			0	= Total Cover		
Herb Stratum (Plot size:)						
1.	Carex aquatilis	Herb	35	☑	35.0%	OBL
2.	Rumex crispus	Herb	65	☑	65.0%	FACW
3.			0	☐	0.0%	
4.			0	☐	0.0%	
5.			0	☐	0.0%	
6.			0	☐	0.0%	
7.			0	☐	0.0%	
8.			0	☐	0.0%	
9.			0	☐	0.0%	
10.			0	☐	0.0%	
			100	= Total Cover		
Woody Vine Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
			0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	35	x 1 =	35	
FACW species	65	x 2 =	130	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	165	(B)

Prevalence Index = B/A = 1.65

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View South (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-077

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-077 View South 11-23-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 24-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-084**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 6 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5104086.005 **Long.:** E: 510188.2876 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent 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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		= Total Cover	
Herb Stratum (Plot size:)					
1. Carex aquatilis	Herb	40	☑	40.0%	OBL
2. Rumex crispus	Herb	10	☐	10.0%	FACW
3. Phalaris arundinacea	Herb	50	☑	50.0%	FACW+
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		= Total Cover	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40	
FACW species	60	x 2 =	120	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	160	(B)

Prevalence Index = B/A = 1.6

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View North (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-084

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-084 View North 11-24-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-146**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 6 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5105249.857 **Long.:** E: 509297.01742 **Datum:** NAD 1983

Soil Map Unit Name: Tonka Silt Loams, 0 to 1 percent slopes **NWI classification:** PEMF

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Typha angustifolia	Herb	85	☑ 85.0%	OBL
2. Carex aquatilis	Herb	15	☐ 15.0%	OBL
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View North (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 24-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-089**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 6 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 5.2% / 3.0 °

Subregion (LRR): LRR F **Lat.:** N: 5103607.671 **Long.:** E: 510575.9727 **Datum:** NAD 1983

Soil Map Unit Name: Williams-Zahl-Parnell complex, 0 to 15 percent **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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		= Total Cover	
Herb Stratum (Plot size:)					
1. Typha angustifolia	Herb	70	☑	70.0%	OBL
2. Carex aquatilis	Herb	30	☑	30.0%	OBL
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		= Total Cover	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	100	(B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View West (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.



RR-089 View West 11-24-08

Soil

Sampling Point: RR-089

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.

Soil

Sampling Point: RR-146

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-13	10YR 2/1							
13-18	10YR 3/1							

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

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

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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): 36

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-146 View North 12-7-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** CO **Sampling Point:** **RR-147**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 6 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5105635.3 **Long.:** E: 509224.8991 **Datum:** NAD 1983

Soil Map Unit Name: Tonka Silt Loams, 0 to 1 percent slopes **NWI classification:** PEMF

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Typha angustifolia	Herb	80	☑ 80.0%	OBL
2. Phalaris arundinacea	Herb	20	☑ 20.0%	FACW+
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	80	x 1 =	80
FACW species	20	x 2 =	40
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		120 (B)

Prevalence Index = B/A = 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)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-147

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-13	10YR 2/1							
13-18	10YR 3/1							

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

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

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches): 12

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-147 View East 12-7-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-148**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 6 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5106275.509 **Long.:** E: 509511.5482 **Datum:** NAD 1983

Soil Map Unit Name: Hamerly-Tonka-Parnell complex, 0 to 3 percent **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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		= Total Cover	
Herb Stratum (Plot size:)					
1. Typha angustifolia	Herb	70	☑	70.0%	OBL
2. Phalaris arundinacea	Herb	20	☑	20.0%	FACW+
3. Carex aquatilis	Herb	10	☐	10.0%	OBL
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		= Total Cover	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	80	x 1 =	80
FACW species	20	x 2 =	40
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		120 (B)

Prevalence Index = B/A = 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)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Northwest (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-148

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/1							
7-18	2.5Y 5/4							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-148 View Northwest 12-7-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-149-01U**

Investigator(s): Enter Investigator **Section, Township, Range:** **S** 6 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Hillside **Local relief (concave, convex, none):** undulating **Slope:** 7.0% / 4.0 °

Subregion (LRR): LRR F **Lat.:** N: 5106505.64 **Long.:** E: 509818.9163 **Datum:** NAD 1983

Soil Map Unit Name: Zahl- Williams loams, 6 to 25 percent slope **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	**Is the Sampled Area**
Hydric Soil Present?	Yes ◉	No ○	**within a Wetland?** Yes ○ No ◉
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
Based on the data collected, this location does not meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species? Rel.Strat. Cover		Indicator Status
Tree Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
			0	**= Total Cover**		
Sapling/Shrub Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
5.			0	☐		
			0	**= Total Cover**		
Herb Stratum (Plot size:)						
1.	Agropyron smithii	Herb	60	☑	100.0%	FACU
2.			0	☐	0.0%	
3.			0	☐	0.0%	
4.			0	☐	0.0%	
5.			0	☐	0.0%	
6.			0	☐	0.0%	
7.			0	☐	0.0%	
8.			0	☐	0.0%	
9.			0	☐	0.0%	
10.			0	☐	0.0%	
			60	**= Total Cover**		
Woody Vine Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
			0	**= Total Cover**		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	60	x 4 =	240
UPL species	0	x 5 =	0
Column Totals:	60 (A)		240 (B)

Prevalence Index = B/A = 4

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.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:
Vegetation dominated by non-hydrophytes. Photos: View Southwest (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-149-01U

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-5	10YR 2/2							
5-18	2.5Y 4/4							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

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

Aerial Photos

Remarks:

Non-wet data point. No indications of wetland hydrology observed at this site.



RR-149-01U View Southwest 12-7-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-149-01W**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 6 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5106505.64 **Long.:** E: 509818.9163 **Datum:** NAD 1983

Soil Map Unit Name: Zahl- Williams loams, 6 to 25 percent slope **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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		**= Total Cover**	
Herb Stratum (Plot size:)					
1. Typha angustifolia	Herb	20	☑	20.0%	OBL
2. Carex atherodes	Herb	60	☑	60.0%	OBL
3. Carex aquatilis	Herb	20	☑	20.0%	OBL
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		**= Total Cover**	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Northeast (Page 1), View Northeast (Page 1), View Southwest (Page 2)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-149-01W

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-13	10YR 2/2							
5-18	2.5Y 4/4							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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): 1

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Wetland w/ USFWS wetland easement - possesses a discreet or confined surface or shallow subsurface connection to a tributary stream eventual flowing into a navigable water of the United States.



RR-149-01W View Northeast 12-7-08



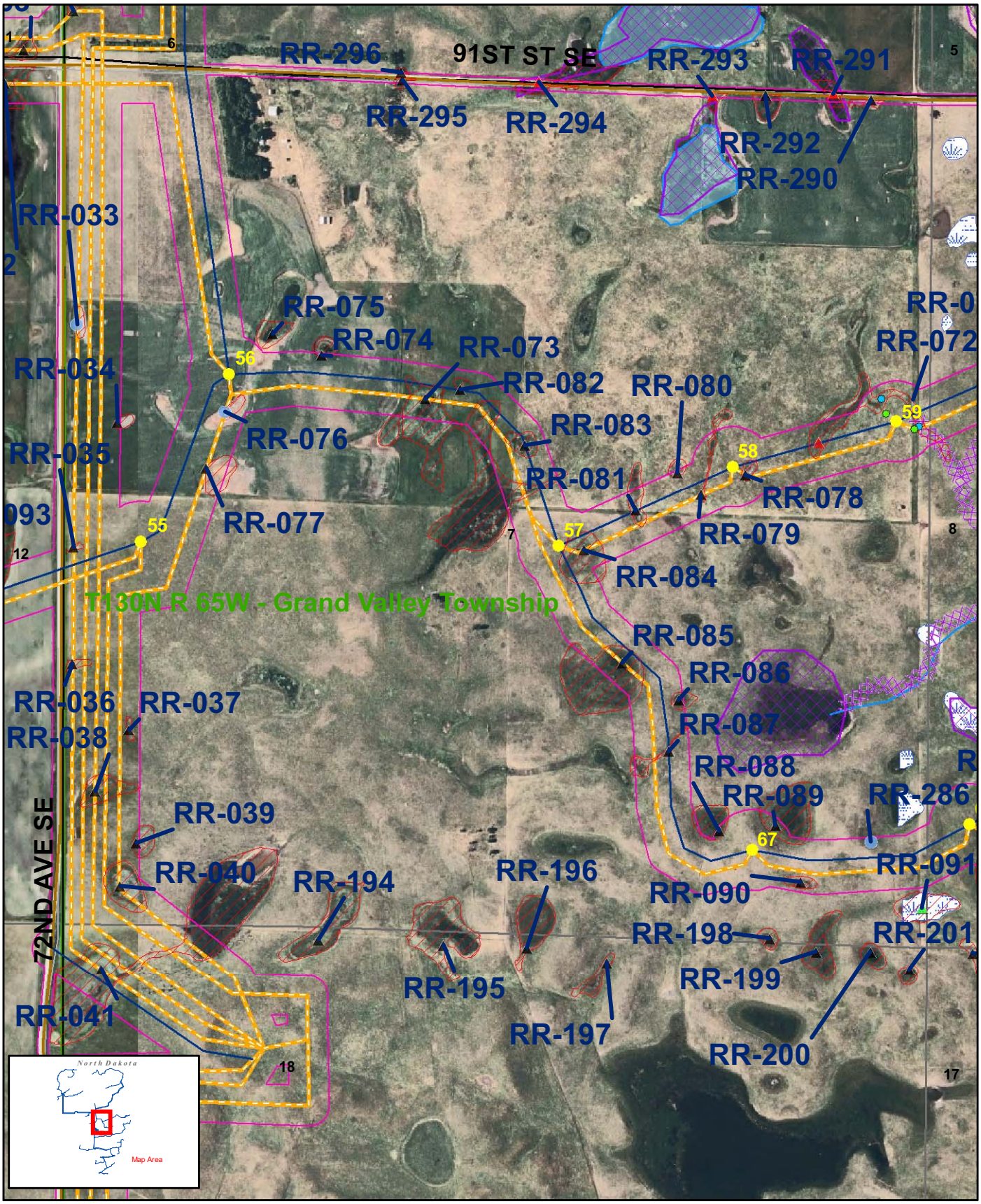
RR-149-01W View Northeast 12-7-08



RR-149-01W View Southwest 12-7-08

TOWNSHIP 130
RANGE 65
SECTION 7

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Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

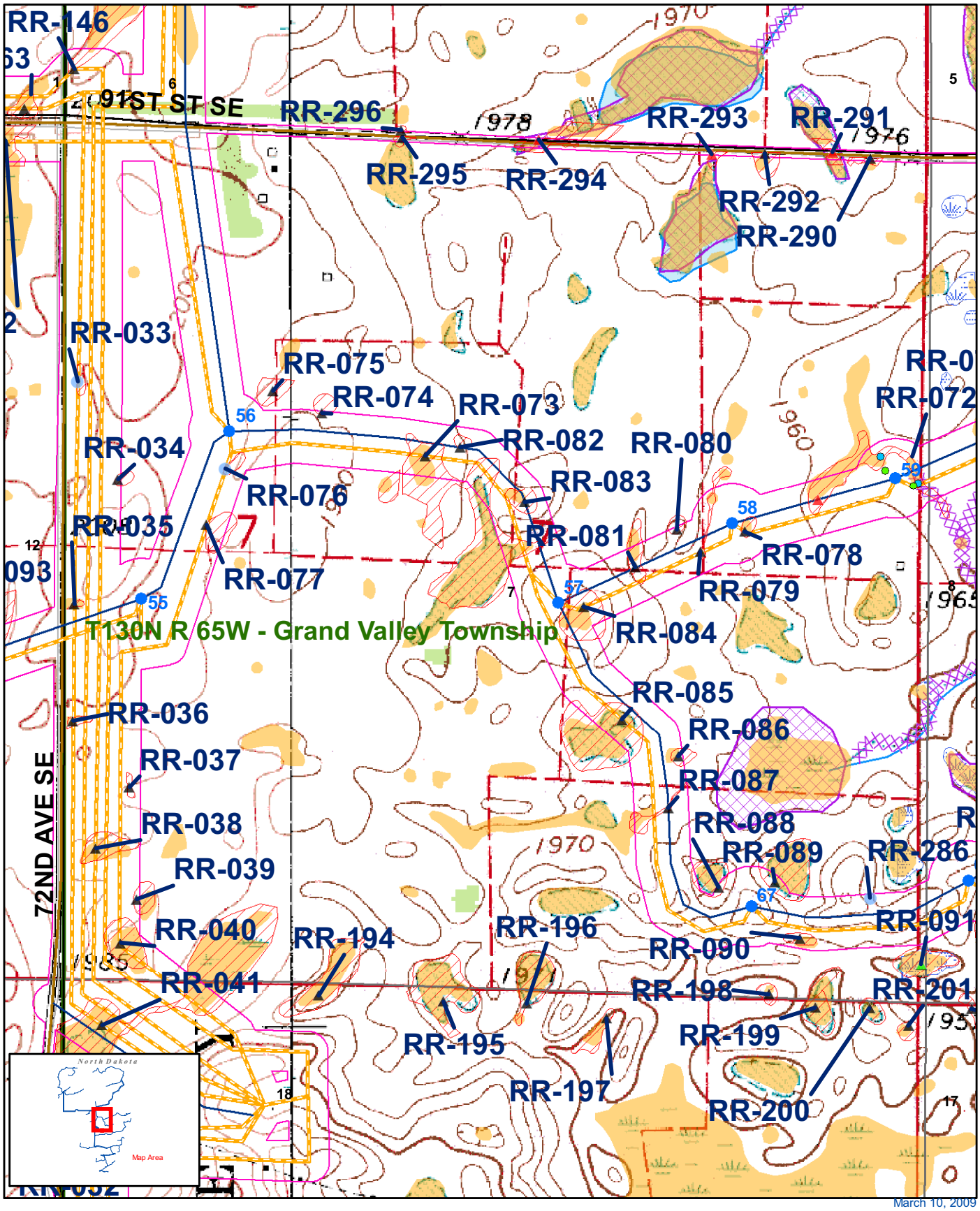
March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Grand Valley Township
Section 7
NAIP Image

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Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- NWI Wetland Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Grand Valley Township
Section 7
Quad Image

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 22-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-034**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 7 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5104348.073 **Long.:** E: 509319.9556 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent slopes **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Phalaris arundinacea	Herb	50	☑ 50.0%	FACW+
2. Rumex crispus	Herb	50	☑ 50.0%	FACW
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0	
FACW species	100	x 2 =	200	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	200	(B)

Prevalence Index = B/A = 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)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-034

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-034 View East 11-22-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 22-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-035**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 7 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5104110.223 **Long.:** E: 509231.2515 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent 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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Typha angustifolia	Herb	20	☑ 20.0%	OBL
2. Carex aquatilis	Herb	80	☑ 80.0%	OBL
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View South (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-035

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-035 View South 11-22-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 22-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-036**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 7 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5103889.787 **Long.:** E: 509232.9295 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent 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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View South (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-036

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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): 3

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-036 View South 11-22-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 22-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-037**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 7 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5103765.473 **Long.:** E: 509330.9988 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		= Total Cover	
Herb Stratum (Plot size:)					
1. Carex aquatilis	Herb	100	☑	100.0%	OBL
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		= Total Cover	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:
Vegetation dominated by hydrophytes. Photos: View Southeast (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-037

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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): 3

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-037 View Southeast 11-22-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 22-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-038**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 7 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5103651.65 **Long.:** E: 509284.4354 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		= Total Cover	
Herb Stratum (Plot size:)					
1. Typha angustifolia	Herb	5	☐	5.0%	OBL
2. Carex aquatilis	Herb	95	☑	95.0%	OBL
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		= Total Cover	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	100	(B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:
Vegetation dominated by hydrophytes. Photos: View West (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-038

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-038 View West 11-22-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 22-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-039**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 7 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5103554.738 **Long.:** E: 509357.992 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0	= Total Cover		
Herb Stratum (Plot size:)					
1. Carex aquatilis	Herb	70	☑	70.0%	OBL
2. Phalaris arundinacea	Herb	30	☑	30.0%	FACW+
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100	= Total Cover		
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	70	x 1 =	70
FACW species	30	x 2 =	60
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		130 (B)

Prevalence Index = B/A = 1.3

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:
Vegetation dominated by hydrophytes. Photos: View South (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-039

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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): 3

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-039 View South 11-22-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 22-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-040**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 7 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5103468.22 **Long.:** E: 509322.748 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Typha angustifolia	Herb	80	☑ 80.0%	OBL
2. Carex aquatilis	Herb	20	☑ 20.0%	OBL
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:
Vegetation dominated by hydrophytes. Photos: View Southeast (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-040

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-040 View Southeast 11-22-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 22-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-041**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 7 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 2.1% / 1.2 °

Subregion (LRR): LRR F **Lat.:** N: 5103288.327 **Long.:** E: 509294.2701 **Datum:** NAD 1983

Soil Map Unit Name: Southham silt loam **NWI classification:** PEMF

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.			0	☐	
2.			0	☐	
3.			0	☐	
4.			0	☐	
			0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.			0	☐	
2.			0	☐	
3.			0	☐	
4.			0	☐	
5.			0	☐	
			0	= Total Cover	
Herb Stratum (Plot size:)					
1.	Typha angustifolia	Herb	95	☑ 95.0%	OBL
2.	Carex aquatilis	Herb	5	☐ 5.0%	OBL
3.			0	☐ 0.0%	
4.			0	☐ 0.0%	
5.			0	☐ 0.0%	
6.			0	☐ 0.0%	
7.			0	☐ 0.0%	
8.			0	☐ 0.0%	
9.			0	☐ 0.0%	
10.			0	☐ 0.0%	
			100	= Total Cover	
Woody Vine Stratum (Plot size:)					
1.			0	☐	
2.			0	☐	
			0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View North (Page 1), View West (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-041

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-6	10YR 2/1							
6-18	5Y 2/1							

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

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

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-041 View North 11-22-08



RR-041 View West 11-22-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 23-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-073**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 7 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** flat **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5104328.464 **Long.:** E: 509822.259 **Datum:** NAD 1983

Soil Map Unit Name: Hamerly-Tonka-Parnell complex, 0 to 3 percent **NWI classification:** PABE

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		= Total Cover	
Herb Stratum (Plot size:)					
1. Typha angustifolia	Herb	30	☑	30.0%	OBL
2. Phalaris arundinacea	Herb	25	☑	25.0%	FACW+
3. Carex aquatilis	Herb	10	☐	10.0%	OBL
4. Rumex crispus	Herb	35	☑	35.0%	FACW
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		= Total Cover	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	40	x 1 =	40
FACW species	60	x 2 =	120
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		160 (B)

Prevalence Index = B/A = 1.6

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-073

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/1							
7-18	2.5Y 5/4							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-073 View East 11-23-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 23-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-074**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 7 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** flat **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5104488.381 **Long.:** E: 509699.3825 **Datum:** NAD 1983

Soil Map Unit Name: Lehr-Wabek loams, 2 to 6 percent slope **NWI classification:** PEMB

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Typha angustifolia	Herb	40	☑ 40.0%	OBL
2. Phalaris arundinacea	Herb	60	☑ 60.0%	FACW+
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	40	x 1 =	40
FACW species	60	x 2 =	120
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		160 (B)

Prevalence Index = B/A = 1.6

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View North (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-074

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-9	10YR 2/2							
9-14	10YR 3/3							
14-18	10YR 4/2							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as non-hydric soil by the NRCS. However, due to the presence of hydrophytic vegetation and positive indicator of wetland hydrology, the soil has been assumed to be hydric for the purposes of this investigation.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-074 View North 11-23-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 23-Nov-08

Applicant/Owner: FPL **State:** CO **Sampling Point:** **RR-075**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 7 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5104515.444 **Long.:** E: 509599.7813 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent slopes **NWI classification:** PEME

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		= Total Cover	
Herb Stratum (Plot size:)					
1. Typha angustifolia	Herb	50	☑	50.0%	OBL
2. Phalaris arundinacea	Herb	25	☑	25.0%	FACW+
3. Rumex crispus	Herb	20	☑	20.0%	FACW
4. Carex aquatilis	Herb	5	☐	5.0%	OBL
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		= Total Cover	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	55	x 1 =	55
FACW species	45	x 2 =	90
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		145 (B)

Prevalence Index = B/A = 1.45

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-075

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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): 3

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-075 View East 11-23-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 24-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-078**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 7 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** flat **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5104256.66 **Long.:** E: 510500.778 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Southwest (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-078

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-078 View Southwest 11-24-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 24-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-079**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 7 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 5.2% / 3.0 °

Subregion (LRR): LRR F **Lat.:** N: 5104304.588 **Long.:** E: 510434.7963 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover		Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0	= Total Cover		
Herb Stratum (Plot size:)					
1. Carex aquatilis	Herb	75	☑	75.0%	OBL
2. Phalaris arundinacea	Herb	25	☑	25.0%	FACW+
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100	= Total Cover		
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	75	x 1 =	75
FACW species	25	x 2 =	50
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		125 (B)

Prevalence Index = B/A = 1.25

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Northeast (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-079

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-079 View Northeast 11-24-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 24-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-080**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 7 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 7.0% / 4.0 °

Subregion (LRR): LRR F **Lat.:** N: 5104259.987 **Long.:** E: 510365.2265 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent slopes **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species? Rel.Strat. Cover		Indicator Status
Tree Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
			0	**= Total Cover**		
Sapling/Shrub Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
5.			0	☐		
			0	**= Total Cover**		
Herb Stratum (Plot size:)						
1.	Phalaris arundinacea	Herb	100	☑	100.0%	FACW+
2.			0	☐	0.0%	
3.			0	☐	0.0%	
4.			0	☐	0.0%	
5.			0	☐	0.0%	
6.			0	☐	0.0%	
7.			0	☐	0.0%	
8.			0	☐	0.0%	
9.			0	☐	0.0%	
10.			0	☐	0.0%	
			100	**= Total Cover**		
Woody Vine Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
			0	**= Total Cover**		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0	
FACW species	100	x 2 =	200	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	200	(B)

Prevalence Index = B/A = 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)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View North (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-080

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States. Site landscape is a concave surface with the presence of hydrophytic vegetation which indicates the presence of wetland hydrology during the growing season.



RR-080 View North 11-24-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 24-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-081**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 7 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Swale **Local relief (concave, convex, none):** undulating **Slope:** 5.2% / 3.0 °

Subregion (LRR): LRR F **Lat.:** N: 5104207.186 **Long.:** E: 510288.119 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells loams, 3 to 6 percent **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View South (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-081

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-081 View South 11-24-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 24-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-082**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 7 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** flat **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5104418.443 **Long.:** E: 509959.2906 **Datum:** NAD 1983

Soil Map Unit Name: Hamerly-Tonka-Parnell complex, 0 to 3 percent **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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0	**= Total Cover**		
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0	**= Total Cover**		
Herb Stratum (Plot size:)					
1. Carex atherodes	Herb	50	☑	50.0%	OBL
2. Phalaris arundinacea	Herb	50	☑	50.0%	FACW+
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100	**= Total Cover**		
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0	**= Total Cover**		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	50	x 1 =	50
FACW species	50	x 2 =	100
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		150 (B)

Prevalence Index = B/A = 1.5

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View North (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-082

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/1							
7-18	2.5Y 5/4							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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): 1

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-082 View North 11-24-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 24-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-083**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 7 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5104306.554 **Long.:** E: 510073.522 **Datum:** NAD 1983

Soil Map Unit Name: Hamerly-Tonka-Parnell complex, 0 to 3 percent **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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	90	☑ 90.0%	OBL
2. Phalaris arundinacea	Herb	10	☐ 10.0%	FACW+
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	90	x 1 =	90
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		110 (B)

Prevalence Index = B/A = 1.1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-083

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/1							
7-18	2.5Y 5/4							

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-083 View East 11-24-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 24-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-085**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 7 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** flat **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5103861.157 **Long.:** E: 510222.1659 **Datum:** NAD 1983

Soil Map Unit Name: Tonka Silt Loam, 0 to 1 percent slope **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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.			0	☐	
2.			0	☐	
3.			0	☐	
4.			0	☐	
			0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.			0	☐	
2.			0	☐	
3.			0	☐	
4.			0	☐	
5.			0	☐	
			0	= Total Cover	
Herb Stratum (Plot size:)					
1.	Typha angustifolia	Herb	95	☑ 95.0%	OBL
2.	Carex aquatilis	Herb	5	☐ 5.0%	OBL
3.			0	☐ 0.0%	
4.			0	☐ 0.0%	
5.			0	☐ 0.0%	
6.			0	☐ 0.0%	
7.			0	☐ 0.0%	
8.			0	☐ 0.0%	
9.			0	☐ 0.0%	
10.			0	☐ 0.0%	
			100	= Total Cover	
Woody Vine Stratum (Plot size:)					
1.			0	☐	
2.			0	☐	
			0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	100	(B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View North (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-085

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-13	10YR 2/1							
13-18	10YR 3/1							

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

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

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-085 View North 11-24-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 24-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-086**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 7 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** flat **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5103821.227 **Long.:** E: 510375.6155 **Datum:** NAD 1983

Soil Map Unit Name: William- Bowbells Loam, 3 to 6 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		= Total Cover	
Herb Stratum (Plot size:)					
1. Typha angustifolia	Herb	90	☑	90.0%	OBL
2. Carex aquatilis	Herb	10	☐	10.0%	OBL
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		= Total Cover	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:
Vegetation dominated by hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-086

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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): 3

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-086 View East 11-24-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 24-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-087**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 7 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 5.2% / 3.0 °

Subregion (LRR): LRR F **Lat.:** N: 5103704.973 **Long.:** E: 510309.8693 **Datum:** NAD 1983

Soil Map Unit Name: Williams-Zahl-Parnell complex, 0 to 15 percent **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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Phalaris arundinacea	Herb	85	☑ 85.0%	FACW+
2. Carex aquatilis	Herb	15	☐ 15.0%	OBL
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	15	x 1 =	15
FACW species	85	x 2 =	170
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		185 (B)

Prevalence Index = B/A = 1.85

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View South (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-087

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-087 View South 11-24-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 24-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-088**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 7 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5103592.596 **Long.:** E: 510428.4218 **Datum:** NAD 1983

Soil Map Unit Name: Williams-Zahl-Parnell complex, 0 to 15 percent **NWI classification:** PEMB

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Typha angustifolia	Herb	95	☑ 95.0%	OBL
2. Carex aquatilis	Herb	5	☐ 5.0%	OBL
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:
Vegetation dominated by hydrophytes. Photos: View North (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-088

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

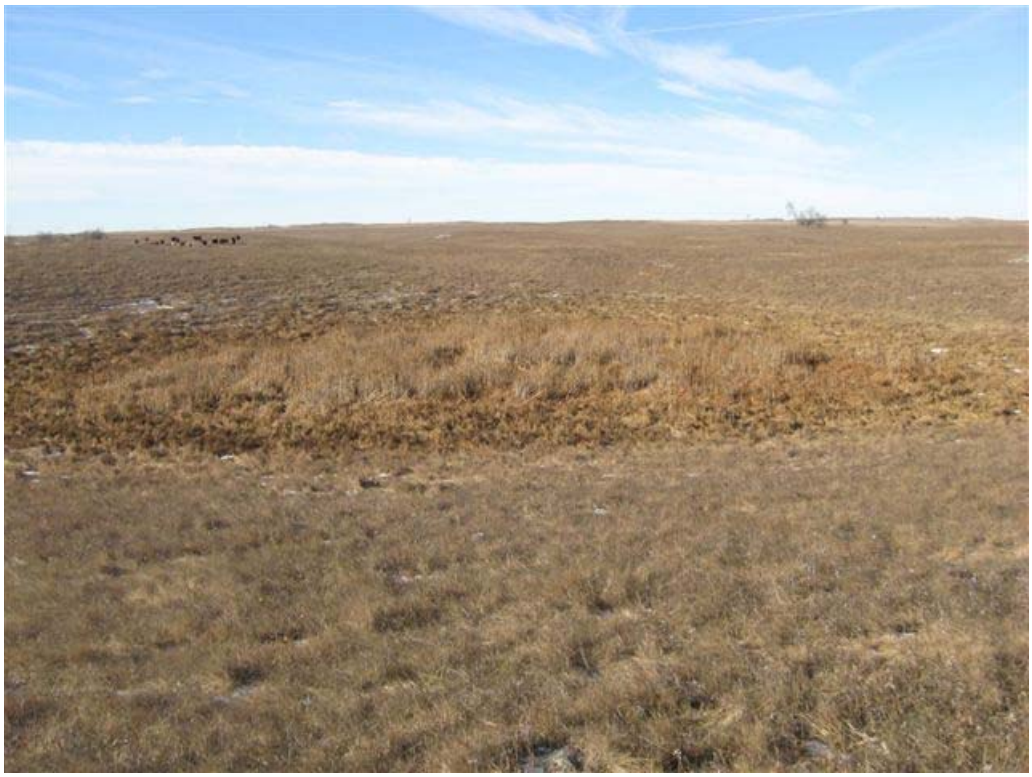
Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-088 View North 11-24-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 24-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-090**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 7 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5103477.006 **Long.:** E: 510598.1467 **Datum:** NAD 1983

Soil Map Unit Name: Williams-Zahl-Parnell complex, 0 to 15 percent **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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
			0	**= Total Cover**		
Sapling/Shrub Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
5.			0	☐		
			0	**= Total Cover**		
Herb Stratum (Plot size:)						
1.	Phalaris arundinacea	Herb	60	☑	60.0%	FACW+
2.	Carex aquatilis	Herb	10	☐	10.0%	OBL
3.	Rumex crispus	Herb	30	☑	30.0%	FACW
4.			0	☐	0.0%	
5.			0	☐	0.0%	
6.			0	☐	0.0%	
7.			0	☐	0.0%	
8.			0	☐	0.0%	
9.			0	☐	0.0%	
10.			0	☐	0.0%	
			100	**= Total Cover**		
Woody Vine Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
			0	**= Total Cover**		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:
OBL species	10	x 1 =	10
FACW species	90	x 2 =	180
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		190 (B)

Prevalence Index = B/A = 1.9

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View South (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-090

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-090 View South 11-24-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 24-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-091**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 7 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 7.0% / 4.0 °

Subregion (LRR): LRR F **Lat.:** N: 5103432.011 **Long.:** E: 510830.4642 **Datum:** NAD 1983

Soil Map Unit Name: Williams-Zahl-Parnell complex, 0 to 15 percent **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.			0	☐	
2.			0	☐	
3.			0	☐	
4.			0	☐	
			0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.			0	☐	
2.			0	☐	
3.			0	☐	
4.			0	☐	
5.			0	☐	
			0	= Total Cover	
Herb Stratum (Plot size:)					
1.	Phalaris arundinacea	Herb	85	☑ 85.0%	FACW+
2.	Carex aquatilis	Herb	15	☐ 15.0%	OBL
3.			0	☐ 0.0%	
4.			0	☐ 0.0%	
5.			0	☐ 0.0%	
6.			0	☐ 0.0%	
7.			0	☐ 0.0%	
8.			0	☐ 0.0%	
9.			0	☐ 0.0%	
10.			0	☐ 0.0%	
			100	= Total Cover	
Woody Vine Stratum (Plot size:)					
1.			0	☐	
2.			0	☐	
			0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15	
FACW species	85	x 2 =	170	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	185	(B)

Prevalence Index = B/A = 1.85

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Southwest (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-091

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-091 View Southwest 11-24-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 09-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-196**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 7 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 5.2% / 3.0 °

Subregion (LRR): LRR F **Lat.:** N: 5103398.989 **Long.:** E: 510094.0402 **Datum:** NAD 1983

Soil Map Unit Name: Williams-Zahl-Parnell complex, 0 to 15 percent **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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0	= Total Cover		
Herb Stratum (Plot size:)					
1. Typha angustifolia	Herb	50	☑	50.0%	OBL
2. Carex aquatilis	Herb	10	☐	10.0%	OBL
3. Carex atherodes	Herb	40	☑	40.0%	OBL
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100	= Total Cover		
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	100	(B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:
Vegetation dominated by hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-196

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches): 12

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-196 View East 12-9-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 09-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-198**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 7 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5103371.93 **Long.:** E: 510537.5751 **Datum:** NAD 1983

Soil Map Unit Name: Williams-Zahl-Parnell complex, 0 to 15 percent **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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0	= Total Cover		
Herb Stratum (Plot size:)					
1. Typha angustifolia	Herb	30	☑	30.0%	OBL
2. Carex aquatilis	Herb	70	☑	70.0%	OBL
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100	= Total Cover		
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	100	(B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Northwest (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-198

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

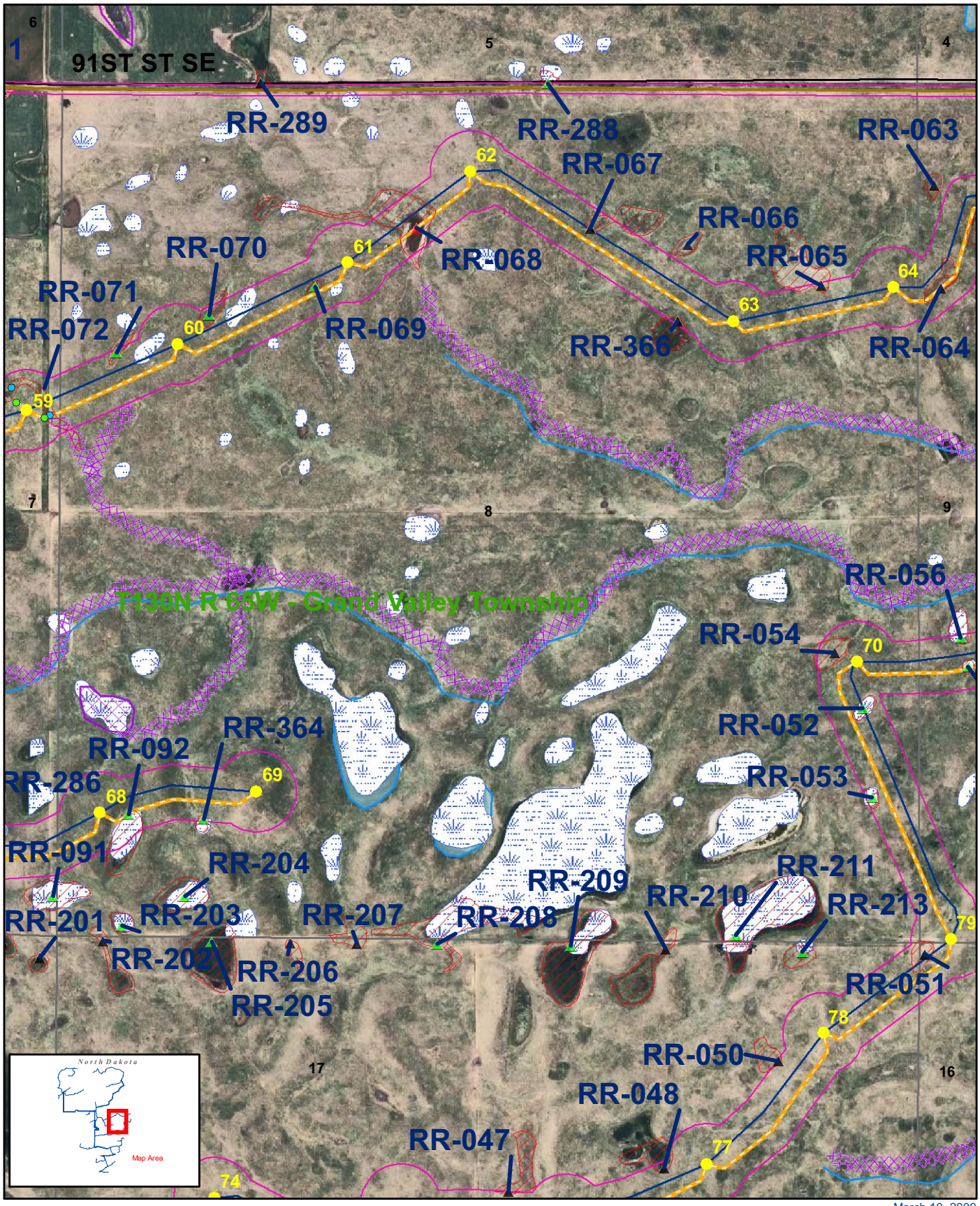
Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-198 View Northwest 12-9-08

TOWNSHIP 130
RANGE 65
SECTION 8

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Grid: NAD 83 UTM Zone 14

1:10,000

Feet
0 250 500 1,000

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data
- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

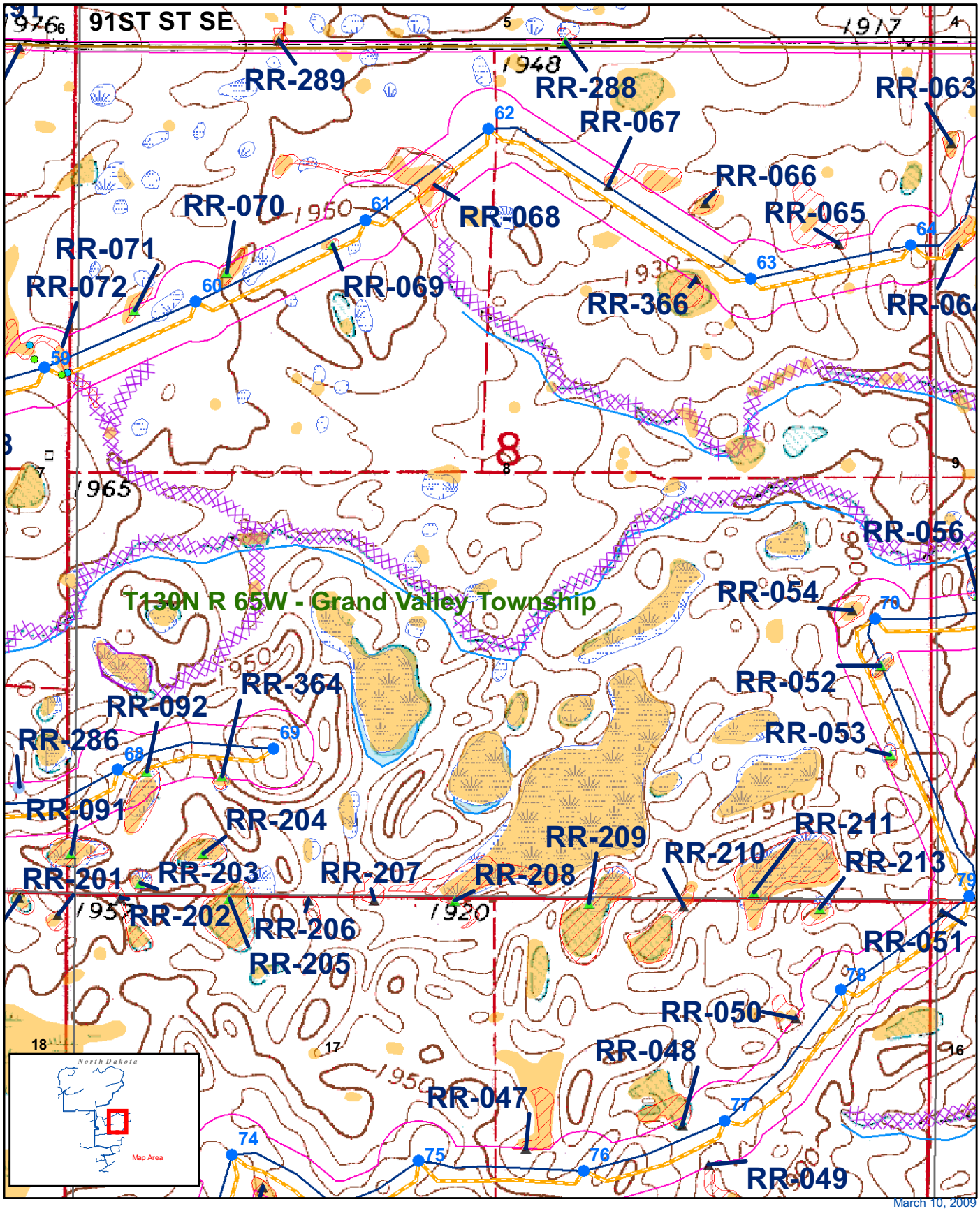
March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Grand Valley Township
Section 8
NAIP Image

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Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- NWI Wetland Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Grand Valley Township
Section 8
Quad Image

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 23-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-052**

Investigator(s): Enter Investigator **Section, Township, Range:** **S** 8 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5103784.916 **Long.:** E: 512362.8127 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Northeast (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-052

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-052 View Northeast 11-23-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 23-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-053**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 8 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 5.2% / 3.0 °

Subregion (LRR): LRR F **Lat.:** N: 5103614.197 **Long.:** E: 512378.9206 **Datum:** NAD 1983

Soil Map Unit Name: Zahl- Williams loams, 6 to 25 percent slope **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-053

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-5	10YR 2/2							
5-18	5Y 4/4							

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

Indicators for Problematic Hydric Soils 3:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-053 View East 11-23-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 23-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-054**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 8 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5103889.219 **Long.:** E: 512298.3392 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent slopes **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		= Total Cover	
Herb Stratum (Plot size:)					
1. Carex aquatilis	Herb	100	☑	100.0%	OBL
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		= Total Cover	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:
Vegetation dominated by hydrophytes. Photos: View North (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-054

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-054 View North 11-23-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 23-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-065**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 8 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5104625.837 **Long.:** E: 512233.9719 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	50	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		50	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 50

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	50	x 1 =	50
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	50 (A)		50 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Livestock in the area had impacted wetland leading to the 50% bare ground. Vegetation dominated by hydrophytes. Photos: View North (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-065

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-065 View North 11-23-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 23-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-066**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 8 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5104661.016 **Long.:** E: 512027.9206 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent 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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0	**= Total Cover**		
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0	**= Total Cover**		
Herb Stratum (Plot size:)					
1. Carex aquatilis	Herb	95	☑	95.0%	OBL
2. Rumex crispus	Herb	5	☐	5.0%	FACW
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100	**= Total Cover**		
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0	**= Total Cover**		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	95	x 1 =	95
FACW species	5	x 2 =	10
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		105 (B)

Prevalence Index = B/A = 1.05

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-066

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-066 View East 11-23-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 23-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-067**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 8 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5104707.346 **Long.:** E: 511917.3988 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent 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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0	**= Total Cover**		
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0	**= Total Cover**		
Herb Stratum (Plot size:)					
1. Carex aquatilis	Herb	95	☑	95.0%	OBL
2. Rumex crispus	Herb	5	☐	5.0%	FACW
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100	**= Total Cover**		
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0	**= Total Cover**		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	95	x 1 =	95
FACW species	5	x 2 =	10
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		105 (B)

Prevalence Index = B/A = 1.05

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View North (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-067

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-067 View North 11-23-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 23-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-068**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 8 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** flat **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5104713.997 **Long.:** E: 511450.5089 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent slopes **NWI classification:** PABF

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:
Vegetation dominated by hydrophytes. Photos: View Northwest (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-068

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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): 14

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-068 View Northwest 11-23-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 23-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-069**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 8 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5104581.88 **Long.:** E: 511324.446 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent slopes **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	100	(B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-069

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-069 View East 11-23-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 23-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-070**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 8 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** flat **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5104535.998 **Long.:** E: 511129.9026 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells loams, 3 to 6 percent **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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		**= Total Cover**	
Herb Stratum (Plot size:)					
1. Carex aquatilis	Herb	40	☑	40.0%	OBL
2. Rumex crispus	Herb	5	☐	5.0%	FACW
3. Phalaris arundinacea	Herb	55	☑	55.0%	FACW+
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		**= Total Cover**	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	40	x 1 =	40
FACW species	60	x 2 =	120
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		160 (B)

Prevalence Index = B/A = 1.6

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View West (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-070

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-070 View West 11-23-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 23-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-071**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 8 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5104468.603 **Long.:** E: 510965.0446 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0	= Total Cover		
Herb Stratum (Plot size:)					
1. Carex aquatilis	Herb	85	☑	85.0%	OBL
2. Rumex crispus	Herb	15	☐	15.0%	FACW
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100	= Total Cover		
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	85	x 1 =	85
FACW species	15	x 2 =	30
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		115 (B)

Prevalence Index = B/A = 1.15

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Southwest (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-071

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/2							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-071 View Southwest 11-23-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 23-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-072-01U**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 8 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** undulating **Slope:** 5.2% / 3.0 °

Subregion (LRR): LRR F **Lat.:** N: 5104355.709 **Long.:** E: 510717.9365 **Datum:** NAD 1983

Soil Map Unit Name: William- Bowbells Loam, 3 to 6 percent slopes **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ○ No ◉

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ○ No ◉

Is the Sampled Area within a Wetland? Yes ○ No ◉

Remarks:
Based on the data collected, this location does not meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Stipa comata	#N/A	100	☑ 100.0%	UPL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	100	x 5 =	500
Column Totals:	100 (A)		500 (B)

Prevalence Index = B/A = 5

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.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:
Vegetation dominated by non-hydrophytes. Photos: View Southeast (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-072-01U

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

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

Aerial Photos

Remarks:

Non-wet data point. No indications of wetland hydrology observed at this site.



RR-072-01U View Southeast 11-23-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 23-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-072-01W**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 8 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5104355.709 **Long.:** E: 510717.9365 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells loams, 3 to 6 percent **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species? Rel.Strat. Cover		Indicator Status
Tree Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
			0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
5.			0	☐		
			0	= Total Cover		
Herb Stratum (Plot size:)						
1.	Phalaris arundinacea	Herb	80	☑	80.0%	FACW+
2.	Carex aquatilis	Herb	20	☑	20.0%	OBL
3.			0	☐	0.0%	
4.			0	☐	0.0%	
5.			0	☐	0.0%	
6.			0	☐	0.0%	
7.			0	☐	0.0%	
8.			0	☐	0.0%	
9.			0	☐	0.0%	
10.			0	☐	0.0%	
			100	= Total Cover		
Woody Vine Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
			0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20	
FACW species	80	x 2 =	160	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	180	(B)

Prevalence Index = B/A = 1.8

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Southeast (Page 1), View Northwest (Page 1), View Northwest (Page 2)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-072-01W

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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): 3

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Wetland - possesses a discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable wat of the United States.



RR-072-01W View Southeast 11-23-08



RR-072-01W View Northwest 11-23-08



RR-072-01W View Northwest 11-23-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 23-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-072-02U**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 8 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** undulating **Slope:** 5.2% / 3.0 °

Subregion (LRR): LRR F **Lat.:** N: 5104355.709 **Long.:** E: 510717.9365 **Datum:** NAD 1983

Soil Map Unit Name: William- Bowbells Loam, 3 to 6 percent slopes **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ○ No ◉

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ○ No ◉

Is the Sampled Area within a Wetland? Yes ○ No ◉

Remarks:
Based on the data collected, this location does not meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Agropyron smithii	Herb	100	☑ 100.0%	FACU
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	100	x 4 =	400
UPL species	0	x 5 =	0
Column Totals:	100 (A)		400 (B)

Prevalence Index = B/A = 4

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.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:
Vegetation dominated by non-hydrophytes. Photos: View Southeast (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-072-02U

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/2							

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

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

Aerial Photos

Remarks:

Non-wet data point. No indications of wetland hydrology observed at this site.



RR-072-02U View Southeast 11-23-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 23-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-072-02W**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 8 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5104355.709 **Long.:** E: 510717.9365 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent slopes **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
			0	**= Total Cover**		
Sapling/Shrub Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
5.			0	☐		
			0	**= Total Cover**		
Herb Stratum (Plot size:)						
1.	Phalaris arundinacea	Herb	80	☑	80.0%	FACW+
2.	Carex aquatilis	Herb	20	☑	20.0%	OBL
3.			0	☐	0.0%	
4.			0	☐	0.0%	
5.			0	☐	0.0%	
6.			0	☐	0.0%	
7.			0	☐	0.0%	
8.			0	☐	0.0%	
9.			0	☐	0.0%	
10.			0	☐	0.0%	
			100	**= Total Cover**		
Woody Vine Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
			0	**= Total Cover**		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	20	x 1 =	20
FACW species	80	x 2 =	160
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		180 (B)

Prevalence Index = B/A = 1.8

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View North (Page 1), View East (Page 1), View West (Page 2)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-072-02W

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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): 3

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Wetland - possesses a discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable wat of the United States.



RR-072-02W View North 11-23-08



RR-072-02W View East 11-23-08



RR-072-02W View West 11-23-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 24-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-092**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 8 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5103528.239 **Long.:** E: 510963.0548 **Datum:** NAD 1983

Soil Map Unit Name: Williams-Zahl-Parnell complex, 0 to 15 percent **NWI classification:** PEMB

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0	= Total Cover		
Herb Stratum (Plot size:)					
1. Carex atherodes	Herb	70	☑	70.0%	OBL
2. Carex aquatilis	Herb	30	☑	30.0%	OBL
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100	= Total Cover		
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	100	(B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:
Vegetation dominated by hydrophytes. Photos: View Southeast (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-092

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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): 3

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-092 View Southeast 11-24-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 09-Dec-08

Applicant/Owner: FPL **State:** CO **Sampling Point:** **RR-204**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 8 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5103429.84 **Long.:** E: 511071.3124 **Datum:** NAD 1983

Soil Map Unit Name: Williams-Zahl-Parnell complex, 0 to 15 percent **NWI classification:** PEMB

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Carex atherodes	Herb	80	☑ 80.0%	OBL
2. Carex aquatilis	Herb	20	☑ 20.0%	OBL
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:
Vegetation dominated by hydrophytes. Photos: View North (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-204

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-204 View North 12-9-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 09-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-207**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 8 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5103356.909 **Long.:** E: 511393.9178 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		= Total Cover	
Herb Stratum (Plot size:)					
1. Carex aquatilis	Herb	100	☑	100.0%	OBL
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		= Total Cover	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:
Vegetation dominated by hydrophytes. Photos: View Southeast (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-207

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-207 View Southeast 12-9-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 09-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-208**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 8 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5103370.487 **Long.:** E: 511565.0989 **Datum:** NAD 1983

Soil Map Unit Name: Southham silt loam **NWI classification:** PEMF

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species? Rel.Strat. Cover		Indicator Status
Tree Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
			0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
5.			0	☐		
			0	= Total Cover		
Herb Stratum (Plot size:)						
1.	Typha angustifolia	Herb	60	☑	60.0%	OBL
2.	Carex aquatilis	Herb	10	☐	10.0%	OBL
3.	Eleocharis palustris	#N/A	30	☑	30.0%	OBL
4.			0	☐	0.0%	
5.			0	☐	0.0%	
6.			0	☐	0.0%	
7.			0	☐	0.0%	
8.			0	☐	0.0%	
9.			0	☐	0.0%	
10.			0	☐	0.0%	
			100	= Total Cover		
Woody Vine Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
			0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	100	(B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Southeast (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-208

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-6	10YR 2/1							
6-18	5Y 2/1							

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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): 36

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-208 View Southeast 12-9-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 09-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-211**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 8 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 5.2% / 3.0 °

Subregion (LRR): LRR F **Lat.:** N: 5103404.815 **Long.:** E: 512183.9710 **Datum:** NAD 1983

Soil Map Unit Name: Southham silt loam **NWI classification:** PEMF

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		= Total Cover	
Herb Stratum (Plot size:)					
1. Eleocharis palustris	#N/A	70	☑	70.0%	OBL
2. Typha angustifolia	Herb	30	☑	30.0%	OBL
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		= Total Cover	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-211

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-6	10YR 2/1							
6-18	5Y 2/1							

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

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

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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): 36

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

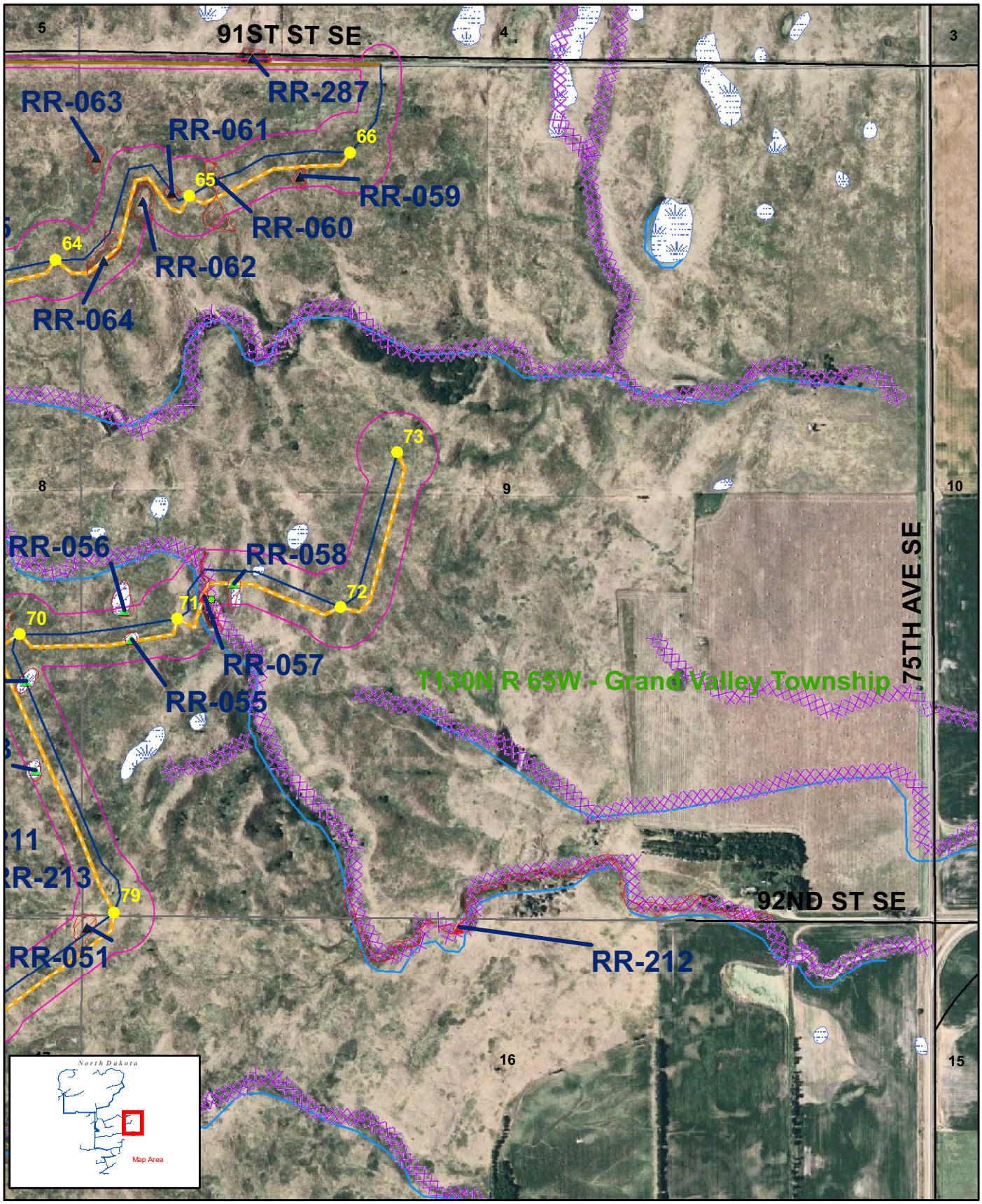
Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-211 View East 12-9-08

TOWNSHIP 130
RANGE 65
SECTION 9

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Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement
- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

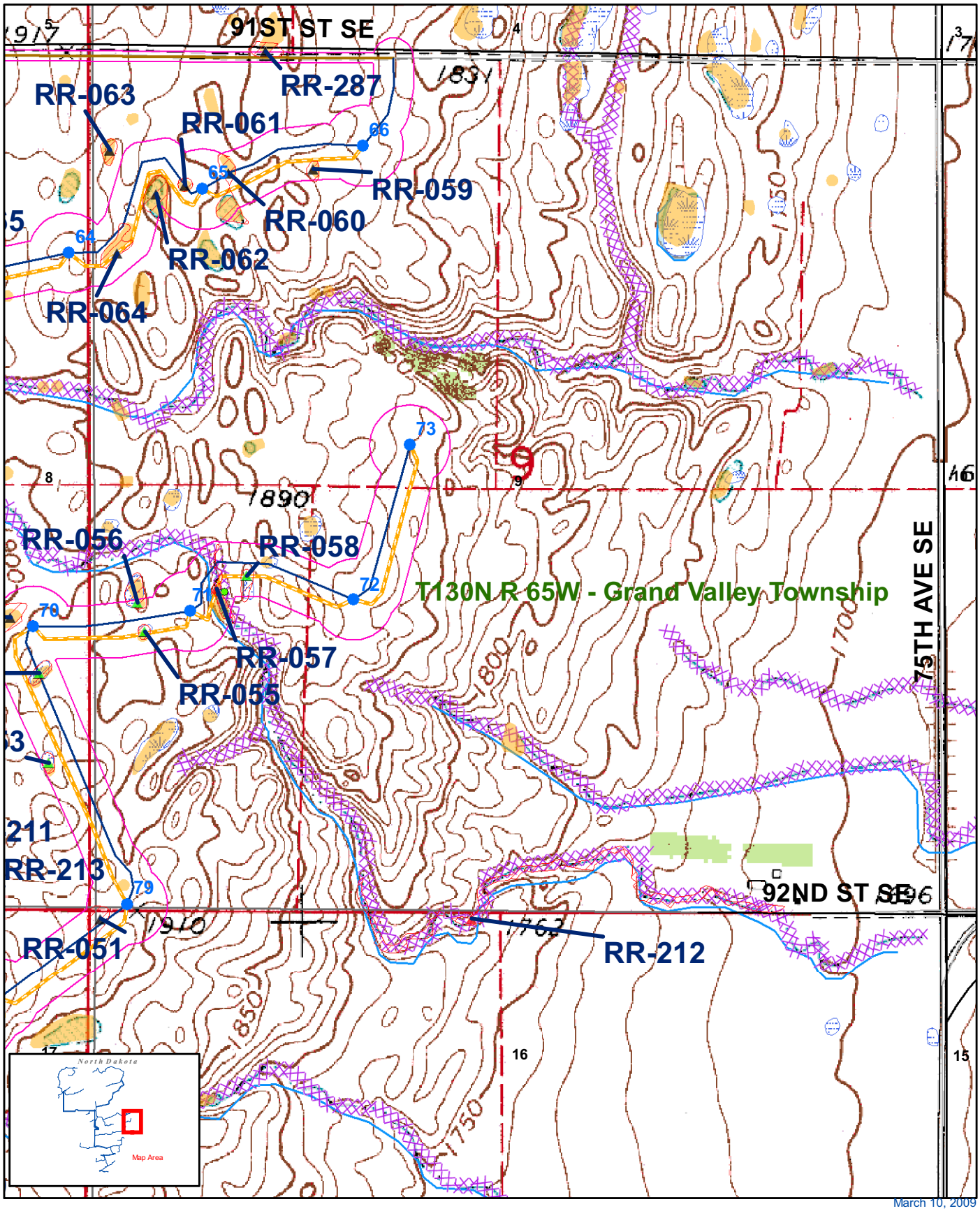
March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Grand Valley Township
Section 9
NAIP Image

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March 10, 2009

Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- NWI Wetland Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Grand Valley Township
Section 9
Quad Image

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 23-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-055**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 9 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5103862.124 **Long.:** E: 512559.4578 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View South (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-055

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-055 View South 11-23-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 23-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-056**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 9 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 4.4% / 2.5 °

Subregion (LRR): LRR F **Lat.:** N: 5103935.749 **Long.:** E: 512544.0181 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View North (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-056

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-056 View North 11-23-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 23-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-057-01U**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 9 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Hillside **Local relief (concave, convex, none):** undulating **Slope:** 26.8% / 15.0 °

Subregion (LRR): LRR F **Lat.:** N: 5103932.396 **Long.:** E: 512705.5336 **Datum:** NAD 1983

Soil Map Unit Name: Zahl- Max Loams, 15 to 60 percent slopes **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	**Is the Sampled Area**
Hydric Soil Present?	Yes ◉	No ○	**within a Wetland?** Yes ○ No ◉
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
Based on the data collected, this location does not meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0	**= Total Cover**		
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0	**= Total Cover**		
Herb Stratum (Plot size:)					
1. Stipa viridula	#N/A	60	☑	60.0%	UPL
2. Agropyron smithii	Herb	40	☑	40.0%	FACU
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100	**= Total Cover**		
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0	**= Total Cover**		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	40	x 4 =	160	
UPL species	60	x 5 =	300	
Column Totals:	100	(A)	460	(B)

Prevalence Index = B/A = 4.6

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.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:

Vegetation dominated by non-hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-057-01U

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-5	10YR 2/2							
5-18	2.5Y 4/4							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

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

Aerial Photos

Remarks:

Non-wet data point. No indications of wetland hydrology observed at this site.



RR-057-01U View East 11-23-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 23-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-057-01W**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 9 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Channel (active) **Local relief (concave, convex, none):** undulating **Slope:** 5.2% / 3.0 °

Subregion (LRR): LRR F **Lat.:** N: 5103932.396 **Long.:** E: 512705.5336 **Datum:** NAD 1983

Soil Map Unit Name: Zahl- Max Loams, 15 to 60 percent slopes **NWI classification:** PABF

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species? Rel.Strat. Cover		Indicator Status
Tree Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
			0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
5.			0	☐		
			0	= Total Cover		
Herb Stratum (Plot size:)						
1.	Carex aquatilis	Herb	60	☑	60.0%	OBL
2.	Typha angustifolia	Herb	5	☐	5.0%	OBL
3.	Phalaris arundinacea	Herb	35	☑	35.0%	FACW+
4.			0	☐	0.0%	
5.			0	☐	0.0%	
6.			0	☐	0.0%	
7.			0	☐	0.0%	
8.			0	☐	0.0%	
9.			0	☐	0.0%	
10.			0	☐	0.0%	
			100	= Total Cover		
Woody Vine Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
			0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	65	x 1 =	65
FACW species	35	x 2 =	70
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		135 (B)

Prevalence Index = B/A = 1.35

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View North (Page 1), View South (Page 1), View West (Page 2)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-057-01W

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-5	10YR 2/2							
5-18	5Y 4/4							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Perennial RPW w/ Wetland Fringe -this area possesses all of the delineative criteria necessary for classification as a wetland under the USACE 198 Wetland Delineation manual. However, it is not classified as a wetland as it possesses the necessary characteristic to classify it as a Water of the U.S. due to the presence of an incised channel, and defined bed and bank. Therefore, it is classified as a perennially flowing relatively permanent waterway.



RR-057-01W View North 11-23-08



RR-057-01W View South 11-23-08



RR-057-01W View West 11-23-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 23-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-058**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 9 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 5.2% / 3.0 °

Subregion (LRR): LRR F **Lat.:** N: 5103952.872 **Long.:** E: 512752.8944 **Datum:** NAD 1983

Soil Map Unit Name: Zahl- Max Loams, 15 to 60 percent 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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View West (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-058

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-5	10YR 2/2							
5-18	5Y 4/4							

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

Indicators for Problematic Hydric Soils 3:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-058 View West 11-23-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 23-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-059**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 9 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5104734.625 **Long.:** E: 512879.1459 **Datum:** NAD 1983

Soil Map Unit Name: Williams-Zahl-Parnell complex, 0 to 15 percent **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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0	= Total Cover		
Herb Stratum (Plot size:)					
1. Carex aquatilis	Herb	100	☑	100.0%	OBL
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100	= Total Cover		
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View West (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-059

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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): 1

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-059 View West 11-23-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 23-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-060**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 9 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5104690.454 **Long.:** E: 512719.8855 **Datum:** NAD 1983

Soil Map Unit Name: Williams-Zahl-Parnell complex, 0 to 15 percent **NWI classification:** PEMB

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
			0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
5.			0	☐		
			0	= Total Cover		
Herb Stratum (Plot size:)						
1.	Phalaris arundinacea	Herb	55	☑	55.0%	FACW+
2.	Carex aquatilis	Herb	45	☑	45.0%	OBL
3.			0	☐	0.0%	
4.			0	☐	0.0%	
5.			0	☐	0.0%	
6.			0	☐	0.0%	
7.			0	☐	0.0%	
8.			0	☐	0.0%	
9.			0	☐	0.0%	
10.			0	☐	0.0%	
			100	= Total Cover		
Woody Vine Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
			0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	45	x 1 =	45
FACW species	55	x 2 =	110
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		155 (B)

Prevalence Index = B/A = 1.55

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Northwest (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-060

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-060 View Northwest 11-23-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 23-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-061**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 9 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 0.9% / 0.5 °

Subregion (LRR): LRR F **Lat.:** N: 5104709.889 **Long.:** E: 512637.2029 **Datum:** NAD 1983

Soil Map Unit Name: Williams-Zahl-Parnell complex, 0 to 15 percent **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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View West (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-061

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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): 1

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-061 View West 11-23-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 23-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-062**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 9 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5104684.678 **Long.:** E: 512583.1491 **Datum:** NAD 1983

Soil Map Unit Name: Williams-Zahl-Parnell complex, 0 to 15 percent **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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0	= Total Cover		
Herb Stratum (Plot size:)					
1. Carex aquatilis	Herb	100	☑	100.0%	OBL
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100	= Total Cover		
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View West (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-062

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-062 View West 11-23-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 23-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-063**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 9 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5104773.876 **Long.:** E: 512463.1788 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		= Total Cover	
Herb Stratum (Plot size:)					
1. Carex aquatilis	Herb	100	☑	100.0%	OBL
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		= Total Cover	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:
Vegetation dominated by hydrophytes. Photos: View West (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-063

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-063 View West 11-23-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 23-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-064**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 9 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5104591.526 **Long.:** E: 512506.9984 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent slopes **NWI classification:** PABE

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		**= Total Cover**	
Herb Stratum (Plot size:)					
1. Carex aquatilis	Herb	60	☑	60.0%	OBL
2. Phalaris arundinacea	Herb	40	☑	40.0%	FACW+
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		**= Total Cover**	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	60	x 1 =	60
FACW species	40	x 2 =	80
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		140 (B)

Prevalence Index = B/A = 1.4

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Southeast (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-064

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

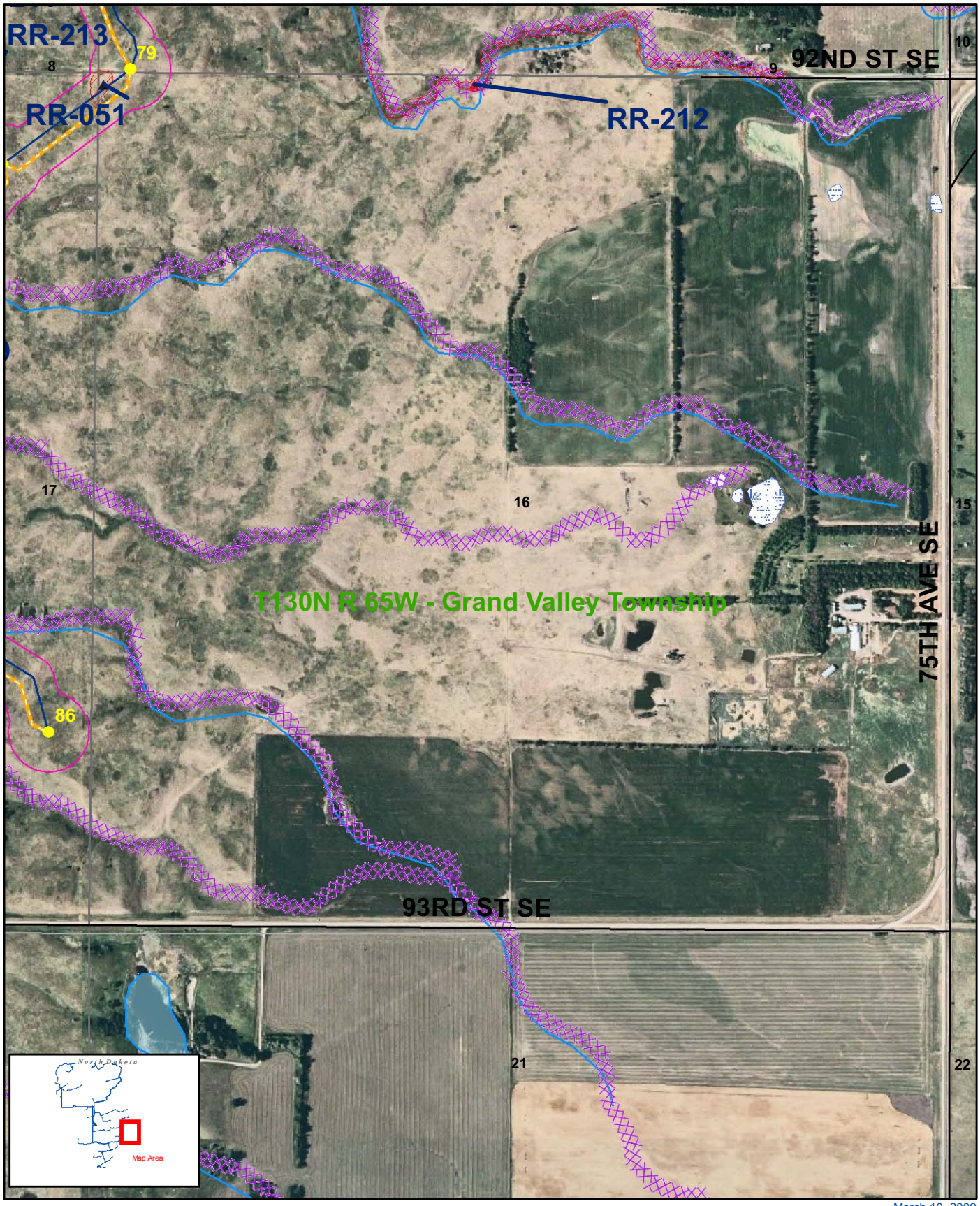
Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-064 View Southeast 11-23-08

TOWNSHIP 130
RANGE 65
SECTION 16

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Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

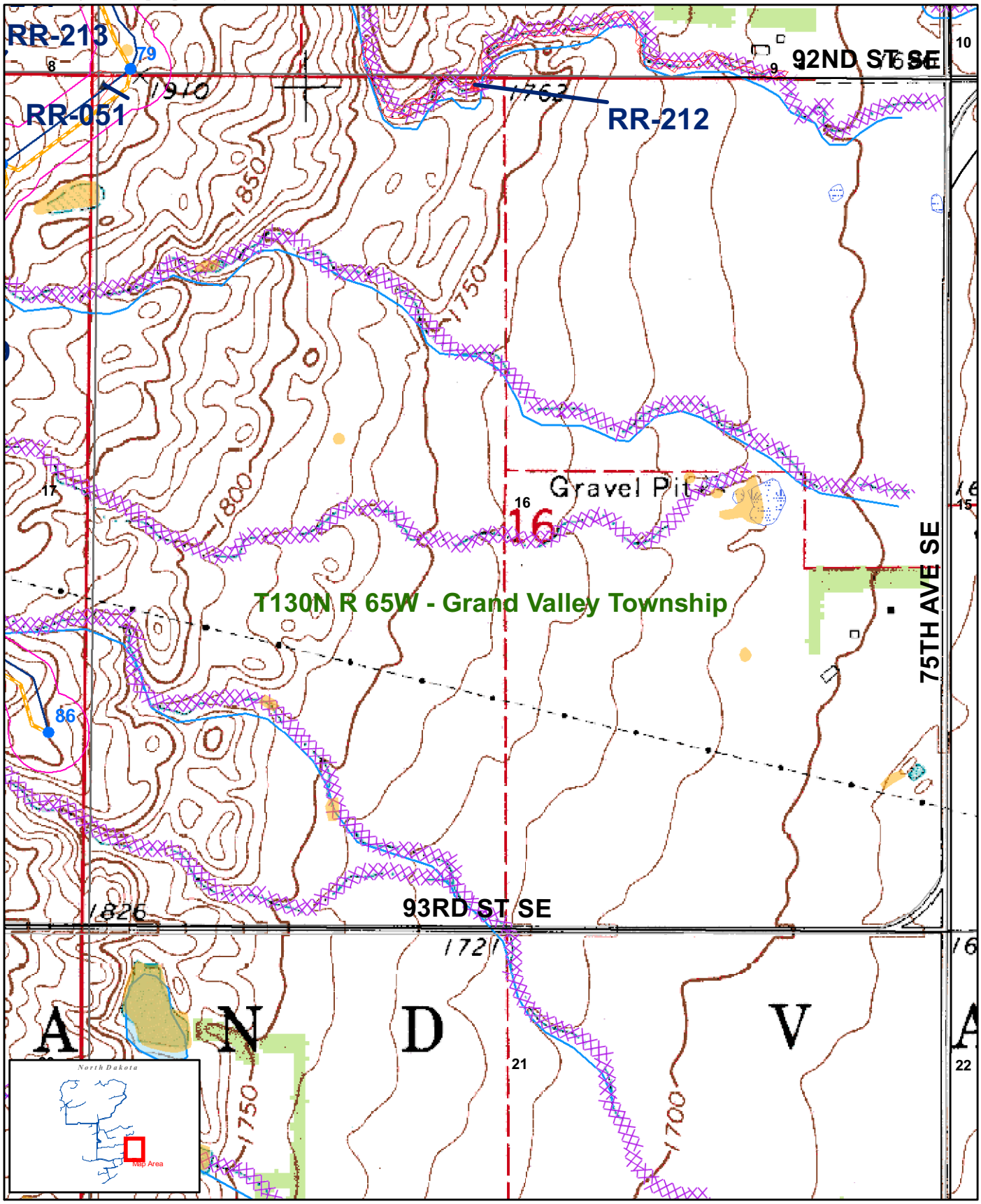
March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Grand Valley Township
Section 16
NAIP Image

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March 10, 2009

Grid: NAD 83 UTM Zone 14

1:10,000

Feet
0 250 500 1,000

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data
- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- NWI Wetland Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Grand Valley Township
Section 16
Quad Image

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 21-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-012**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 16 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5102172.391 **Long.:** E: 512015.801 **Datum:** NAD 1983

Soil Map Unit Name: Zahl- Williams loams, 6 to 25 percent slope **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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		= Total Cover	
Herb Stratum (Plot size:)					
1. Carex aquatilis	Herb	100	☑	100.0%	OBL
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		= Total Cover	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:
Vegetation dominated by hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-012

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-5	10YR 2/2							
5-18	2.5Y 4/4							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

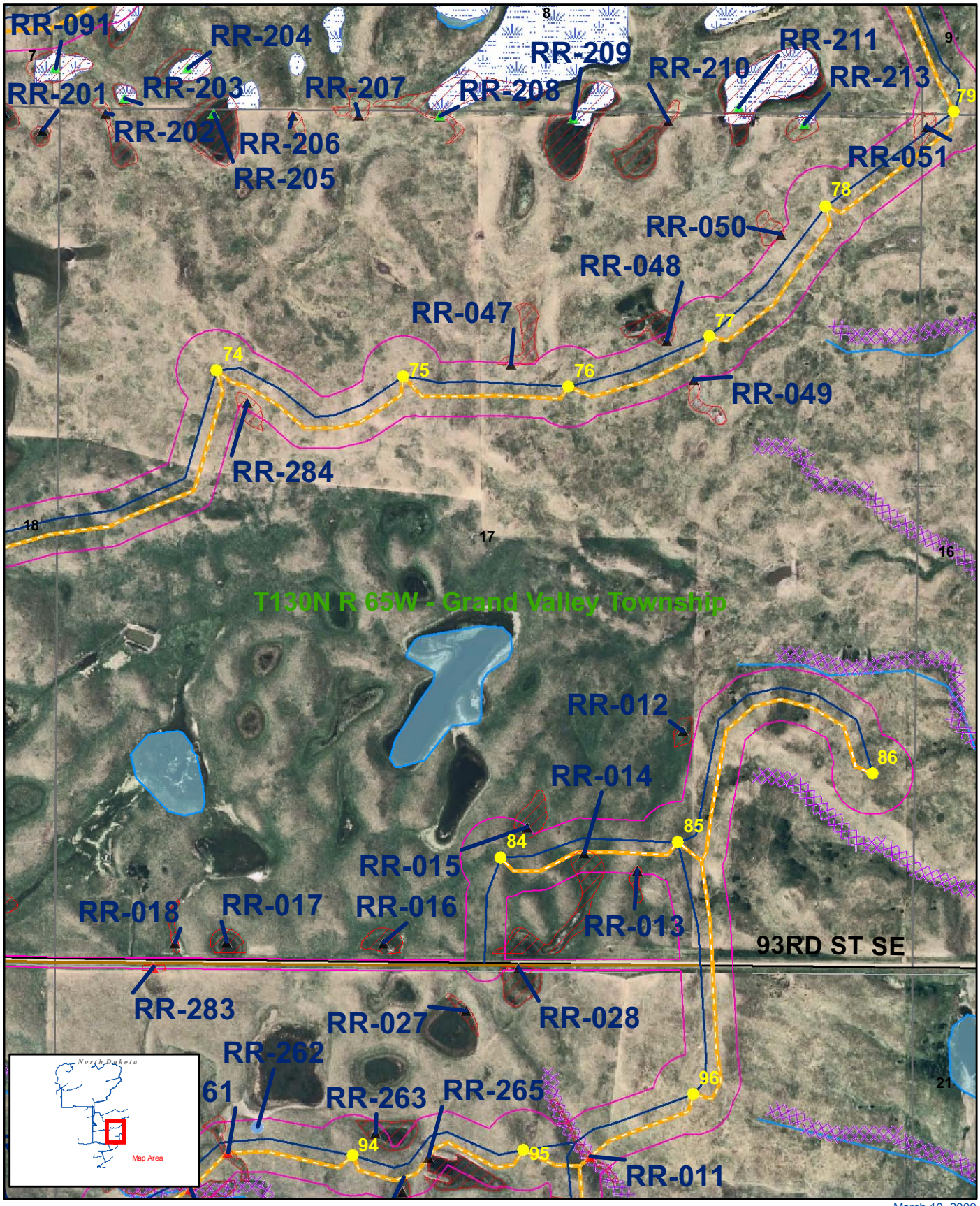
Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-012 View East 11-21-08

TOWNSHIP 130
RANGE 65
SECTION 17

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Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

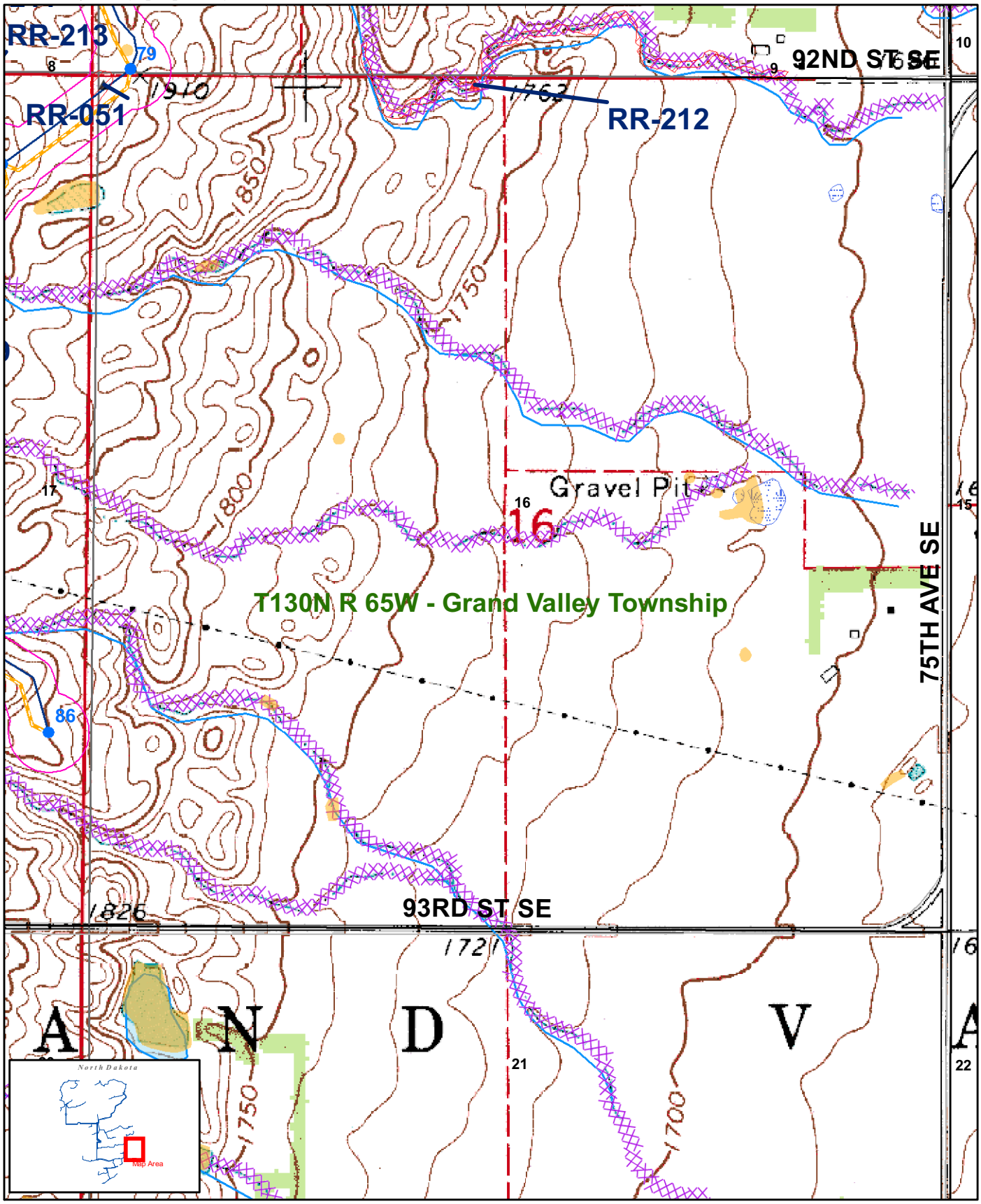
March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Grand Valley Township
Section 17
NAIP Image

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March 10, 2009

Grid: NAD 83 UTM Zone 14

1:10,000

Feet
0 250 500 1,000

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data
- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- NWI Wetland Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Grand Valley Township
Section 16
Quad Image

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 21-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-013**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 17 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5101885.534 **Long.:** E: 511926.9457 **Datum:** NAD 1983

Soil Map Unit Name: Zahl- Williams loams, 6 to 25 percent slope **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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		= Total Cover	
Herb Stratum (Plot size:)					
1. Carex aquatilis	Herb	100	☑	100.0%	OBL
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		= Total Cover	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	100	(B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View South (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-013

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-5	10YR 2/2							
5-18	2.5Y 4/4							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-013 View South 11-21-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 21-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-014**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 17 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.2% / 0.7 °

Subregion (LRR): LRR F **Lat.:** N: 5101833.743 **Long.:** E: 511788.8665 **Datum:** NAD 1983

Soil Map Unit Name: Tonka Silt Loams, 0 to 1 percent slopes **NWI classification:** PEMF

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species? Rel.Strat. Cover		Indicator Status
Tree Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
			0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
5.			0	☐		
			0	= Total Cover		
Herb Stratum (Plot size:)						
1.	Carex aquatilis	Herb	70	☑	70.0%	OBL
2.	Typha angustifolia	Herb	30	☑	30.0%	OBL
3.			0	☐	0.0%	
4.			0	☐	0.0%	
5.			0	☐	0.0%	
6.			0	☐	0.0%	
7.			0	☐	0.0%	
8.			0	☐	0.0%	
9.			0	☐	0.0%	
10.			0	☐	0.0%	
			100	= Total Cover		
Woody Vine Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
			0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	100	(B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View South (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-014

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-13	10YR 2/1							
13-18	10YR 3/1							

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

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

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-014 View South 11-21-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 21-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-015**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 17 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 2.6% / 1.5 °

Subregion (LRR): LRR F **Lat.:** N: 5102010.11 **Long.:** E: 511728.8999 **Datum:** NAD 1983

Soil Map Unit Name: Zahl- Williams loams, 6 to 25 percent slope **NWI classification:** PEMF

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Typha angustifolia	Herb	30	☑ 30.0%	OBL
2. Carex aquatilis	Herb	70	☑ 70.0%	OBL
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View West (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-015

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-5	10YR 2/2							
5-18	2.5Y 4/4							

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-015 View West 11-21-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 21-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-016**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 17 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5101777.361 **Long.:** E: 511447.8653 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Typha angustifolia	Herb	40	☑ 40.0%	OBL
2. Carex aquatilis	Herb	60	☑ 60.0%	OBL
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:
Vegetation dominated by hydrophytes. Photos: View West (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-016

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-016 View West 11-21-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 21-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-017**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 17 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5101775.67 **Long.:** E: 511152.9035 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent slopes **NWI classification:** PEMF

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.			0	☐	
2.			0	☐	
3.			0	☐	
4.			0	☐	
			0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.			0	☐	
2.			0	☐	
3.			0	☐	
4.			0	☐	
5.			0	☐	
			0	= Total Cover	
Herb Stratum (Plot size:)					
1.	Carex aquatilis	Herb	95	☑ 95.0%	OBL
2.	Typha angustifolia	Herb	5	☐ 5.0%	OBL
3.			0	☐ 0.0%	
4.			0	☐ 0.0%	
5.			0	☐ 0.0%	
6.			0	☐ 0.0%	
7.			0	☐ 0.0%	
8.			0	☐ 0.0%	
9.			0	☐ 0.0%	
10.			0	☐ 0.0%	
			100	= Total Cover	
Woody Vine Stratum (Plot size:)					
1.			0	☐	
2.			0	☐	
			0	= Total Cover	

% Bare Ground in Herb Stratum

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:
Vegetation dominated by hydrophytes. Photos: View West (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-017

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches): 12

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-017 View West 11-21-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 21-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-018**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 17 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Channel (active) **Local relief (concave, convex, none):** undulating **Slope:** 5.2% / 3.0 °

Subregion (LRR): LRR F **Lat.:** N: 5101802.849 **Long.:** E: 511051.5545 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent slopes **NWI classification:** PEMF

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View South (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-018

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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): 3

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-018 View South 11-21-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 22-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-033**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 17 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5104534.368 **Long.:** E: 509238.0443 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent slopes **NWI classification:** PEMA

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:
Based on the data collected, this location does not meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0	= Total Cover		
Herb Stratum (Plot size:)					
1. Triticum x aestivum	#N/A	90	☑	90.0%	UPL
2. Rumex crispus	Herb	10	☐	10.0%	FACW
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100	= Total Cover		
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	90	x 5 =	450
Column Totals:	100 (A)		470 (B)

Prevalence Index = B/A = 4.7

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.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:
Vegetation dominated by non-hydrophytes. Photos: View Southeast (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-033

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Nothing Evident, Farmed Through = Site shows no evident signs of a typical hydrophitic vegetative community, and is presently or has recently been farmed.



RR-033 View Southeast 11-22-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 23-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-047**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 17 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 2.6% / 1.5 °

Subregion (LRR): LRR F **Lat.:** N: 5102919.794 **Long.:** E: 511717.5682 **Datum:** NAD 1983

Soil Map Unit Name: Tonka Silt Loams, 0 to 1 percent slopes **NWI classification:** PABE

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species? Rel.Strat. Cover		Indicator Status
Tree Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
			0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
5.			0	☐		
			0	= Total Cover		
Herb Stratum (Plot size:)						
1.	Carex aquatilis	Herb	95	☑	95.0%	OBL
2.	Rumex crispus	Herb	5	☐	5.0%	FACW
3.			0	☐	0.0%	
4.			0	☐	0.0%	
5.			0	☐	0.0%	
6.			0	☐	0.0%	
7.			0	☐	0.0%	
8.			0	☐	0.0%	
9.			0	☐	0.0%	
10.			0	☐	0.0%	
			100	= Total Cover		
Woody Vine Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
			0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	95	x 1 =	95
FACW species	5	x 2 =	10
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		105 (B)

Prevalence Index = B/A = 1.05

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View West (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-047

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-13	10YR 2/1							
13-18	10YR 3/1							

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

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

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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): 1

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-047 View West 11-23-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 23-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-048**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 17 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5102938.128 **Long.:** E: 511960.0417 **Datum:** NAD 1983

Soil Map Unit Name: Zahl- Williams loams, 6 to 25 percent slope **NWI classification:** PABE

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species? Rel.Strat. Cover		Indicator Status
Tree Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
			0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
5.			0	☐		
			0	= Total Cover		
Herb Stratum (Plot size:)						
1.	Typha angustifolia	Herb	95	☑	95.0%	OBL
2.	Carex aquatilis	Herb	5	☐	5.0%	OBL
3.			0	☐	0.0%	
4.			0	☐	0.0%	
5.			0	☐	0.0%	
6.			0	☐	0.0%	
7.			0	☐	0.0%	
8.			0	☐	0.0%	
9.			0	☐	0.0%	
10.			0	☐	0.0%	
			100	= Total Cover		
Woody Vine Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
			0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	100	(B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View North (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-048

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-5	10YR 2/2							
5-18	2.5Y 4/4							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches): 12

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-048 View North 11-23-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 23-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-049**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 17 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5102791.452 **Long.:** E: 512056.4585 **Datum:** NAD 1983

Soil Map Unit Name: Zahl- Williams loams, 6 to 25 percent slope **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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		= Total Cover	
Herb Stratum (Plot size:)					
1. Carex aquatilis	Herb	100	☑	100.0%	OBL
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		= Total Cover	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Northeast (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-049

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-5	10YR 2/2							
5-18	2.5Y 4/4							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-049 View Northeast 11-23-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 23-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-050**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 17 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 2.6% / 1.5 °

Subregion (LRR): LRR F **Lat.:** N: 5103215.236 **Long.:** E: 512178.1251 **Datum:** NAD 1983

Soil Map Unit Name: Williams Loams, 3 to 9 percent slopes, very stony **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	90	☑ 94.7%	OBL
2. Rumex crispus	Herb	5	☐ 5.3%	FACW
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		95	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	90	x 1 =	90
FACW species	5	x 2 =	10
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	95 (A)		100 (B)

Prevalence Index = B/A = 1.053

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View North (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-050

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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): 1

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-050 View North 11-23-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 23-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-051**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 17 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5103316.234 **Long.:** E: 512470.2179 **Datum:** NAD 1983

Soil Map Unit Name: Williams Loams, 3 to 9 percent slopes, very stony **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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		**= Total Cover**	
Herb Stratum (Plot size:)					
1. Carex aquatilis	Herb	70	☑	70.0%	OBL
2. Phalaris arundinacea	Herb	30	☑	30.0%	FACW+
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		**= Total Cover**	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	70	x 1 =	70
FACW species	30	x 2 =	60
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		130 (B)

Prevalence Index = B/A = 1.3

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Northwest (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-051

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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): 1

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-051 View Northwest 11-23-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 09-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-202**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 17 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 5.2% / 3.0 °

Subregion (LRR): LRR F **Lat.:** N: 5103293.128 **Long.:** E: 510944.8784 **Datum:** NAD 1983

Soil Map Unit Name: Williams-Zahl-Parnell complex, 0 to 15 percent **NWI classification:** PEMB

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0	= Total Cover		
Herb Stratum (Plot size:)					
1. Carex atherodes	Herb	30	☑	30.0%	OBL
2. Carex aquatilis	Herb	70	☑	70.0%	OBL
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100	= Total Cover		
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	100	(B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:
Vegetation dominated by hydrophytes. Photos: View South (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-202

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-202 View South 12-9-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 09-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-205**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 17 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 5.2% / 3.0 °

Subregion (LRR): LRR F **Lat.:** N: 5103312.418 **Long.:** E: 511130.3581 **Datum:** NAD 1983

Soil Map Unit Name: Southham silt loam **NWI classification:** PEMF

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species? Rel.Strat. Cover		Indicator Status
Tree Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
			0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
5.			0	☐		
			0	= Total Cover		
Herb Stratum (Plot size:)						
1.	Typha angustifolia	Herb	95	☑	95.0%	OBL
2.	Carex aquatilis	Herb	5	☐	5.0%	OBL
3.			0	☐	0.0%	
4.			0	☐	0.0%	
5.			0	☐	0.0%	
6.			0	☐	0.0%	
7.			0	☐	0.0%	
8.			0	☐	0.0%	
9.			0	☐	0.0%	
10.			0	☐	0.0%	
			100	= Total Cover		
Woody Vine Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
			0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	100	(B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View South (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-205

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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): 24

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-205 View South 12-9-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 09-Dec-08

Applicant/Owner: FPL **State:** CO **Sampling Point:** **RR-206**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 17 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 5.2% / 3.0 °

Subregion (LRR): LRR F **Lat.:** N: 5103312.957 **Long.:** E: 511814.4082 **Datum:** NAD 1983

Soil Map Unit Name: Williams-Zahl-Parnell complex, 0 to 15 percent **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Southeast (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-206

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-206 View Southeast 12-9-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 09-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-209**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 17 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5102312.597 **Long.:** E: 511815.4082 **Datum:** NAD 1983

Soil Map Unit Name: Zahl- Williams loams, 6 to 25 percent slope **NWI classification:** PABE

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover		Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0	= Total Cover		
Herb Stratum (Plot size:)					
1. Typha angustifolia	Herb	50	☑	50.0%	OBL
2. Eleocharis palustris	#N/A	50	☑	50.0%	OBL
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100	= Total Cover		
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	100	(B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View South (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-209

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-5	10YR 2/2							
5-18	2.5Y 4/4							

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-209 View South 12-9-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 09-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-210**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 17 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Swale **Local relief (concave, convex, none):** undulating **Slope:** 5.2% / 3.0 °

Subregion (LRR): LRR F **Lat.:** N: 5103276.383 **Long.:** E: 511940.4957 **Datum:** NAD 1983

Soil Map Unit Name: Zahl- Williams loams, 6 to 25 percent slope **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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		**= Total Cover**	
Herb Stratum (Plot size:)					
1. Carex aquatilis	Herb	100	☑	100.0%	OBL
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		**= Total Cover**	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-210

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-5	10YR 2/1							
5-18	2.5Y 2/1							

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

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

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-210 View East 12-9-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 09-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-213**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 17 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5103315.263 **Long.:** E: 512239.1225 **Datum:** NAD 1983

Soil Map Unit Name: Williams Loams, 3 to 9 percent slopes, very stony **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View North (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-213

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

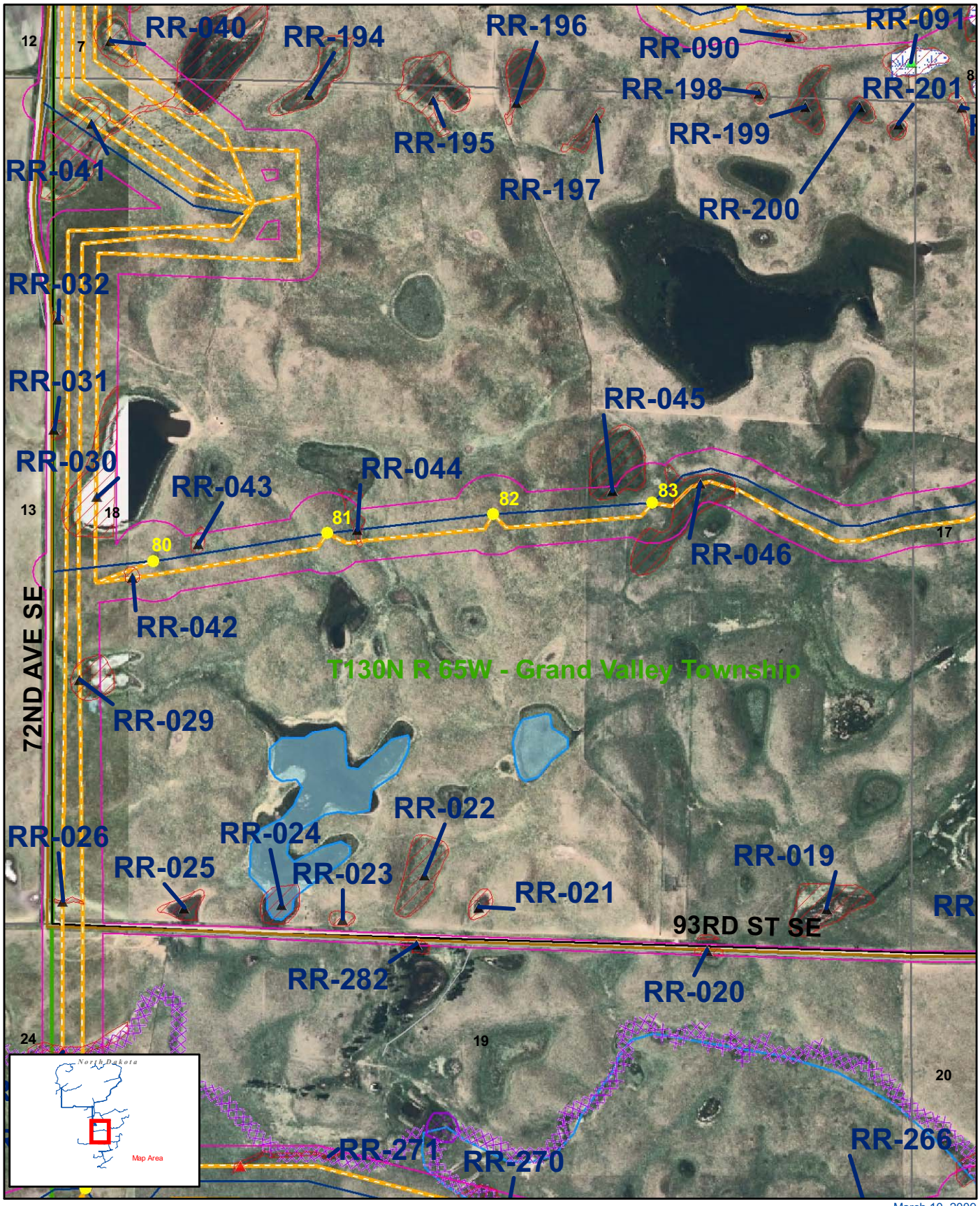
Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-213 View North 12-9-08

TOWNSHIP 130
RANGE 65
SECTION 18

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Grid: NAD 83 UTM Zone 14

1:10,000

Feet
0 250 500 1,000

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data
- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

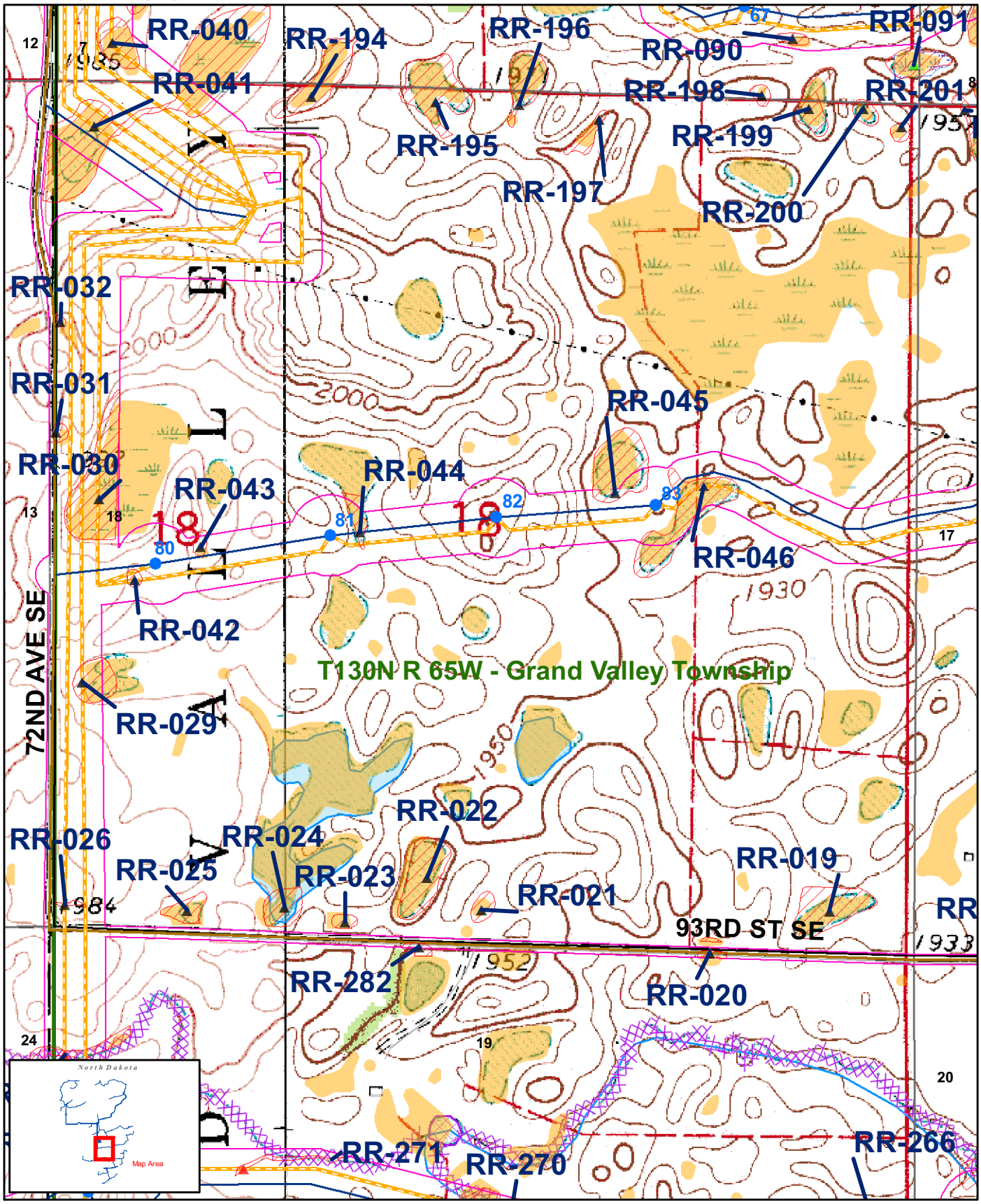
March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Grand Valley Township
Section 18
NAIP Image

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March 10, 2009

Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- NWI Wetland Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Grand Valley Township
Section 18
Quad Image

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 21-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-019**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 18 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5101833.12 **Long.:** E: 510665.7749 **Datum:** NAD 1983

Soil Map Unit Name: Hamerly-Tonka-Parnell complex, 0 to 3 percent **NWI classification:** PEMB

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Typha angustifolia	Herb	80	☑ 80.0%	OBL
2. Carex aquatilis	Herb	20	☑ 20.0%	OBL
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-019

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/1							
7-18	2.5Y 5/4							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-019 View East 11-21-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 21-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-020**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 18 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5101773.768 **Long.:** E: 510442.1824 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Typha angustifolia	Herb	75	☑ 75.0%	OBL
2. Carex aquatilis	Herb	25	☑ 25.0%	OBL
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Southeast (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-020

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-020 View Southeast 11-21-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 21-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-021**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 18 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5101835.516 **Long.:** E: 510012.6695 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent slopes **NWI classification:** PEMB

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View North (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-021

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-021 View North 11-21-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 21-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-022**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 18 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 2.6% / 1.5 °

Subregion (LRR): LRR F **Lat.:** N: 5101893.255 **Long.:** E: 509899.3923 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent 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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0	**= Total Cover**		
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0	**= Total Cover**		
Herb Stratum (Plot size:)					
1. Carex aquatilis	Herb	50	☑	50.0%	OBL
2. Carex atherodes	Herb	50	☑	50.0%	OBL
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100	**= Total Cover**		
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0	**= Total Cover**		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Northwest (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-022

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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): 3

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-022 View Northwest 11-21-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 21-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-023**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 18 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5101809.103 **Long.:** E: 509750.3421 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View South (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-023

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-023 View South 11-21-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 21-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-024**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 18 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 4.4% / 2.5 °

Subregion (LRR): LRR F **Lat.:** N: 5101835.406 **Long.:** E: 509634.4558 **Datum:** NAD 1983

Soil Map Unit Name: Hamerly-Tonka-Parnell complex, 0 to 3 percent **NWI classification:** PEMF

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Typha angustifolia	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View West (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-024

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/1							
7-18	2.5Y 5/4							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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): 24

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-024 View West 11-21-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 21-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-025**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 18 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5101831.337 **Long.:** E: 509452.8382 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent slopes **NWI classification:** PEMB

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		= Total Cover	
Herb Stratum (Plot size:)					
1. Carex aquatilis	Herb	100	☑	100.0%	OBL
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		= Total Cover	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-025

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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): 3

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-025 View East 11-21-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 21-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-026**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 18 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5101842.062 **Long.:** E: 509234.208 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:

Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0	= Total Cover		
Herb Stratum (Plot size:)					
1. Carex aquatilis	Herb	100	☑	100.0%	OBL
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100	= Total Cover		
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View West (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-026

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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): 1.5

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-026 View West 11-21-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 21-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-029**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 18 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5102262.765 **Long.:** E: 509279.0286 **Datum:** NAD 1983

Soil Map Unit Name: William- Bowbells Loam, 3 to 6 percent slopes **NWI classification:** PEMB

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-029

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-029 View East 11-21-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 21-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-030**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 18 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5102634.586 **Long.:** E: 509285.4015 **Datum:** NAD 1983

Soil Map Unit Name: Southham silt loam **NWI classification:** PEMF

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	90	☑ 90.0%	OBL
2. Typha angustifolia	Herb	10	☐ 10.0%	OBL
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-030

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-6	10YR 2/1							
6-18	5Y 2/1							

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

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

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

- ☐ 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): 24

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-030 View East 11-21-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 21-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-031**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 18 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 5.2% / 3.0 °

Subregion (LRR): LRR F **Lat.:** N: 5102733.774 **Long.:** E: 509213.236 **Datum:** NAD 1983

Soil Map Unit Name: Zahl- Williams loam, 6 to 25 percent slope **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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Phalaris arundinacea	Herb	100	☑ 100.0%	FACW+
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	100	x 2 =	200
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		200 (B)

Prevalence Index = B/A = 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)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-031

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-5	10YR 2/2							
5-18	2.5Y 4/4							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-031 View East 11-21-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 21-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-032**

Investigator(s): Enter Investigator **Section, Township, Range:** **S** 18 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 5.2% / 3.0 °

Subregion (LRR): LRR F **Lat.:** N:5102943.398 **Long.:** E: 509214.2612 **Datum:** NAD 1983

Soil Map Unit Name: Zahl- Williams loam, 6 to 25 percent slope **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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-032

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-5	10YR 2/2							
5-18	2.5Y 4/4							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-032 View East 11-21-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 22-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-042**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 18 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 5.2% / 3.0 °

Subregion (LRR): LRR F **Lat.:** N: 5102456.813 **Long.:** E: 509353.4717 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Southeast (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-042

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils [3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-042 View Southeast 11-22-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 22-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-043**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 18 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 5.2% / 3.0 °

Subregion (LRR): LRR F **Lat.:** N: 5102521.935 **Long.:** E: 509478.7371 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent 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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Northeast (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-043

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two requ

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-043 View Northeast 11-22-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 22-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-044**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** S 18 T R 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.0% / 1.7 °

Subregion (LRR): LRR F **Lat.:** N: 5102575.747 **Long.:** E: 509773.7149 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent slopes **NWI classification:** PEMF

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
			0	**= Total Cover**		
Sapling/Shrub Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
5.			0	☐		
			0	**= Total Cover**		
Herb Stratum (Plot size:)						
1.	Typha angustifolia	Herb	90	☑	90.0%	OBL
2.	Carex aquatilis	Herb	10	☐	10.0%	OBL
3.			0	☐	0.0%	
4.			0	☐	0.0%	
5.			0	☐	0.0%	
6.			0	☐	0.0%	
7.			0	☐	0.0%	
8.			0	☐	0.0%	
9.			0	☐	0.0%	
10.			0	☐	0.0%	
			100	**= Total Cover**		
Woody Vine Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
			0	**= Total Cover**		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	100	(B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-044

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-044 View East 11-22-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 23-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-045**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 18 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 0.9% / 0.5 °

Subregion (LRR): LRR F **Lat.:** N: 5102668.33 **Long.:** E: 510271.5357 **Datum:** NAD 1983

Soil Map Unit Name: Southham silt 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Typha angustifolia	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Northeast (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-045

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-6	10YR 2/1							
6-18	5Y 2/1							

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-045 View Northeast 11-23-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 23-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-046**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 18 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.2% / 0.7 °

Subregion (LRR): LRR F **Lat.:** N: 5102569.317 **Long.:** E: 510390.0065 **Datum:** NAD 1983

Soil Map Unit Name: William- Bowbells Loam, 3 to 6 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0	= Total Cover		
Herb Stratum (Plot size:)					
1. Carex atherodes	Herb	75	☑	75.0%	OBL
2. Typha angustifolia	Herb	25	☑	25.0%	OBL
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100	= Total Cover		
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	100	(B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Northwest (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-046

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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): 3

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-046 View Northwest 11-23-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 08-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-194**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 18 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** undulating **Slope:** 5.2% / 3.0 °

Subregion (LRR): LRR F **Lat.:** N: 5103400.272 **Long.:** E: 509704.852 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species? Rel.Strat. Cover		Indicator Status
Tree Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
			0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
5.			0	☐		
			0	= Total Cover		
Herb Stratum (Plot size:)						
1.	Typha angustifolia	Herb	40	☑	40.0%	OBL
2.	Carex atherodes	Herb	35	☑	35.0%	OBL
3.	Carex aquatilis	Herb	25	☑	25.0%	OBL
4.			0	☐	0.0%	
5.			0	☐	0.0%	
6.			0	☐	0.0%	
7.			0	☐	0.0%	
8.			0	☐	0.0%	
9.			0	☐	0.0%	
10.			0	☐	0.0%	
			100	= Total Cover		
Woody Vine Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
			0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	100	(B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View North (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-194

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-194 View North 12-8-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 09-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-195**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 18 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5103381.506 **Long.:** E: 509922.0744 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.			0	☐	
2.			0	☐	
3.			0	☐	
4.			0	☐	
			0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.			0	☐	
2.			0	☐	
3.			0	☐	
4.			0	☐	
5.			0	☐	
			0	= Total Cover	
Herb Stratum (Plot size:)					
1.	Typha angustifolia	Herb	60	☑ 60.0%	OBL
2.	Carex aquatilis	Herb	15	☐ 15.0%	OBL
3.	Carex atherodes	Herb	25	☑ 25.0%	OBL
4.			0	☐ 0.0%	
5.			0	☐ 0.0%	
6.			0	☐ 0.0%	
7.			0	☐ 0.0%	
8.			0	☐ 0.0%	
9.			0	☐ 0.0%	
10.			0	☐ 0.0%	
			100	= Total Cover	
Woody Vine Stratum (Plot size:)					
1.			0	☐	
2.			0	☐	
			0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	100	(B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-195

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-195 View East 12-9-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 09-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-197**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 18 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5103292.259 **Long.:** E: 510209.4794 **Datum:** NAD 1983

Soil Map Unit Name: Williams-Zahl-Parnell complex, 0 to 15 percent **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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0	= Total Cover		
Herb Stratum (Plot size:)					
1. Typha angustifolia	Herb	5	☐	5.0%	OBL
2. Carex aquatilis	Herb	95	☑	95.0%	OBL
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100	= Total Cover		
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	100	(B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Southeast (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-197

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-197 View Southeast 12-9-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 09-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-199**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 18 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5103354.057 **Long.:** E: 510636.5574 **Datum:** NAD 1983

Soil Map Unit Name: Williams-Zahl-Parnell complex, 0 to 15 percent **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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
			0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
5.			0	☐		
			0	= Total Cover		
Herb Stratum (Plot size:)						
1.	Typha angustifolia	Herb	30	☑	30.0%	OBL
2.	Phalaris arundinacea	Herb	15	☐	15.0%	FACW+
3.	Carex aquatilis	Herb	20	☑	20.0%	OBL
4.	Carex atherodes	Herb	35	☑	35.0%	OBL
5.			0	☐	0.0%	
6.			0	☐	0.0%	
7.			0	☐	0.0%	
8.			0	☐	0.0%	
9.			0	☐	0.0%	
10.			0	☐	0.0%	
			100	= Total Cover		
Woody Vine Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
			0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	85	x 1 =	85	
FACW species	15	x 2 =	30	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	115	(B)

Prevalence Index = B/A = 1.15

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-199

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-199 View East 12-9-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 09-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-200**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 18 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 5.2% / 3.0 °

Subregion (LRR): LRR F **Lat.:** N: 5103338.045 **Long.:** E: 510734.8681 **Datum:** NAD 1983

Soil Map Unit Name: Williams-Zahl-Parnell complex, 0 to 15 percent **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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		= Total Cover	
Herb Stratum (Plot size:)					
1. Typha angustifolia	Herb	70	☑	70.0%	OBL
2. Carex atherodes	Herb	20	☑	20.0%	OBL
3. Phalaris arundinacea	Herb	10	☐	10.0%	FACW+
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		= Total Cover	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	90	x 1 =	90
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		110 (B)

Prevalence Index = B/A = 1.1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Southeast (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-200

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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): 3

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-200 View Southeast 12-9-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 09-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-201**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 18 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5103301.487 **Long.:** E: 510801.4066 **Datum:** NAD 1983

Soil Map Unit Name: Williams-Zahl-Parnell complex, 0 to 15 percent **NWI classification:** PEMB

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		= Total Cover	
Herb Stratum (Plot size:)					
1. Carex atherodes	Herb	80	☑	80.0%	OBL
2. Carex aquatilis	Herb	20	☑	20.0%	OBL
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		= Total Cover	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	100	(B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:
Vegetation dominated by hydrophytes. Photos: View South (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-201

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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): 1

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

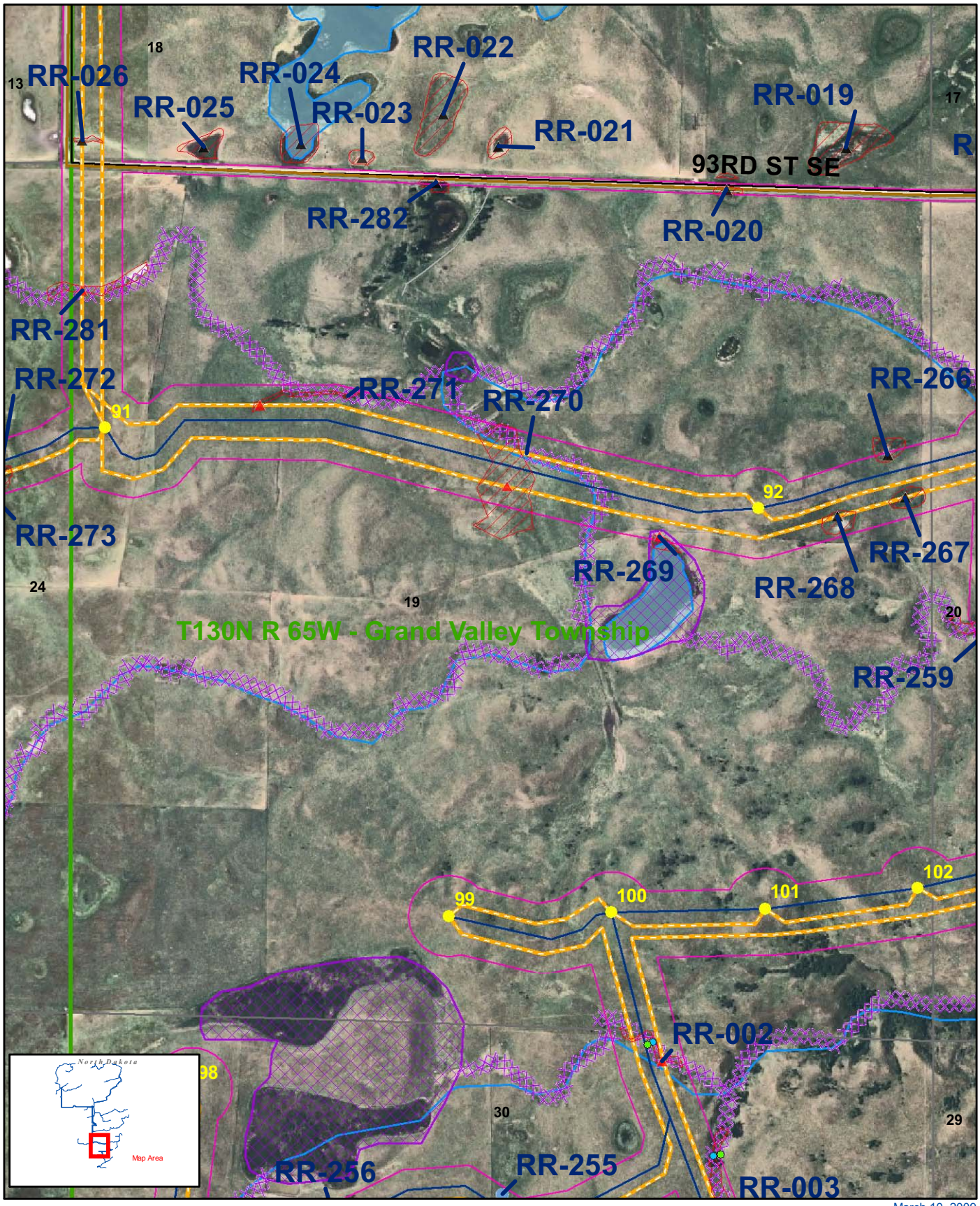
Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-201 View South 12-9-08

TOWNSHIP 130
RANGE 65
SECTION 19

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Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

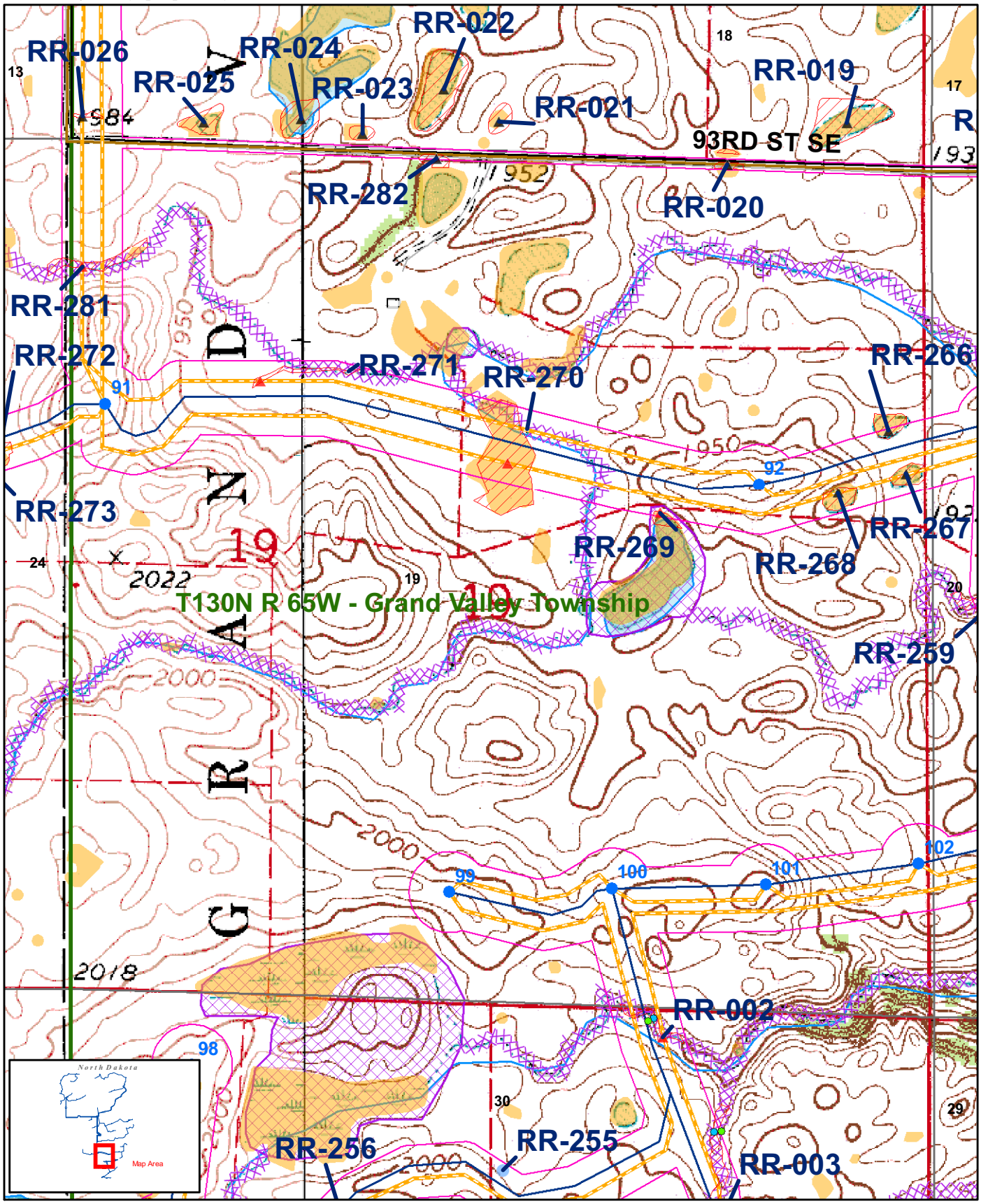
March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Grand Valley Township
Section 19
NAIP Image

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March 10, 2009

Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- NWI Wetland Areas
- River / Stream
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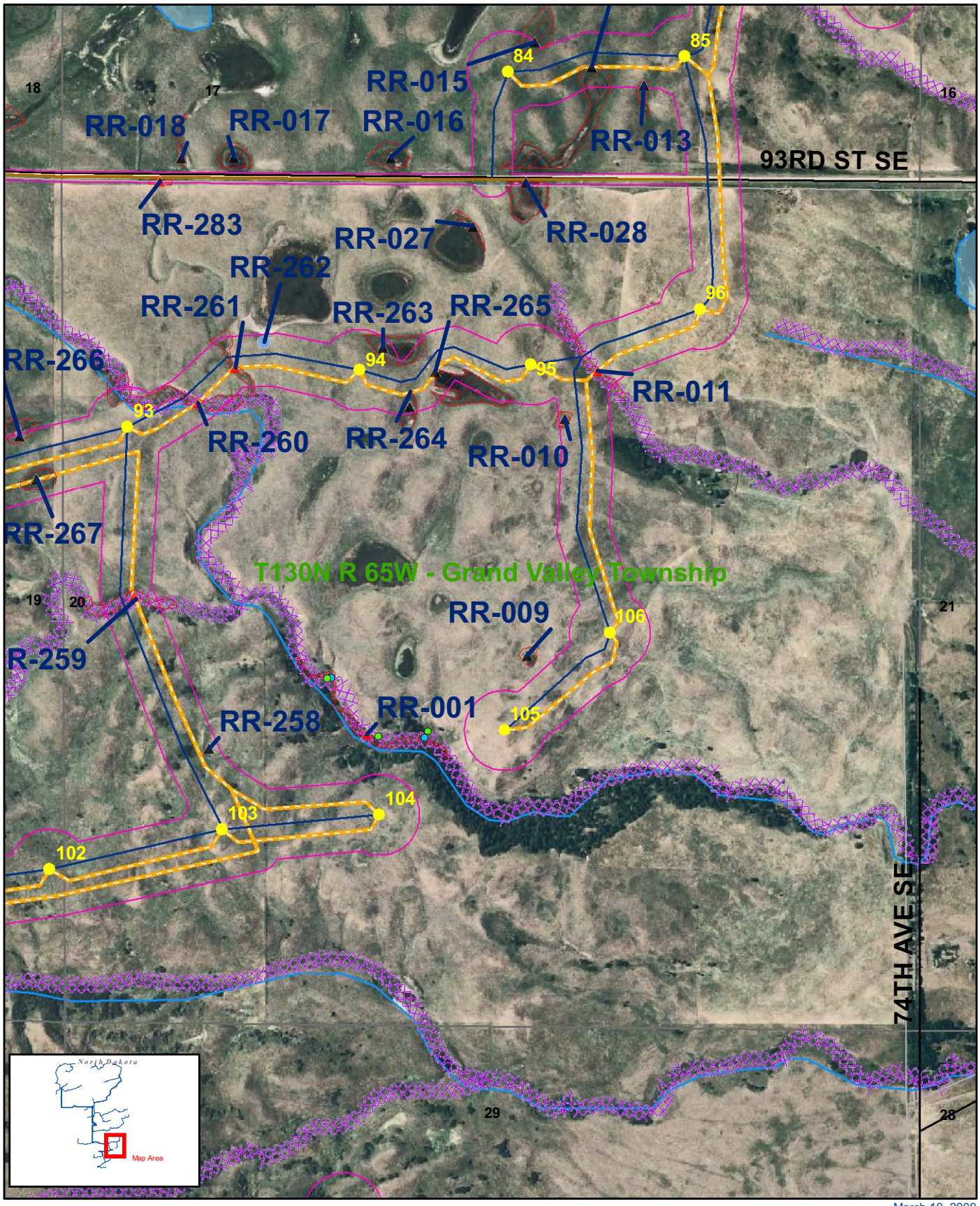
Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Grand Valley Township
Section 19
Quad Image

TOWNSHIP 130
RANGE 65
SECTION 20

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Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

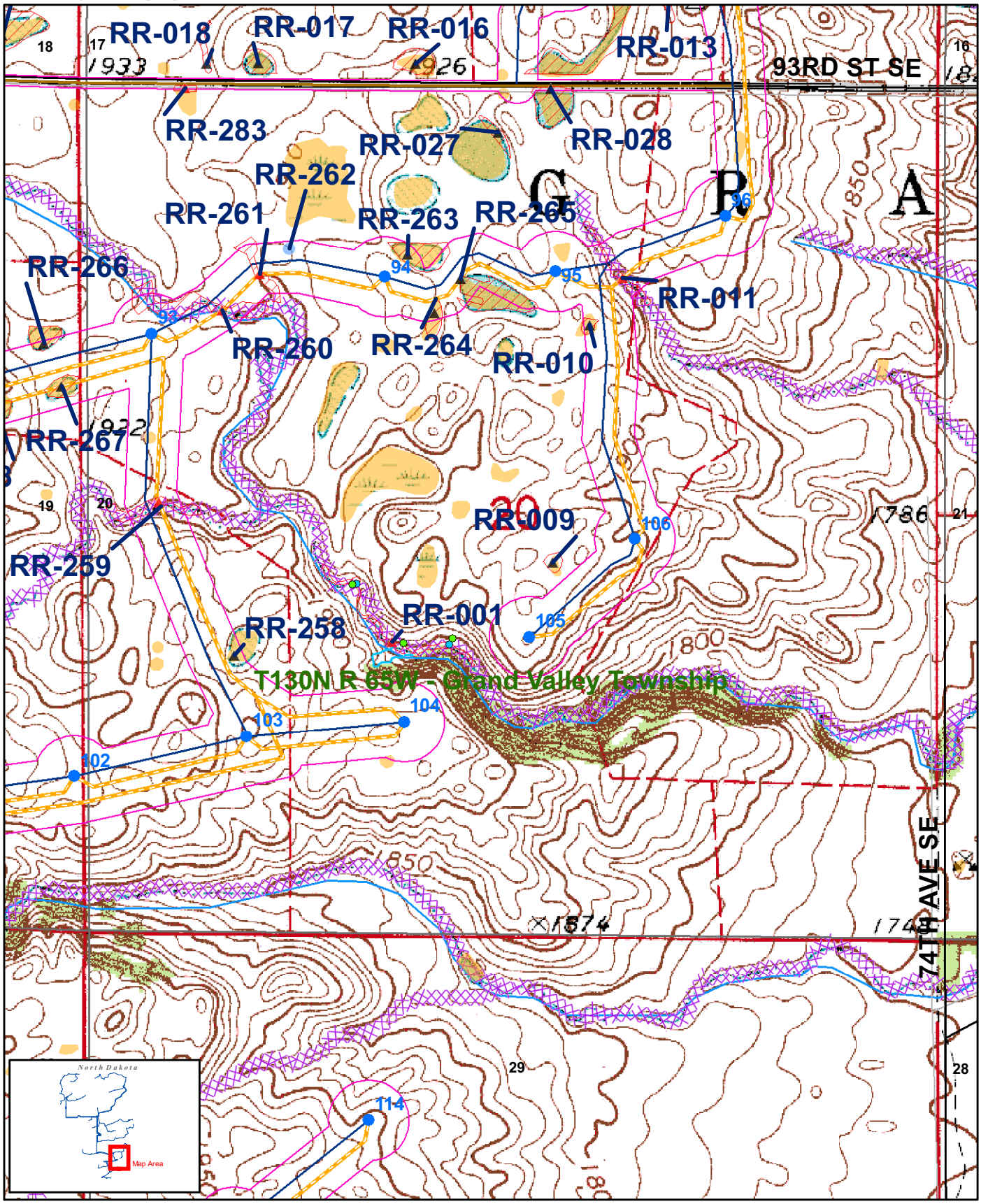
March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Grand Valley Township
Section 20
NAIP Image

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March 10, 2009

Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- NWI Wetland Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Grand Valley Township
Section 20
Quad Image

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 20-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-009**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 20 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5100830.229 **Long.:** E: 511710.4423 **Datum:** NAD 1983

Soil Map Unit Name: Zahl- Williams loams, 6 to 25 percent slope **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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		= Total Cover	
Herb Stratum (Plot size:)					
1. Carex aquatilis	Herb	100	☑	100.0%	OBL
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		= Total Cover	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:
Vegetation dominated by hydrophytes. Photos: View Northeast (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-009

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-5	10YR 2/2							
5-18	2.5Y 4/4							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-009 View Northeast 11-20-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 20-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-010**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 20 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Channel (active) **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5101278.384 **Long.:** E: 511775.3052 **Datum:** NAD 1983

Soil Map Unit Name: Williams Loams, 3 to 9 percent slopes, very stony **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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0	= Total Cover		
Herb Stratum (Plot size:)					
1. Carex aquatilis	Herb	100	☑	100.0%	OBL
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100	= Total Cover		
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View West (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-010

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☑ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-010 View West 11-20-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 20-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-011-01W**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 20 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Gulch or Gully **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5101388.949 **Long.:** E: 511829.1065 **Datum:** NAD 1983

Soil Map Unit Name: Zahl- Williams loams, 6 to 25 percent slope **NWI classification:** R4SB

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0	**= Total Cover**		
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0	**= Total Cover**		
Herb Stratum (Plot size:)					
1. Phalaris arundinacea	Herb	5	☐	5.0%	FACW+
2. Carex crawei	Herb	95	☑	95.0%	FACW
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100	**= Total Cover**		
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0	**= Total Cover**		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	100	x 2 =	200
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		200 (B)

Prevalence Index = B/A = 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)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View North (Page 1), View East (Page 1), View West (Page 2)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-011-01W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-5	10YR 2/2							
5-18	2.5Y 4/4							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☑ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Seasonal RPW w/ Wetland Fringe -this area possesses all of the delineative criteria necessary for classification as a wetland under the USACE 198 Wetland Delineation manual. However, it is not classified as a wetland as it possesses the necessary characteristic to classify it as a Water of the U.S. Therefore, it is classified as a seasonally flowing relatively permanent waterway.



RR-011-01W View North 11-20-08



RR-011-01W View East 11-20-08



RR-011-01W View West 11-20-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 21-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-027**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 20 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 0.9% / 0.5 °

Subregion (LRR): LRR F **Lat.:** N: 5101640.528 **Long.:** E: 511602.3132 **Datum:** NAD 1983

Soil Map Unit Name: Williams Loams, 3 to 9 percent slopes, very stony **NWI classification:** PEMF

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View South (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-027

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-13	10YR 2/1							
13-18	10YR 3/1							

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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): 24

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-027 View South 11-21-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 21-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-028**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 20 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5101695.762 **Long.:** E: 511707.6683 **Datum:** NAD 1983

Soil Map Unit Name: Tonka Silt Loam, 0 to 1 percent slope **NWI classification:** PEMF

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0	**= Total Cover**		
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0	**= Total Cover**		
Herb Stratum (Plot size:)					
1. Typha angustifolia	Herb	50	☑	50.0%	OBL
2. Carex aquatilis	Herb	50	☑	50.0%	OBL
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100	**= Total Cover**		
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0	**= Total Cover**		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-028

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-13	10YR 2/1							
13-18	10YR 3/1							

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

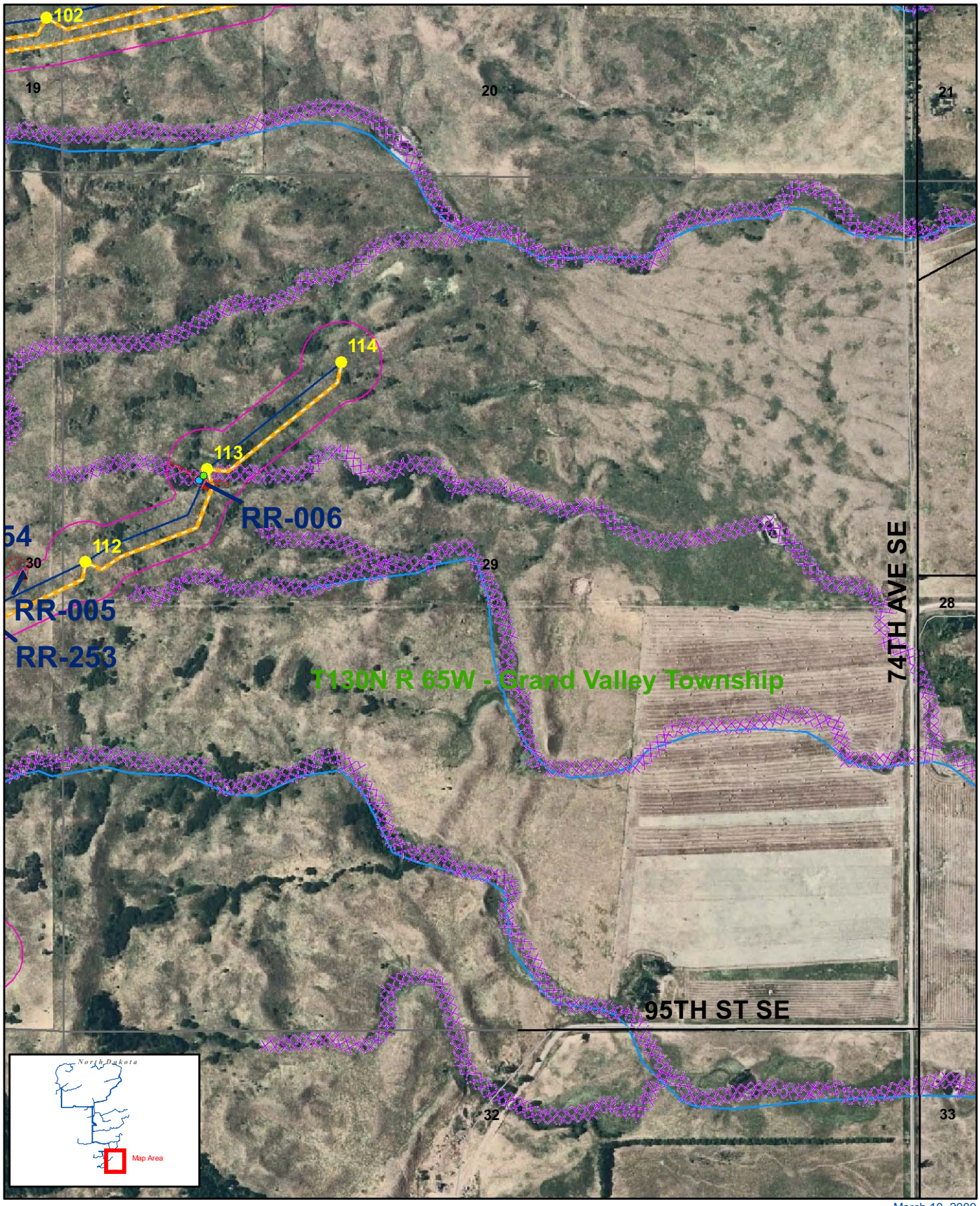
Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-028 View East 11-21-08

TOWNSHIP 130
RANGE 65
SECTION 29

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Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

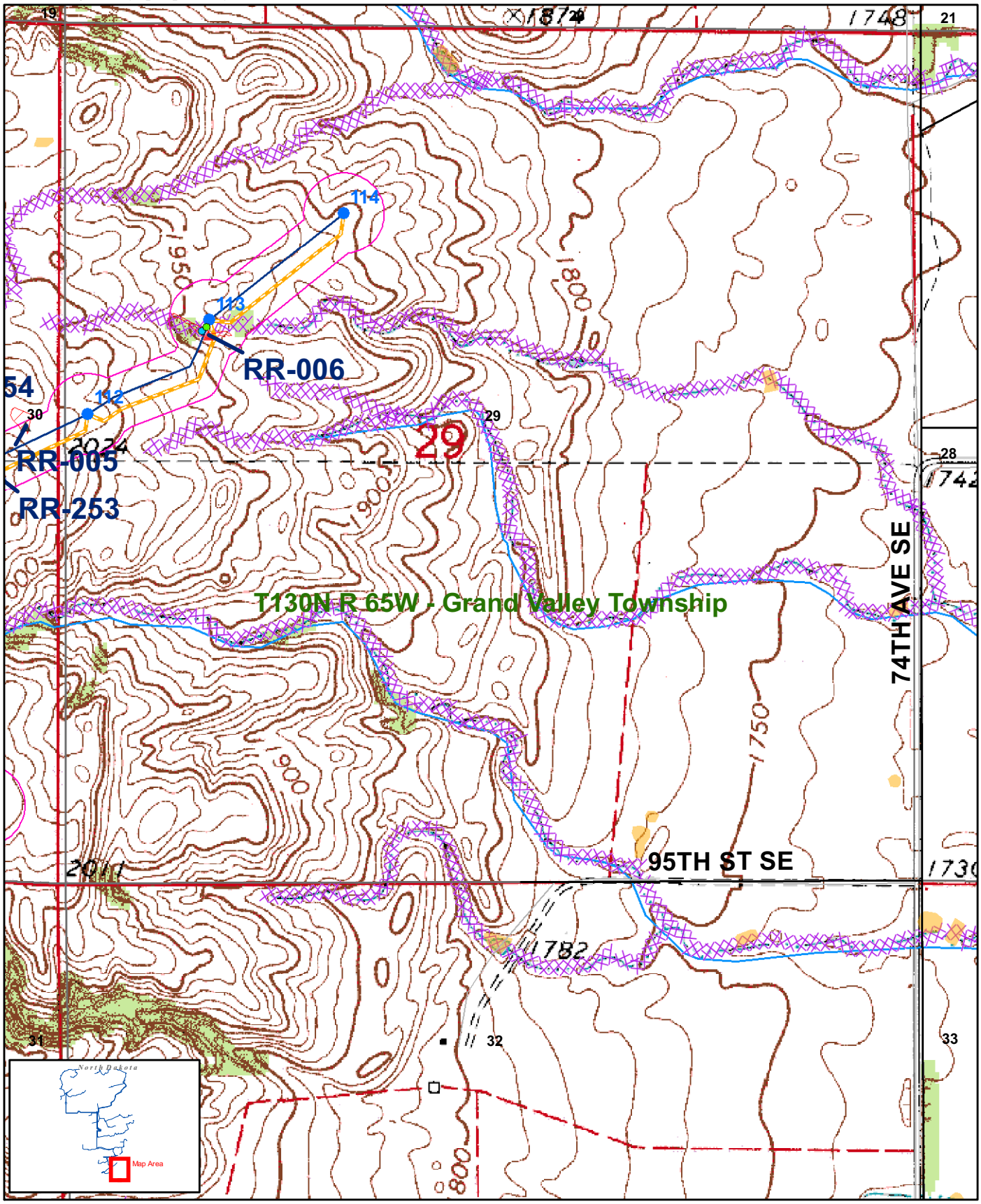
March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Grand Valley Township
Section 29
NAIP Image

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March 10, 2009

Grid: NAD 83 UTM Zone 14

1:10,000

Feet
0 250 500 1,000

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data
- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- NWI Wetland Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Grand Valley Township
Section 29
Quad Image

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 20-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-003-02U**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 29 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Hillside **Local relief (concave, convex, none):** undulating **Slope:** 26.8% / 15.0 °

Subregion (LRR): LRR F **Lat.:** N: 5099743.96 **Long.:** E: 510417.5005 **Datum:** NAD 1983

Soil Map Unit Name: Zahl- Williams loam, 6 to 25 percent slope **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ◉	No ○	
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
Based on the data collected, this location does not meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		**= Total Cover**	
Herb Stratum (Plot size:)					
1. Stipa comata	#N/A	100	☑	100.0%	UPL
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		**= Total Cover**	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	100	x 5 =	500
Column Totals:	100 (A)		500 (B)

Prevalence Index = B/A = 5

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.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:
Vegetation dominated by non-hydrophytes. Photos: View West (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-003-02U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-5	10YR 2/2							
5-18	2.5Y 4/4							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Non-wet data point. No indications of wetland hydrology observed at this site.



RR-003-02U View west 11-20-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 20-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-006-01U**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 29 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Hillside **Local relief (concave, convex, none):** undulating **Slope:** 17.6% / 10.0 °

Subregion (LRR): LRR F **Lat.:** N: 5099554.89 **Long.:** E: 511093.6854 **Datum:** NAD 1983

Soil Map Unit Name: Zahl- Williams loams, 6 to 25 percent slope **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ○ No ◉

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ○ No ◉

Is the Sampled Area within a Wetland? Yes ○ No ◉

Remarks:
Based on the data collected, this location does not meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Agropyron smithii	Herb	100	☑ 100.0%	FACU
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	100	x 4 =	400
UPL species	0	x 5 =	0
Column Totals:	100 (A)		400 (B)

Prevalence Index = B/A = 4

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.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:
Vegetation dominated by non-hydrophytes. Photos: View North (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-006-01U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-5	10YR 2/2							
5-18	2.5Y 4/4							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Non-wet data point. No indications of wetland hydrology observed at this site.



RR-006-01U View North 11-20-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 20-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-006-01W**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 29 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Channel (active) **Local relief (concave, convex, none):** undulating **Slope:** 5.2% / 3.0 °

Subregion (LRR): LRR F **Lat.:** N: 5099554.89 **Long.:** E: 511093.6854 **Datum:** NAD 1983

Soil Map Unit Name: Zahl- Williams loams, 6 to 25 percent slope **NWI classification:** R4SB

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
			0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
5.			0	☐		
			0	= Total Cover		
Herb Stratum (Plot size:)						
1.	Phalaris arundinacea	Herb	60	☑	60.0%	FACW+
2.	Carex aquatilis	Herb	40	☑	40.0%	OBL
3.			0	☐	0.0%	
4.			0	☐	0.0%	
5.			0	☐	0.0%	
6.			0	☐	0.0%	
7.			0	☐	0.0%	
8.			0	☐	0.0%	
9.			0	☐	0.0%	
10.			0	☐	0.0%	
			100	= Total Cover		
Woody Vine Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
			0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:
OBL species	40	x 1 =	40
FACW species	60	x 2 =	120
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		160 (B)

Prevalence Index = B/A = 1.6

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View East (Page 1), View West (Page 1), View West (Page 2)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-006-01W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-5	10YR 2/2							
5-18	2.5Y 4/4							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☑ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Seasonal RPW w/ Wetland Fringe -this area possesses all of the delineative criteria necessary for classification as a wetland under the USACE 198 Wetland Delineation manual. However, it is not classified as a wetland as it possesses the necessary characteristic to classify it as a Water of the U.S. due to the presence of an incised channel, and defined bed and bank. Therefore, it is classified as a seasonally flowing relatively permanent waterway.



RR-006-01W View East 11-20-08



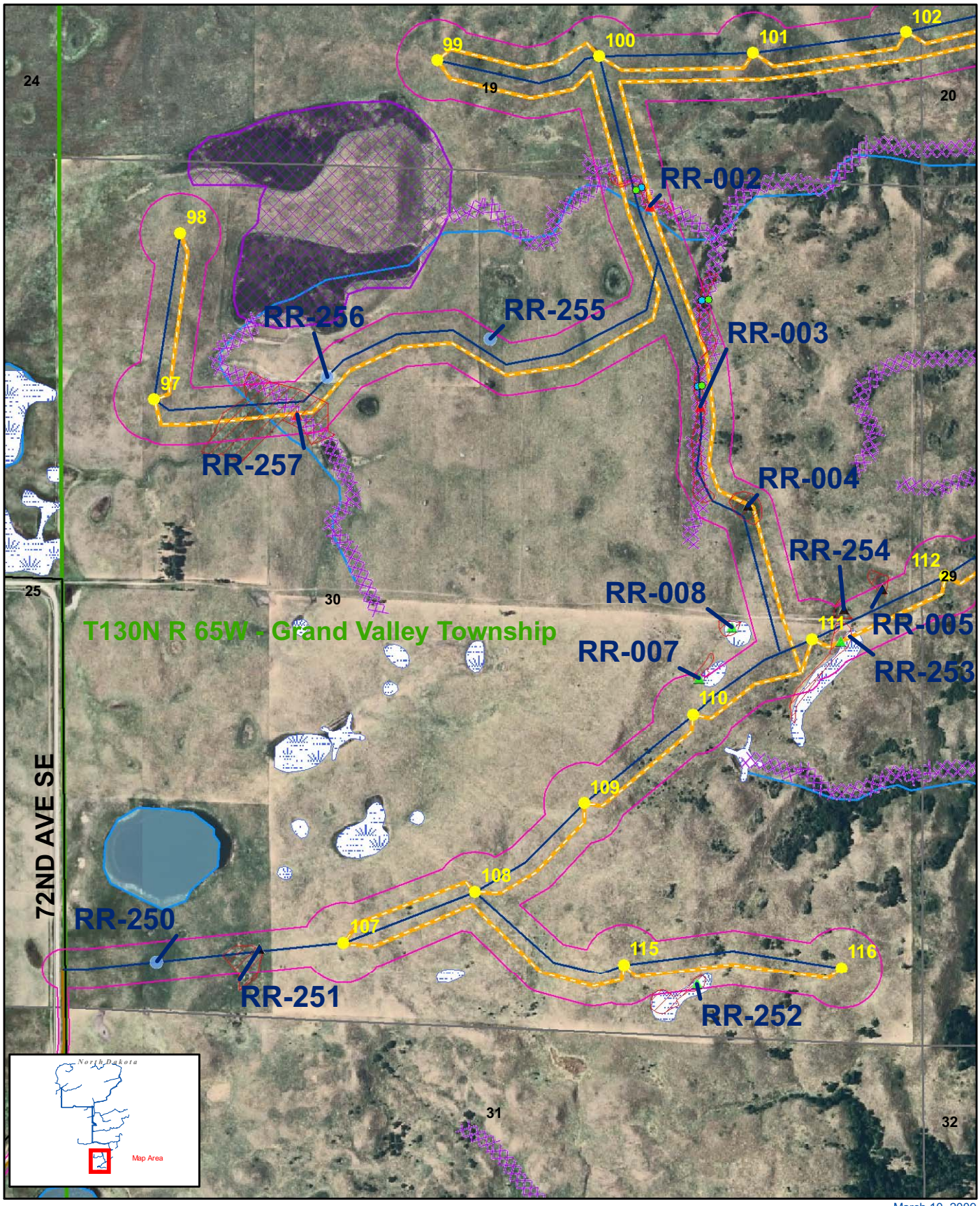
RR-006-01W View West 11-20-08



RR-006-01W View West 11-20-08

TOWNSHIP 130
RANGE 65
SECTION 30

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Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

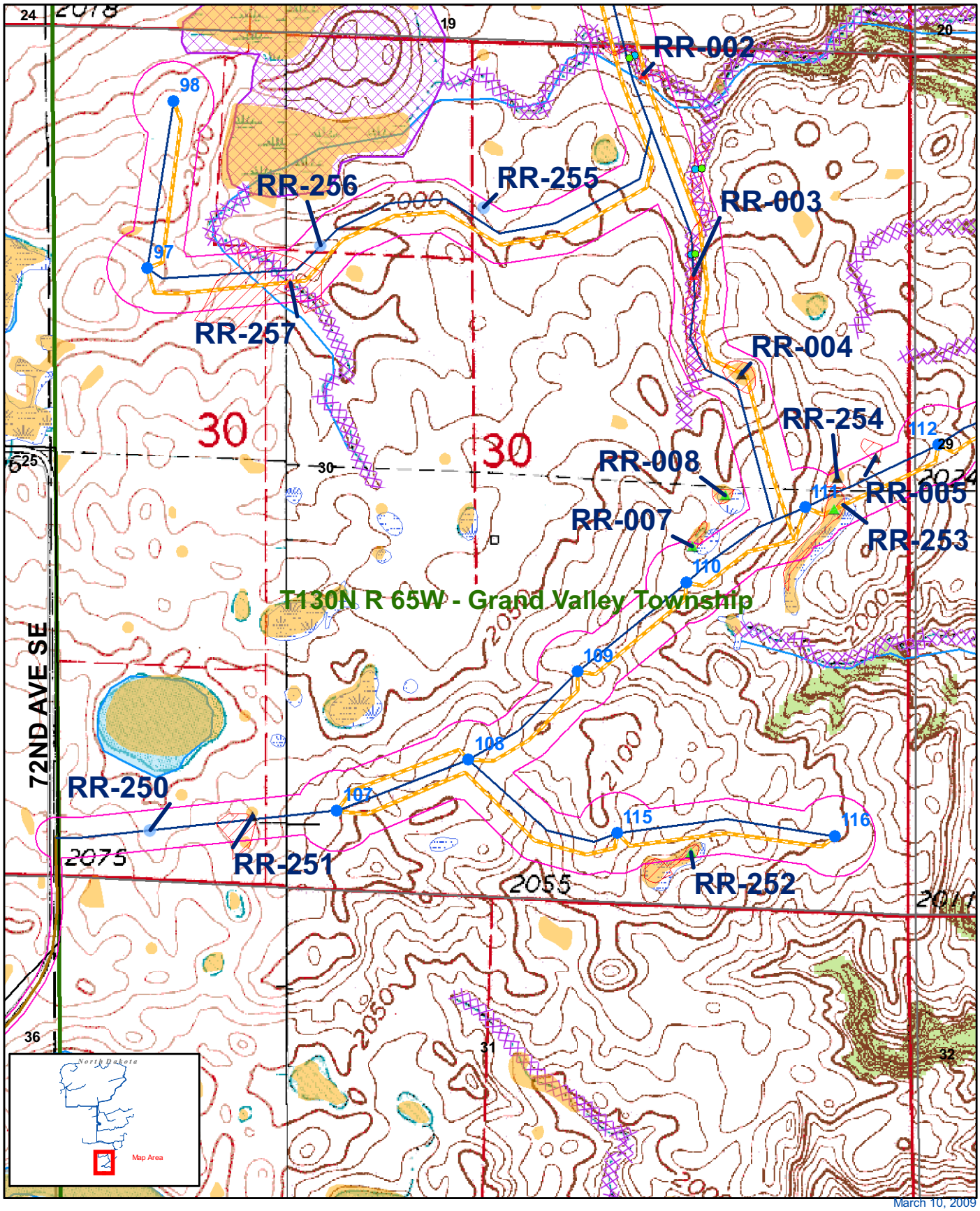
March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Grand Valley Township
Section 30
NAIP Image

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Grid: NAD 83 UTM Zone 14

1:10,000

Feet
0 250 500 1,000

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data
- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- NWI Wetland Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Grand Valley Township
Section 30
Quad Image

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 20-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-002-01U**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 30 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Hillside **Local relief (concave, convex, none):** undulating **Slope:** 17.6% / 10.0 °

Subregion (LRR): LRR F **Lat.:** N:5100123.453 **Long.:** E: 510303.145 **Datum:** NAD 1983

Soil Map Unit Name: Zahl- Max Loam, 15 to 60 percent slopes **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ○ No ◉

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ○ No ◉

Is the Sampled Area within a Wetland? Yes ○ No ◉

Remarks:
Based on the data collected, this location does not meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
			0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
5.			0	☐		
			0	= Total Cover		
Herb Stratum (Plot size:)						
1.	Agropyron smithii	Herb	50	☑	50.0%	FACU
2.	Schizachyrium scoparium	Herb	50	☑	50.0%	FACU
3.			0	☐	0.0%	
4.			0	☐	0.0%	
5.			0	☐	0.0%	
6.			0	☐	0.0%	
7.			0	☐	0.0%	
8.			0	☐	0.0%	
9.			0	☐	0.0%	
10.			0	☐	0.0%	
			100	= Total Cover		
Woody Vine Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
			0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	100	x 4 =	400	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	400	(B)

Prevalence Index = B/A = 4

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.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:
Vegetation dominated by non-hydrophytes. Photos: View Northeast (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-002-01U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-5	10YR 2/2							
5-18	2.5Y 4/4							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Non-wet data point. No indications of wetland hydrology observed at this site.



RR-002-01U View Northeast 11-20-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 20-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-002-01W**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 30 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Channel (active) **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N:5100123.453 **Long.:** E: 510303.145 **Datum:** NAD 1983

Soil Map Unit Name: Zahl- Max Loam, 15 to 60 percent slopes **NWI classification:** R4SB

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species? Rel.Strat. Cover		Indicator Status
Tree Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
			0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
5.			0	☐		
			0	= Total Cover		
Herb Stratum (Plot size:)						
1.	Phalaris arundinacea	Herb	80	☑	80.0%	FACW+
2.	Typha angustifolia	Herb	5	☐	5.0%	OBL
3.	Carex aquatilis	Herb	15	☐	15.0%	OBL
4.			0	☐	0.0%	
5.			0	☐	0.0%	
6.			0	☐	0.0%	
7.			0	☐	0.0%	
8.			0	☐	0.0%	
9.			0	☐	0.0%	
10.			0	☐	0.0%	
			100	= Total Cover		
Woody Vine Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
			0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	20	x 1 =	20
FACW species	80	x 2 =	160
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		180 (B)

Prevalence Index = B/A = 1.8

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Southeast (Page 1), View South (Page 1), View Northwest (Page 2)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-002-01W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-5	10YR 2/2							
5-18	2.5Y 4/4							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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): 3

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Perennial RPW w/ Wetland Fringe -this area possesses all of the delineative criteria necessary for classification as a wetland under the USACE 198 Wetland Delineation manual. However, it is not classified as a wetland as it possesses the necessary characteristic to classify it as a Water of the U.S. due to the presence of an incised channel, and defined bed and bank. Therefore, it is classified as a perennially flowing relatively permanent waterway.



RR-002-01W View Southeast 11-20-08



RR-002-01W View South 11-20-08



RR-002-01W View Northwest 11-20-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 20-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-003-01U**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 30 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Hillside **Local relief (concave, convex, none):** undulating **Slope:** 26.8% / 15.0 °

Subregion (LRR): LRR F **Lat.:** N: 5099743.96 **Long.:** E: 510417.5005 **Datum:** NAD 1983

Soil Map Unit Name: Zahl- Williams loam, 6 to 25 percent slope **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ○ No ◉

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ○ No ◉

Is the Sampled Area within a Wetland? Yes ○ No ◉

Remarks:
Based on the data collected, this location does not meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Stipa comata	#N/A	100	☑ 100.0%	UPL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	100	x 5 =	500
Column Totals:	100 (A)		500 (B)

Prevalence Index = B/A = 5

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.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:
Vegetation dominated by non-hydrophytes. Photos: View West (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-003-01U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-5	10YR 2/2							
5-18	2.5Y 4/4							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Non-wet data point. No indications of wetland hydrology observed at this site.



RR-003-01U View West 11-20-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 20-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-003-01W**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 30 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Channel (active) **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5099743.96 **Long.:** E: 510417.5005 **Datum:** NAD 1983

Soil Map Unit Name: Zahl- Williams loam, 6 to 25 percent slope **NWI classification:** R4SB

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0	**= Total Cover**		
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0	**= Total Cover**		
Herb Stratum (Plot size:)					
1. Phalaris arundinacea	Herb	50	☑	50.0%	FACW+
2. Carex aquatilis	Herb	50	☑	50.0%	OBL
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100	**= Total Cover**		
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0	**= Total Cover**		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	50	x 1 =	50
FACW species	50	x 2 =	100
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		150 (B)

Prevalence Index = B/A = 1.5

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View North (Page 1), View East (Page 1), View South (Page 2)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-003-01W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-5	10YR 2/2							
5-18	2.5Y 4/4							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☑ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Seasonal RPW w/ Wetland Fringe -this area possesses all of the delineative criteria necessary for classification as a wetland under the USACE 198 Wetland Delineation manual. However, it is not classified as a wetland as it possesses the necessary characteristic to classify it as a Water of the U.S. due to the presence of an incised channel, and defined bed and bank. Therefore, it is classified as a seasonally flowing relatively permanent waterway.



RR-003-01W View North 11-20-08



RR-003-01W View East 11-20-08



RR-003-01W View South 11-20-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 20-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-003-02W**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 30 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Channel (active) **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5099743.96 **Long.:** E: 510417.5005 **Datum:** NAD 1983

Soil Map Unit Name: Zahl- Williams loams, 6 to 25 percent slope **NWI classification:** R4SB

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View North (Page 1), View East (Page 1), View South (Page 2)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-003-02W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-5	10YR 2/2							
5-18	2.5Y 4/4							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☑ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Seasonal RPW w/ Wetland Fringe -this area possesses all of the delineative criteria necessary for classification as a wetland under the USACE 198 Wetland Delineation manual. However, it is not classified as a wetland as it possesses the necessary characteristic to classify it as a Water of the U.S. due to the presence of an incised channel, and defined bed and bank. Therefore, it is classified as a seasonally flowing relatively permanent waterway.



RR-003-02W View North 11-20-08



RR-003-02W View East 11-20-08



RR-003-02W View South 11-20-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 20-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-004**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 30 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5099526.898 **Long.:** E: 510502.2797 **Datum:** NAD 1983

Soil Map Unit Name: Zahl- Williams loams, 6 to 25 percent slope **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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
			0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
5.			0	☐		
			0	= Total Cover		
Herb Stratum (Plot size:)						
1.	Phalaris arundinacea	Herb	50	☑	50.0%	FACW+
2.	Carex aquatilis	Herb	50	☑	50.0%	OBL
3.			0	☐	0.0%	
4.			0	☐	0.0%	
5.			0	☐	0.0%	
6.			0	☐	0.0%	
7.			0	☐	0.0%	
8.			0	☐	0.0%	
9.			0	☐	0.0%	
10.			0	☐	0.0%	
			100	= Total Cover		
Woody Vine Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
			0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:
OBL species	50	x 1 =	50
FACW species	50	x 2 =	100
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		150 (B)

Prevalence Index = B/A = 1.5

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Northeast (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-004

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-5	10YR 2/2							
5-18	2.5Y 4/4							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-004 View Northeast 11-20-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 20-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-005**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 30 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5099386.852 **Long.:** E: 510751.2104 **Datum:** NAD 1983

Soil Map Unit Name: Zahl- Williams loams, 6 to 25 percent slope **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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		= Total Cover	
Herb Stratum (Plot size:)					
1. Phalaris arundinacea	Herb	70	☑	70.0%	FACW+
2. Rumex crispus	Herb	30	☑	30.0%	FACW
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		= Total Cover	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0	
FACW species	100	x 2 =	200	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	200	(B)

Prevalence Index = B/A = 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)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:
Vegetation dominated by hydrophytes. Photos: View South (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-005

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-5	10YR 2/2							
5-18	2.5Y 4/4							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-005 View South 11-20-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 20-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-005**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 30 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5099386.852 **Long.:** E: 510751.2104 **Datum:** NAD 1983

Soil Map Unit Name: Zahl- Williams loams, 6 to 25 percent slope **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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		= Total Cover	
Herb Stratum (Plot size:)					
1. Phalaris arundinacea	Herb	70	☑	70.0%	FACW+
2. Rumex crispus	Herb	30	☑	30.0%	FACW
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		= Total Cover	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0	
FACW species	100	x 2 =	200	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	200	(B)

Prevalence Index = B/A = 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)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:
Vegetation dominated by hydrophytes. Photos: View South (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-005

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-5	10YR 2/2							
5-18	2.5Y 4/4							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-005 View South 11-20-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 20-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-007**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 30 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 2.1% / 1.2 °

Subregion (LRR): LRR F **Lat.:** N: 5099219.929 **Long.:** E: 510420.5486 **Datum:** NAD 1983

Soil Map Unit Name: Zahl- Williams loams, 6 to 25 percent slope **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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
			0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
5.			0	☐		
			0	= Total Cover		
Herb Stratum (Plot size:)						
1.	Phalaris arundinacea	Herb	50	☑	50.0%	FACW+
2.	Carex aquatilis	Herb	50	☑	50.0%	OBL
3.			0	☐	0.0%	
4.			0	☐	0.0%	
5.			0	☐	0.0%	
6.			0	☐	0.0%	
7.			0	☐	0.0%	
8.			0	☐	0.0%	
9.			0	☐	0.0%	
10.			0	☐	0.0%	
			100	= Total Cover		
Woody Vine Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
			0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50	
FACW species	50	x 2 =	100	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	150	(B)

Prevalence Index = B/A = 1.5

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View West (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-007

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-5	10YR 2/2							
5-18	2.5Y 4/4							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-007 View West 11-20-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 20-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-008**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 30 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 2.6% / 1.5 °

Subregion (LRR): LRR F **Lat.:** N: 5099299.562 **Long.:** E: 510467.6176 **Datum:** NAD 1983

Soil Map Unit Name: Zahl- Williams loams, 6 to 25 percent slope **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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species? Rel.Strat. Cover		Indicator Status
Tree Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
			0	**= Total Cover**		
Sapling/Shrub Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
5.			0	☐		
			0	**= Total Cover**		
Herb Stratum (Plot size:)						
1.	Rumex crispus	Herb	30	☑	30.0%	FACW
2.	Carex aquatilis	Herb	70	☑	70.0%	OBL
3.			0	☐	0.0%	
4.			0	☐	0.0%	
5.			0	☐	0.0%	
6.			0	☐	0.0%	
7.			0	☐	0.0%	
8.			0	☐	0.0%	
9.			0	☐	0.0%	
10.			0	☐	0.0%	
			100	**= Total Cover**		
Woody Vine Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
			0	**= Total Cover**		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:
OBL species	70	x 1 =	70
FACW species	30	x 2 =	60
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		130 (B)

Prevalence Index = B/A = 1.3

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View West (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-008

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-5	10YR 2/2							
5-18	2.5Y 4/4							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

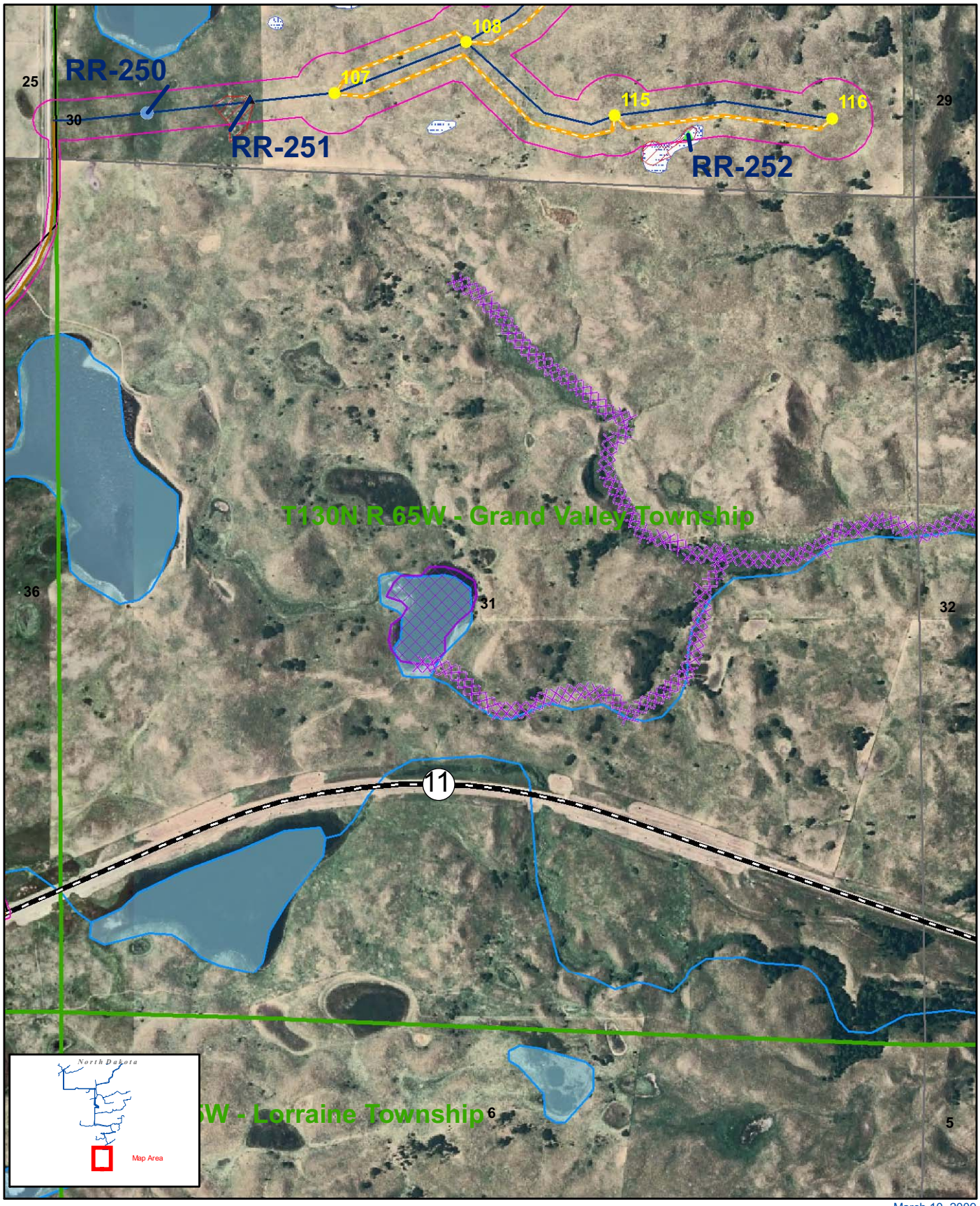
Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-008 View West 11-20-08

TOWNSHIP 130
RANGE 65
SECTION 31

G:\Ea\northdakota\RoughRider\Arcmap\RR_Zooms_85x11.mxd.mrp.100-AMC-T23189



Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

- ▲ Non Jurisdictional
- ▲ USACE Jurisdiction
- ▲ USACE/USFWS Jurisdiction
- ▲ USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

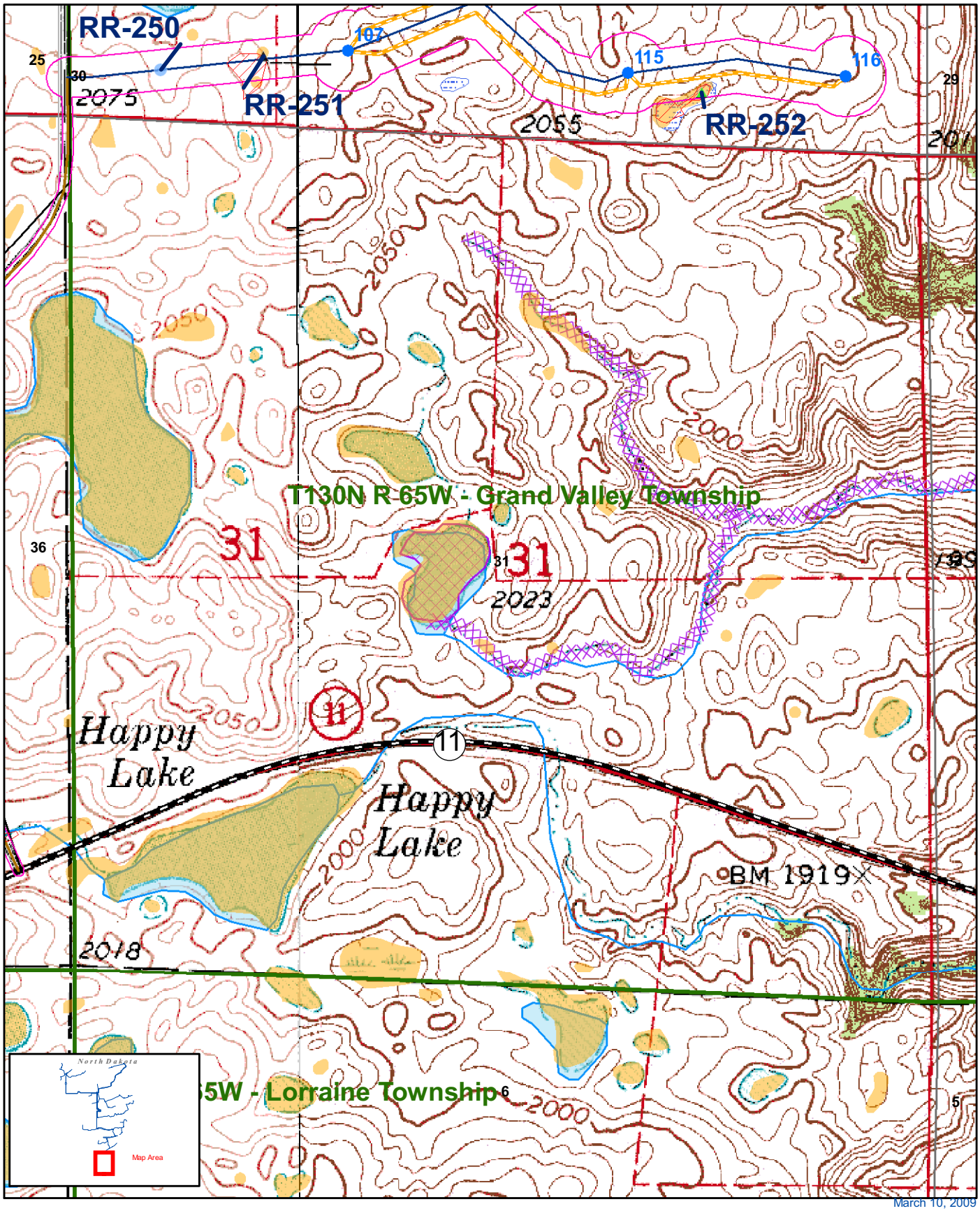
March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Grand Valley Township
Section 31
NAIP Image

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Grid: NAD 83 UTM Zone 14

1:10,000

Feet
0 250 500 1,000

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data
- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- NWI Wetland Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

March 10, 2009

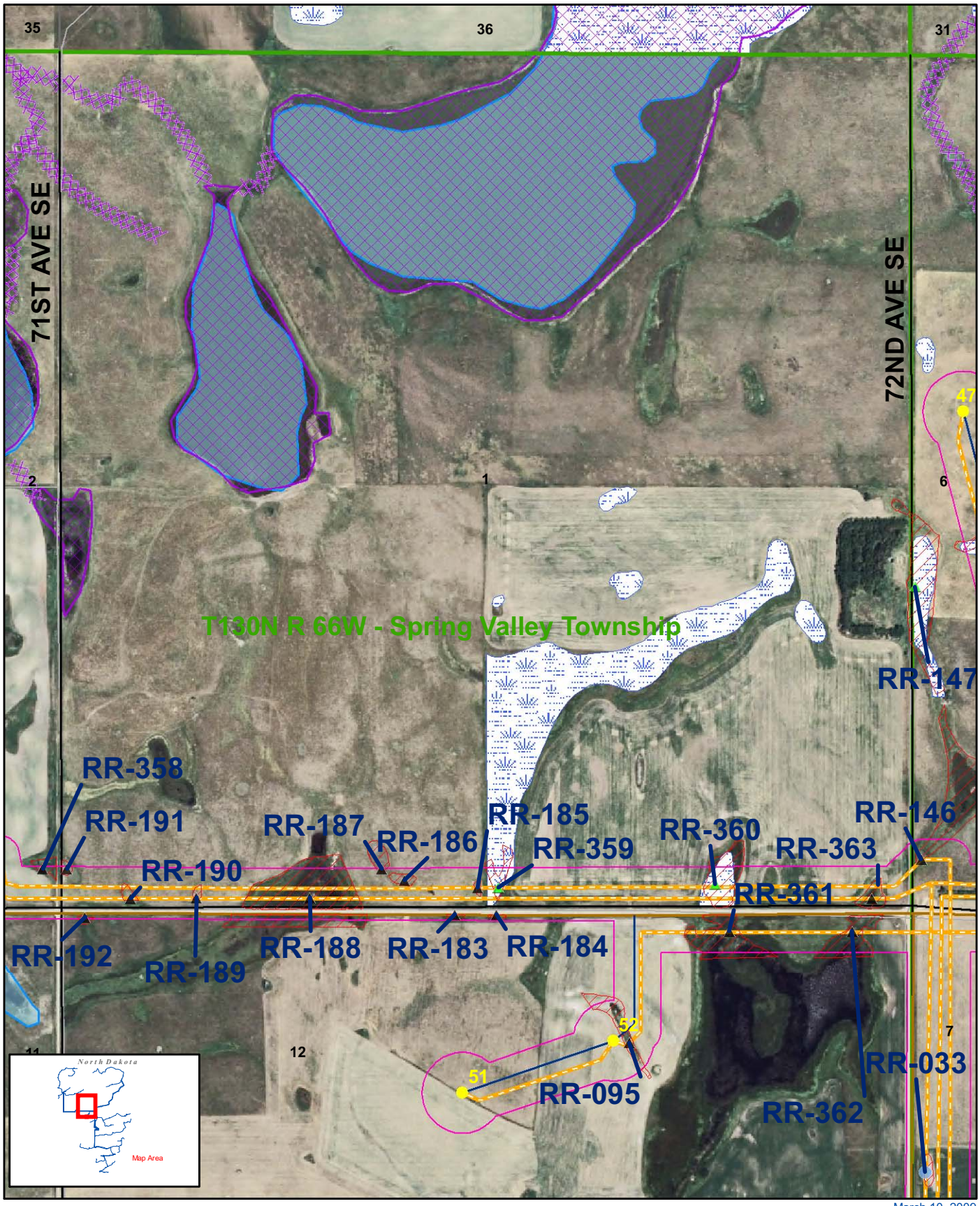
Rough Rider I
Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Grand Valley Township
Section 31
Quad Image

TOWNSHIP 130
RANGE 66
SECTION 1

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Grid: NAD 83 UTM Zone 14

1:10,000

Feet
0 250 500 1,000

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data
- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

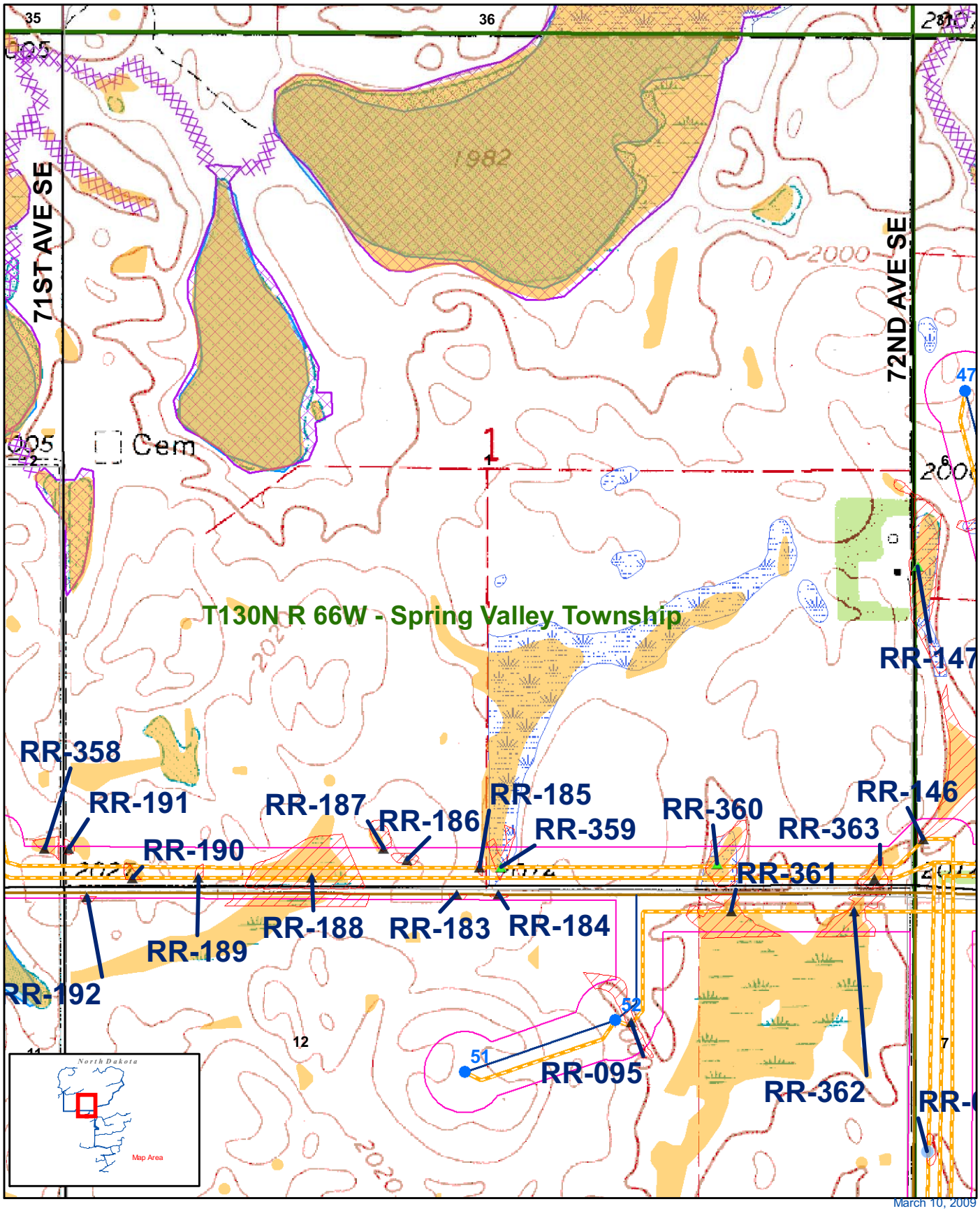
March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Spring Valley Township
Section 1
NAIP Image

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Grid: NAD 83 UTM Zone 14

1:10,000

Feet
0 250 500 1,000

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data
- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- NWI Wetland Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Spring Valley Township
Section 1
Quad Image

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 08-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-184**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 1 **T** 130N **R** 66 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5105015.924 **Long.:** E: 508422.084 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent slopes **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View West (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-184

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-184 View East 12-8-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 08-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-185**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 1 **T** 130N **R** 66 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5105070.132 **Long.:** E: 508385.5568 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent slopes **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:
Vegetation dominated by hydrophytes. Photos: View North-Northeast (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-185

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-185 View North-Northeast 12-8-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 08-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-186**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 1 **T** 130N **R** 66 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5105086.716 **Long.:** E: 508244.2217 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent slopes **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species? Rel.Strat. Cover		Indicator Status
Tree Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
			0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
5.			0	☐		
			0	= Total Cover		
Herb Stratum (Plot size:)						
1.	Carex aquatilis	Herb	95	☑	95.0%	OBL
2.	Rumex crispus	Herb	5	☐	5.0%	FACW
3.			0	☐	0.0%	
4.			0	☐	0.0%	
5.			0	☐	0.0%	
6.			0	☐	0.0%	
7.			0	☐	0.0%	
8.			0	☐	0.0%	
9.			0	☐	0.0%	
10.			0	☐	0.0%	
			100	= Total Cover		
Woody Vine Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
			0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	95	x 1 =	95
FACW species	5	x 2 =	10
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		105 (B)

Prevalence Index = B/A = 1.05

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View West (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-186

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-186 View West 12-8-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 08-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-187**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 1 **T** 130N **R** 66 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5105130.247 **Long.:** E: 508197.3565 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species? Rel.Strat. Cover		Indicator Status
Tree Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
			0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
5.			0	☐		
			0	= Total Cover		
Herb Stratum (Plot size:)						
1.	Carex aquatilis	Herb	90	☑	90.0%	OBL
2.	Rumex crispus	Herb	10	☐	10.0%	FACW
3.			0	☐	0.0%	
4.			0	☐	0.0%	
5.			0	☐	0.0%	
6.			0	☐	0.0%	
7.			0	☐	0.0%	
8.			0	☐	0.0%	
9.			0	☐	0.0%	
10.			0	☐	0.0%	
			100	= Total Cover		
Woody Vine Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
			0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	90	x 1 =	90
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		110 (B)

Prevalence Index = B/A = 1.1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View North (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-187

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-187 View North 12-8-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 08-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-188**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 1 **T** 130N **R** 66 W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5105070.487 **Long.:** E: 508062.3763 **Datum:** NAD 1983

Soil Map Unit Name: Hamerly-Tonka-Parnell complex, 0 to 3 percent **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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Typha angustifolia	Herb	80	☑ 80.0%	OBL
2. Carex aquatilis	Herb	20	☑ 20.0%	OBL
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Southwest (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-188

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/1							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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): 36

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-188 View Southwest 12-8-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 08-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-189**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 1 **T** 130N **R** 66 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5105008.277 **Long.:** E: 508044.1754 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:
Vegetation dominated by hydrophytes. Photos: View North (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-189

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-189 View North 12-8-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 08-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-190**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 1 **T** 130N **R** 66 W

Landform (hillslope, terrace, etc.): Swale **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5105059.422 **Long.:** E: 507723.6159 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:
Vegetation dominated by hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-190

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-190 View East 12-8-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 08-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-191**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 1 **T** 130N **R** 66 W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5105107.219 **Long.:** E: 507607.536 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent 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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.			0	☐	
2.			0	☐	
3.			0	☐	
4.			0	☐	
			0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.			0	☐	
2.			0	☐	
3.			0	☐	
4.			0	☐	
5.			0	☐	
			0	= Total Cover	
Herb Stratum (Plot size:)					
1.	Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.			0	☐ 0.0%	
3.			0	☐ 0.0%	
4.			0	☐ 0.0%	
5.			0	☐ 0.0%	
6.			0	☐ 0.0%	
7.			0	☐ 0.0%	
8.			0	☐ 0.0%	
9.			0	☐ 0.0%	
10.			0	☐ 0.0%	
			100	= Total Cover	
Woody Vine Stratum (Plot size:)					
1.			0	☐	
2.			0	☐	
			0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Northwest (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-191

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-191 View Northwest 12-8-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 06-Jan-09

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-192**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 1 **T** 130N **R** 66 W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR G **Lat.:** N: 5105009.434 **Long.:** E: 507643.1399 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent slopes **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View South (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-192

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

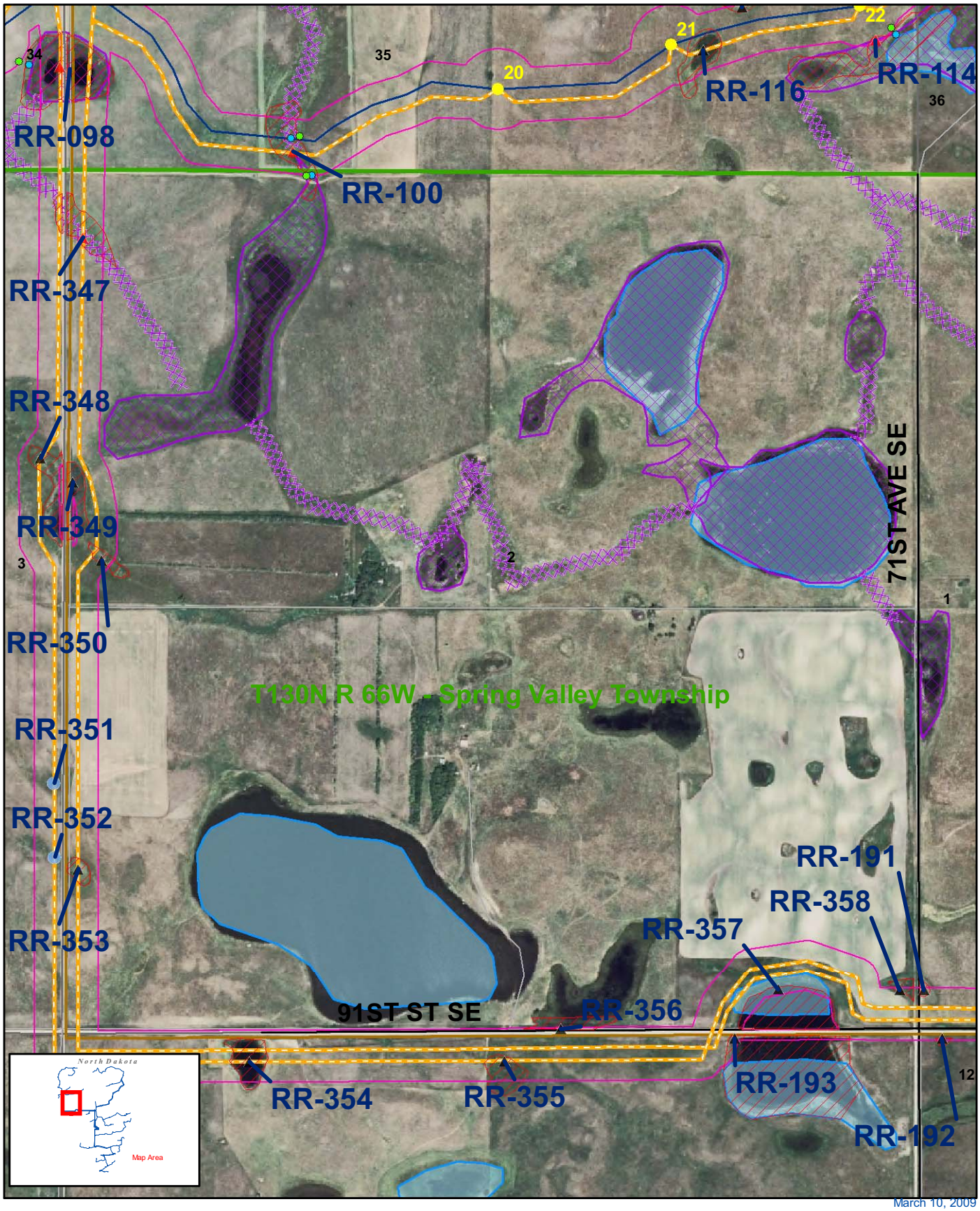
Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-192 View South 1-6-09

TOWNSHIP 130
RANGE 66
SECTION 2

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Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

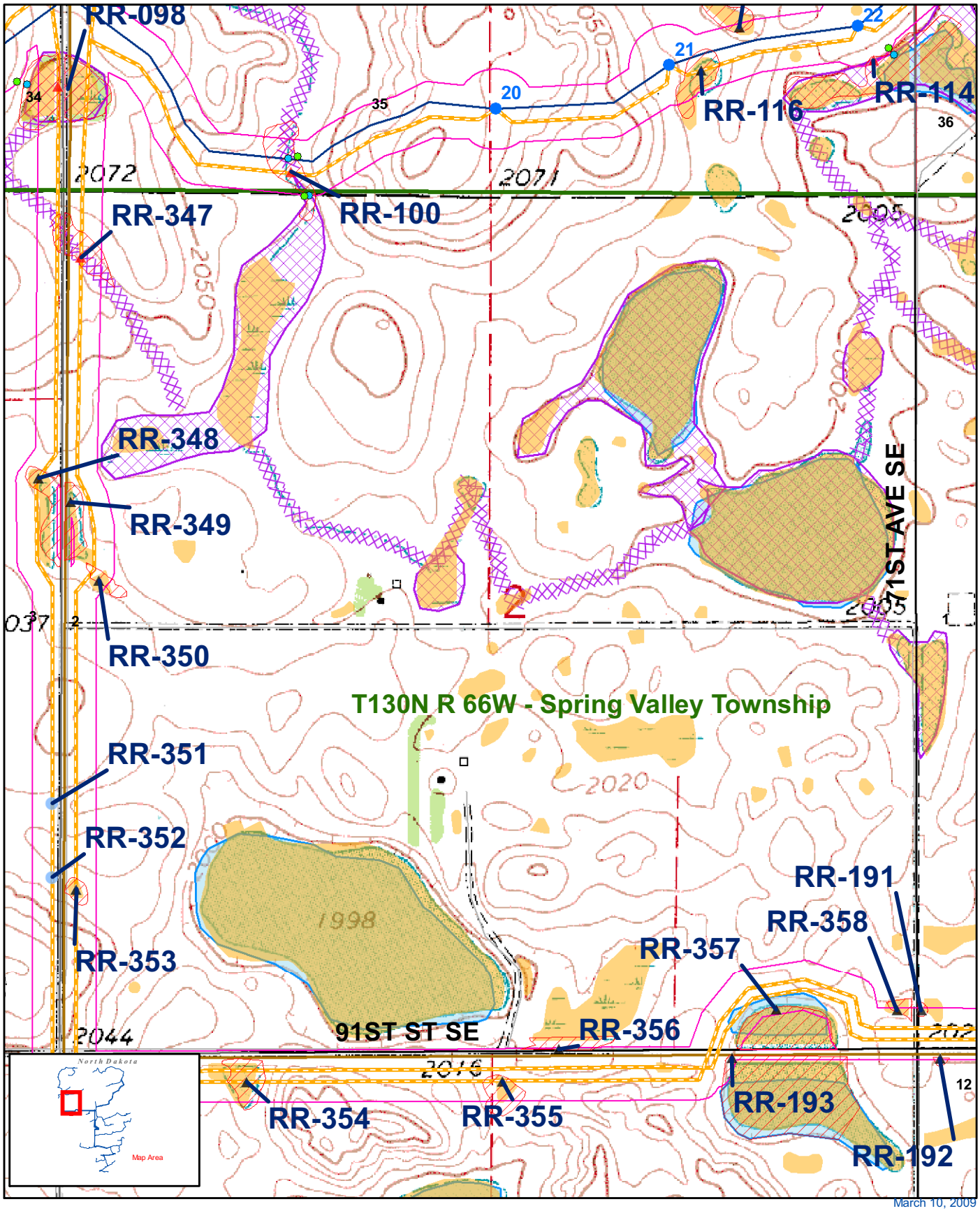
March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Spring Valley Township
Section 2
NAIP Image

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March 10, 2009

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Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Spring Valley Township
Section 2
Quad Image

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 08-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-193**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 2 **T** 130N **R** 66 W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5105013.995 **Long.:** E: 507350.7763 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Typha angustifolia	Herb	70	☑ 70.0%	OBL
2. Carex aquatilis	Herb	30	☑ 30.0%	OBL
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Southeast (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-193

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

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- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
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- ☐ Saturation (A3)
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- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches): 36

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

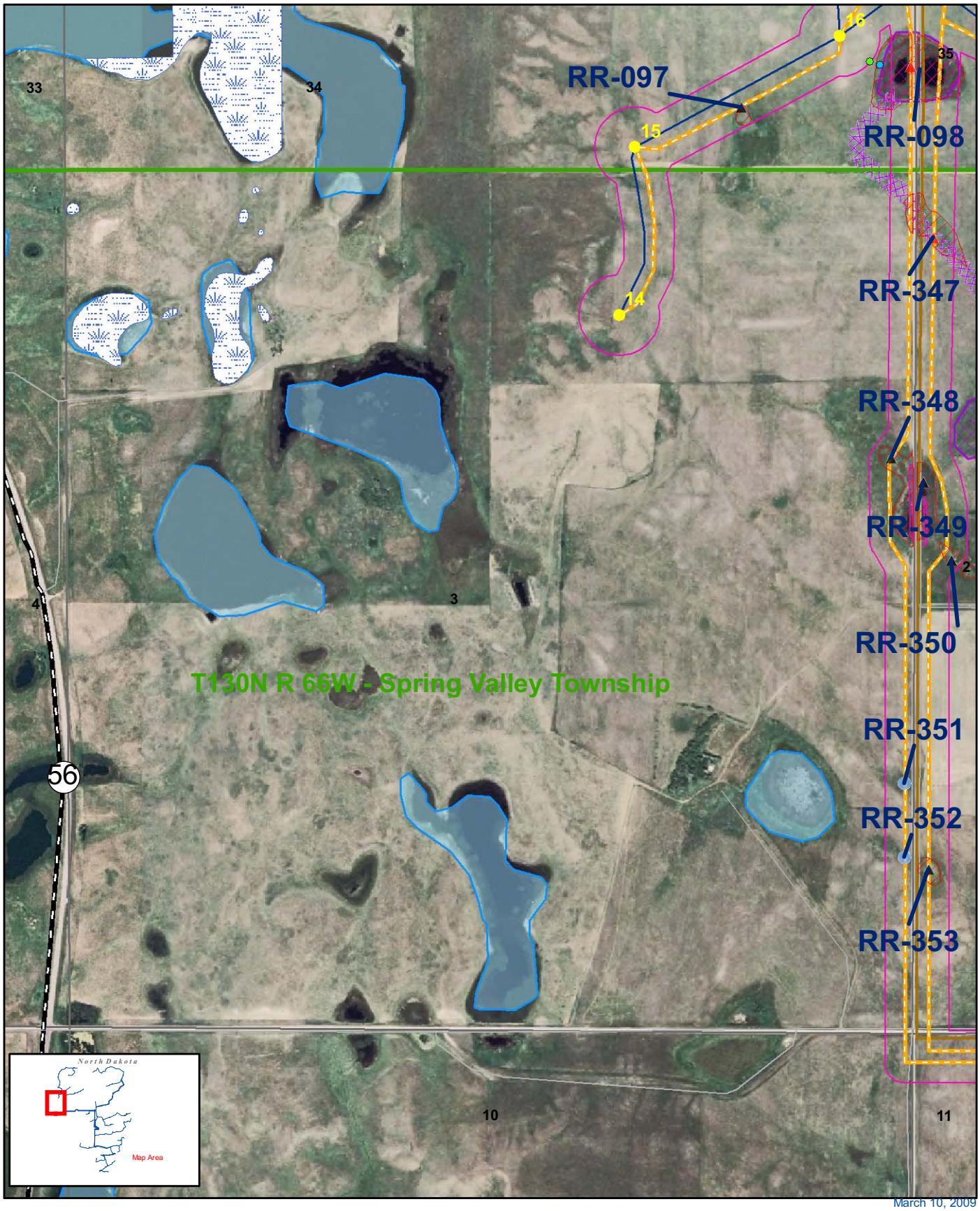
Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-193 View Southeast 12-8-08

TOWNSHIP 130
RANGE 66
SECTION 3

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Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

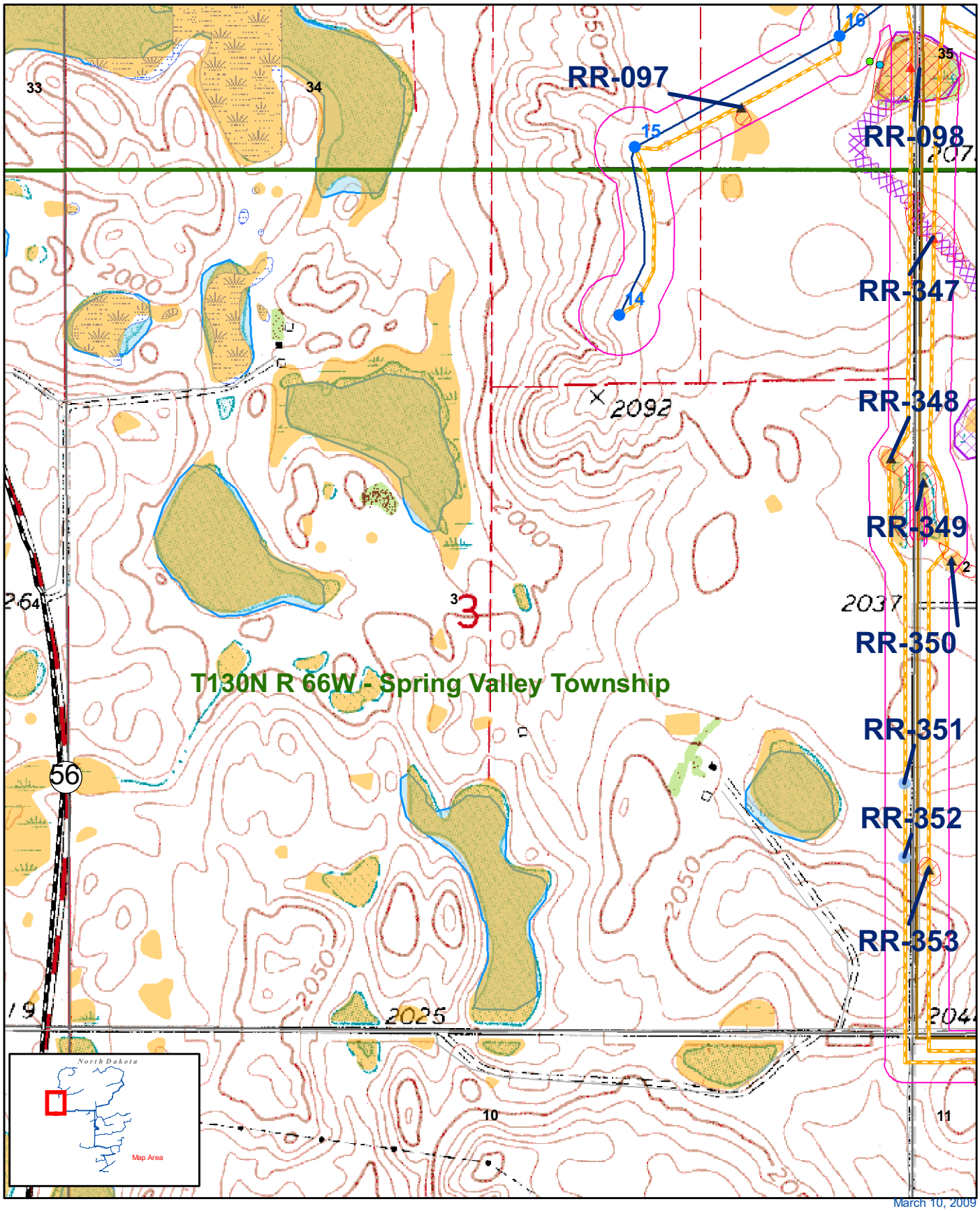
March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Spring Valley Township
Section 3
NAIP Image

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Grid: NAD 83 UTM Zone 14

1:10,000

Feet
0 250 500 1,000

TETRA TECH

- ▲ Non Jurisdictional
- ▲ USACE Jurisdiction
- ▲ USACE/USFWS Jurisdiction
- ▲ USFWS Jurisdiction
- Crossing Location
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GPS Data

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March 10, 2009

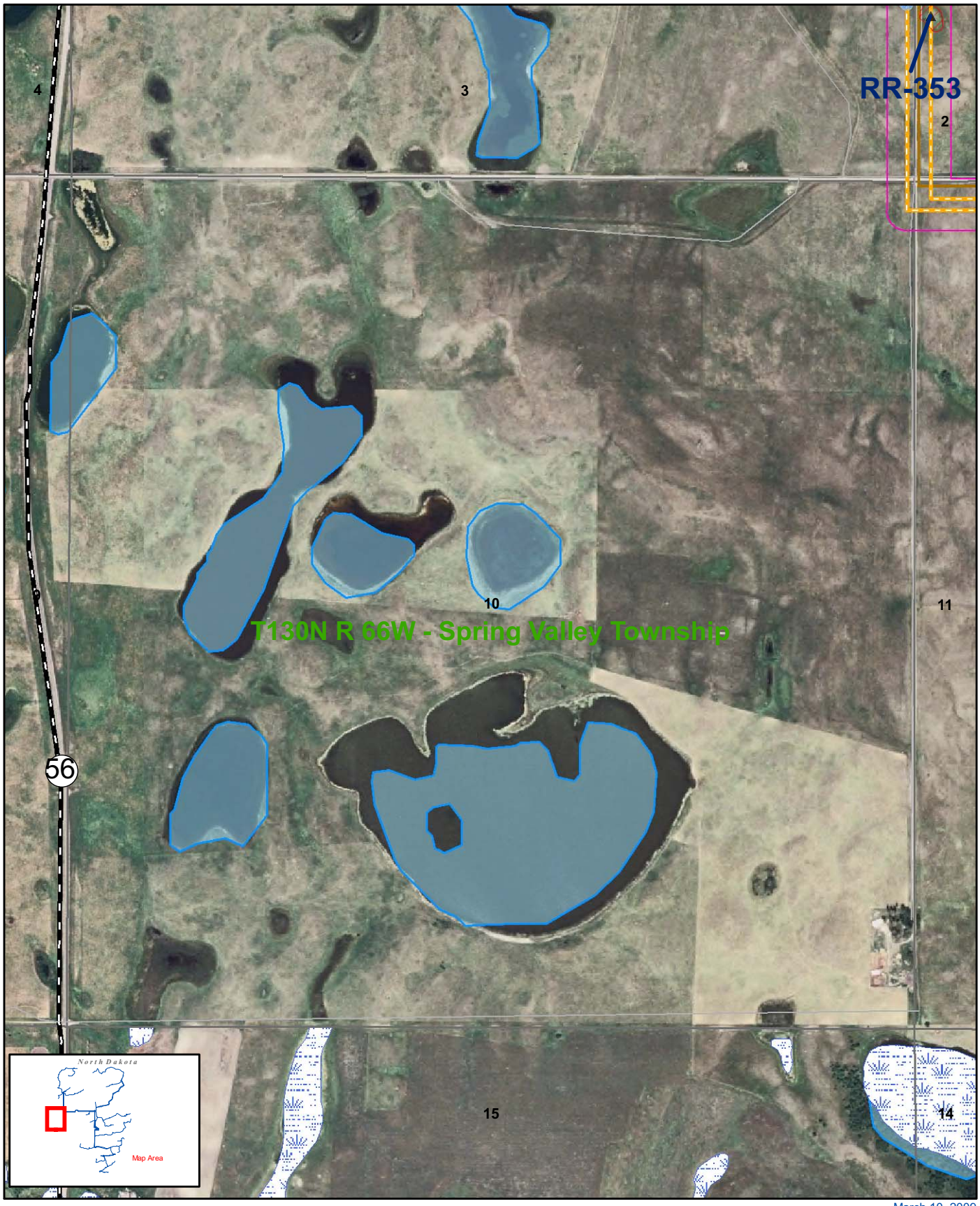
Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Spring Valley Township
Section 3
Quad Image

TOWNSHIP 130
RANGE 66
SECTION 10

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Feet
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March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Spring Valley Township
Section 10
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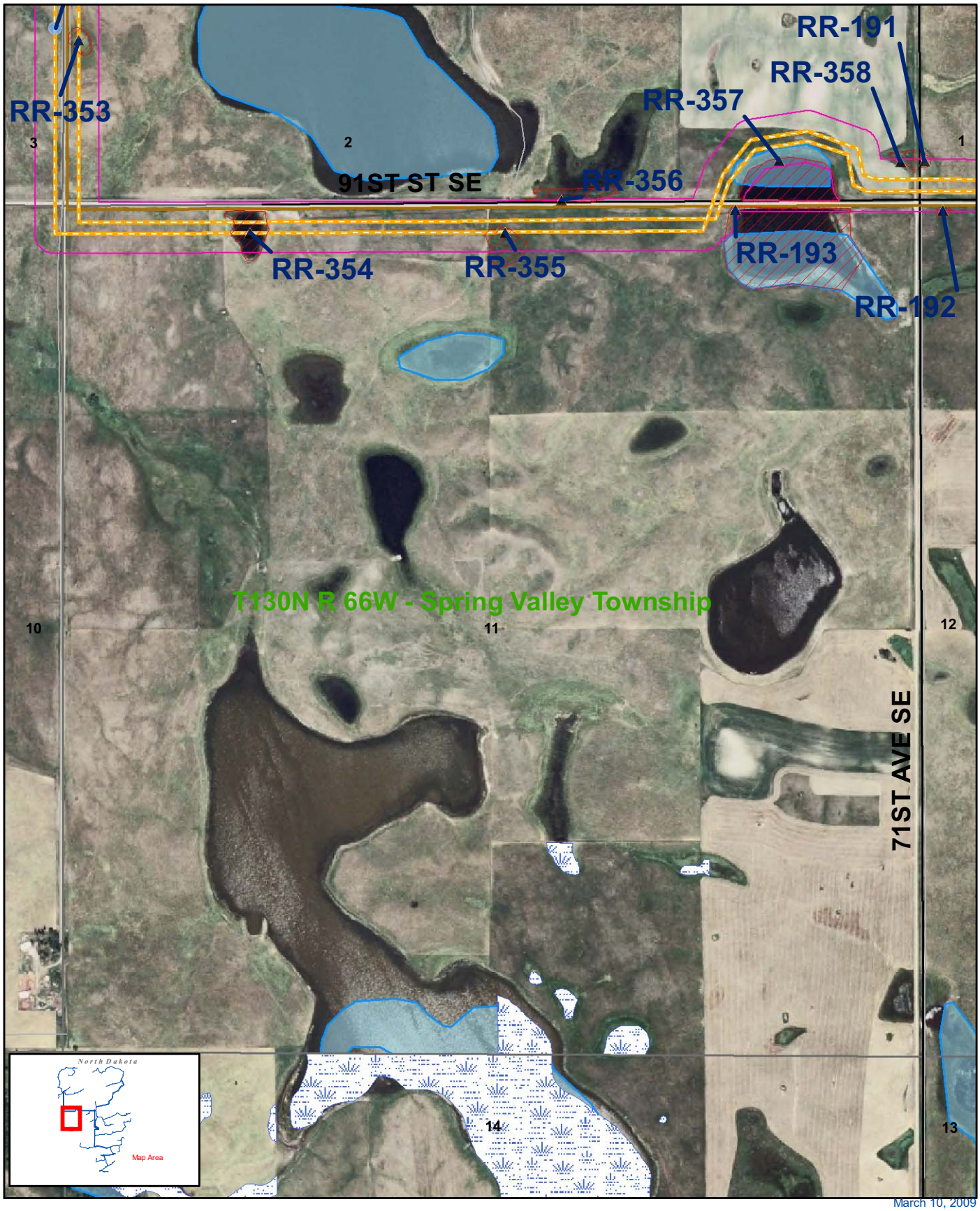
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TOWNSHIP 130
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SECTION 11

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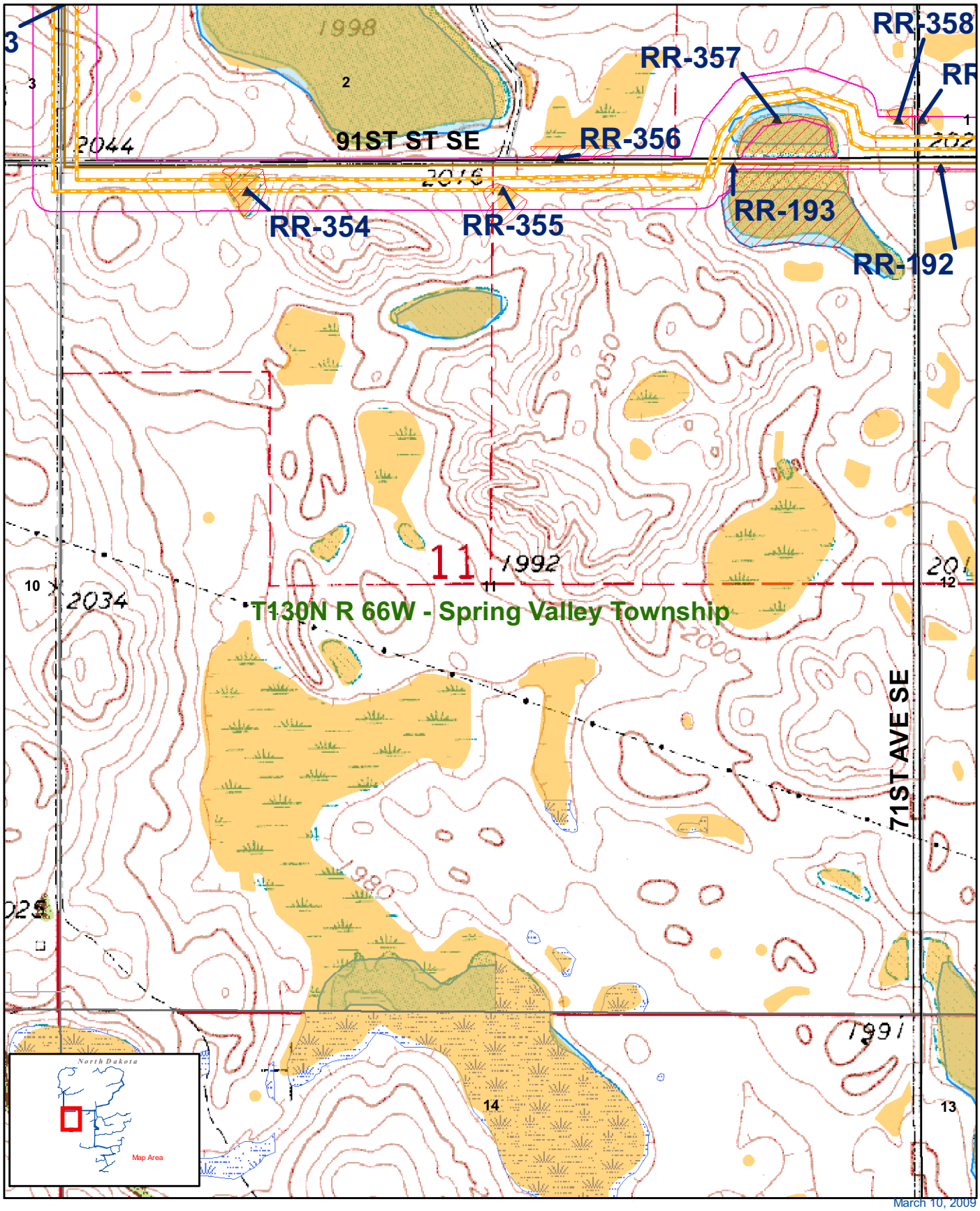
March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Spring Valley Township
Section 11
NAIP Image

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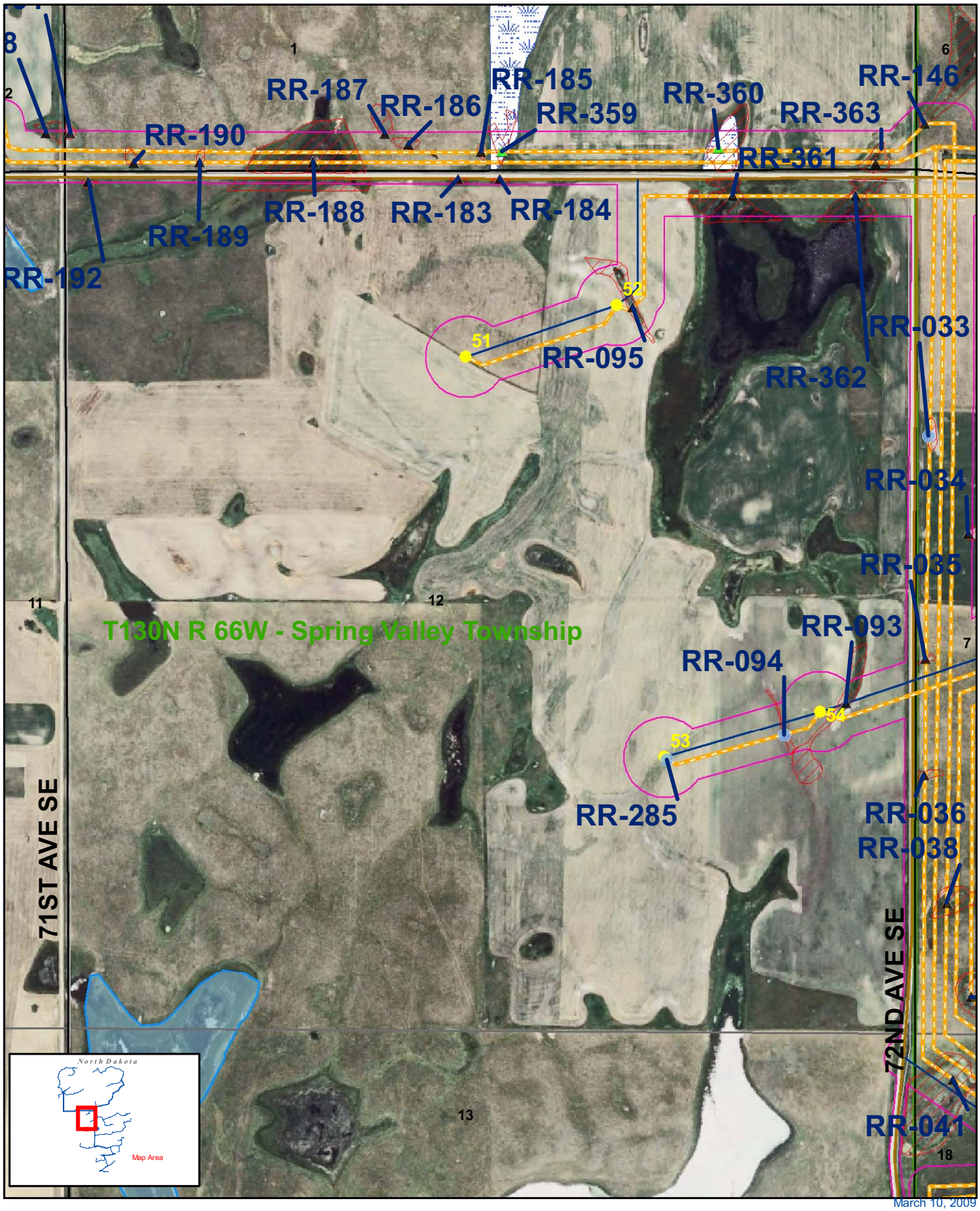
Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Spring Valley Township
Section 11
Quad Image

TOWNSHIP 130
RANGE 66
SECTION 12

G:\Ea\northdakota\RoughRider\Arcmap\RR_Zooms_85x11.mxd.mrp.100-AMC-T23189



Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

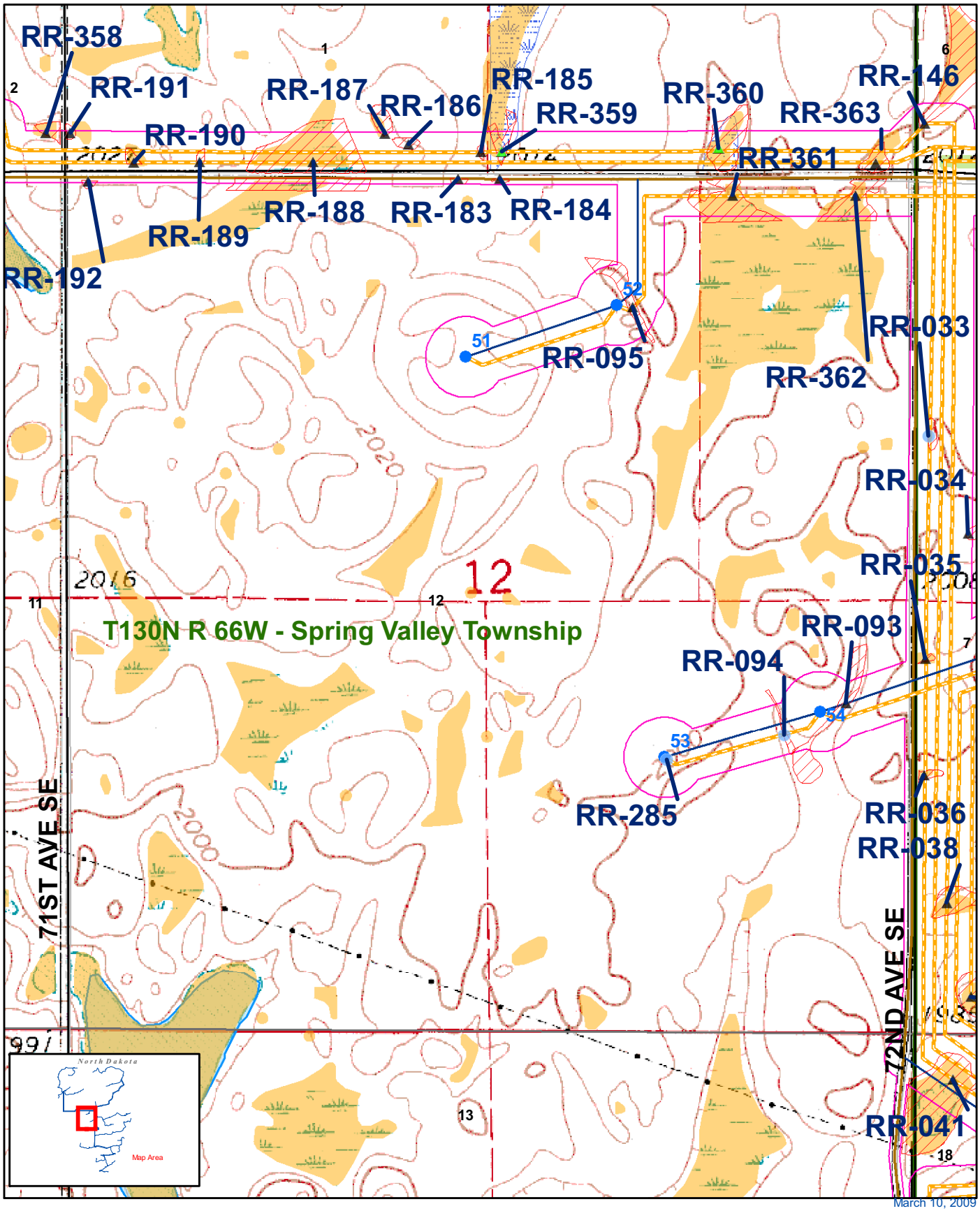
March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Spring Valley Township
Section 12
NAIP Image

G:\Ea\northdakota\RoughRider\Arcmap\RR_Zooms_85x11.mxd.mrp.100-AMC-T23189



Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- NWI Wetland Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Spring Valley Township
Section 12
Quad Image

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 24-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-093**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 12 **T** 130N **R** 66 W

Landform (hillslope, terrace, etc.): Channel (active) **Local relief (concave, convex, none):** undulating **Slope:** 5.2% / 3.0 °

Subregion (LRR): LRR F **Lat.:** N: 5103990.197 **Long.:** E: 509043.5755 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent slopes **NWI classification:** PEMF

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Typha angustifolia	Herb	75	☑ 75.0%	OBL
2. Phragmites australis	Herb	10	☐ 10.0%	FACW
3. Phalaris arundinacea	Herb	15	☐ 15.0%	FACW+
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	75	x 1 =	75
FACW species	25	x 2 =	50
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		125 (B)

Prevalence Index = B/A = 1.25

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View North (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-093

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-093 View North 11-24-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 24-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-094**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 12 **T** 130N **R** 66 W

Landform (hillslope, terrace, etc.): Swale **Local relief (concave, convex, none):** undulating **Slope:** 5.2% / 3.0 °

Subregion (LRR): LRR F **Lat.:** N: 5103976.496 **Long.:** E: 508957.3529 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent slopes **NWI classification:** PEMA

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:
Based on the data collected, this location does not meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species? Rel.Strat. Cover		Indicator Status
Tree Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
			0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
5.			0	☐		
			0	= Total Cover		
Herb Stratum (Plot size:)						
1.	Zea mays	Herb	50	☑	100.0%	UPL
2.			0	☐	0.0%	
3.			0	☐	0.0%	
4.			0	☐	0.0%	
5.			0	☐	0.0%	
6.			0	☐	0.0%	
7.			0	☐	0.0%	
8.			0	☐	0.0%	
9.			0	☐	0.0%	
10.			0	☐	0.0%	
			50	= Total Cover		
Woody Vine Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
			0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	50	x 5 =	250	
Column Totals:	50	(A)	250	(B)

Prevalence Index = B/A = 5

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.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:
Vegetation dominated by non-hydrophytes. Photos: View South (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-094

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Nothing Evident, Farmed Through = Site shows no evident signs of a typical hydrophitic vegetative community, and is presently or has recently been farmed.



RR-094 View South 11-24-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 24-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-095**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 12 **T** 130N **R** 66 W

Landform (hillslope, terrace, etc.): Swale **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5104813.515 **Long.:** E: 508648.6226 **Datum:** NAD 1983

Soil Map Unit Name: William- Bowbells Loam, 3 to 6 percent slopes **NWI classification:** PEMF

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species? Rel.Strat. Cover		Indicator Status
Tree Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
			0	**= Total Cover**		
Sapling/Shrub Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
5.			0	☐		
			0	**= Total Cover**		
Herb Stratum (Plot size:)						
1.	Typha angustifolia	Herb	80	☑	80.0%	OBL
2.	Phalaris arundinacea	Herb	10	☐	10.0%	FACW+
3.	Carex aquatilis	Herb	5	☐	5.0%	OBL
4.	Rumex crispus	Herb	5	☐	5.0%	FACW
5.			0	☐	0.0%	
6.			0	☐	0.0%	
7.			0	☐	0.0%	
8.			0	☐	0.0%	
9.			0	☐	0.0%	
10.			0	☐	0.0%	
			100	**= Total Cover**		
Woody Vine Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
			0	**= Total Cover**		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:
OBL species	85	x 1 =	85
FACW species	15	x 2 =	30
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		115 (B)

Prevalence Index = B/A = 1.15

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Southeast (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-095

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-095 View Southeast 11-24-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 08-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-183**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 12 **T** 130N **R** 66 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5105015.147 **Long.:** E: 508342.5816 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent slopes **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View West (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-183

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
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- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
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- ☐ Water Marks (B1)
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- ☐ Other (Explain in Remarks)

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- ☐ Sparsely Vegetated Concave Surface (B8)
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- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

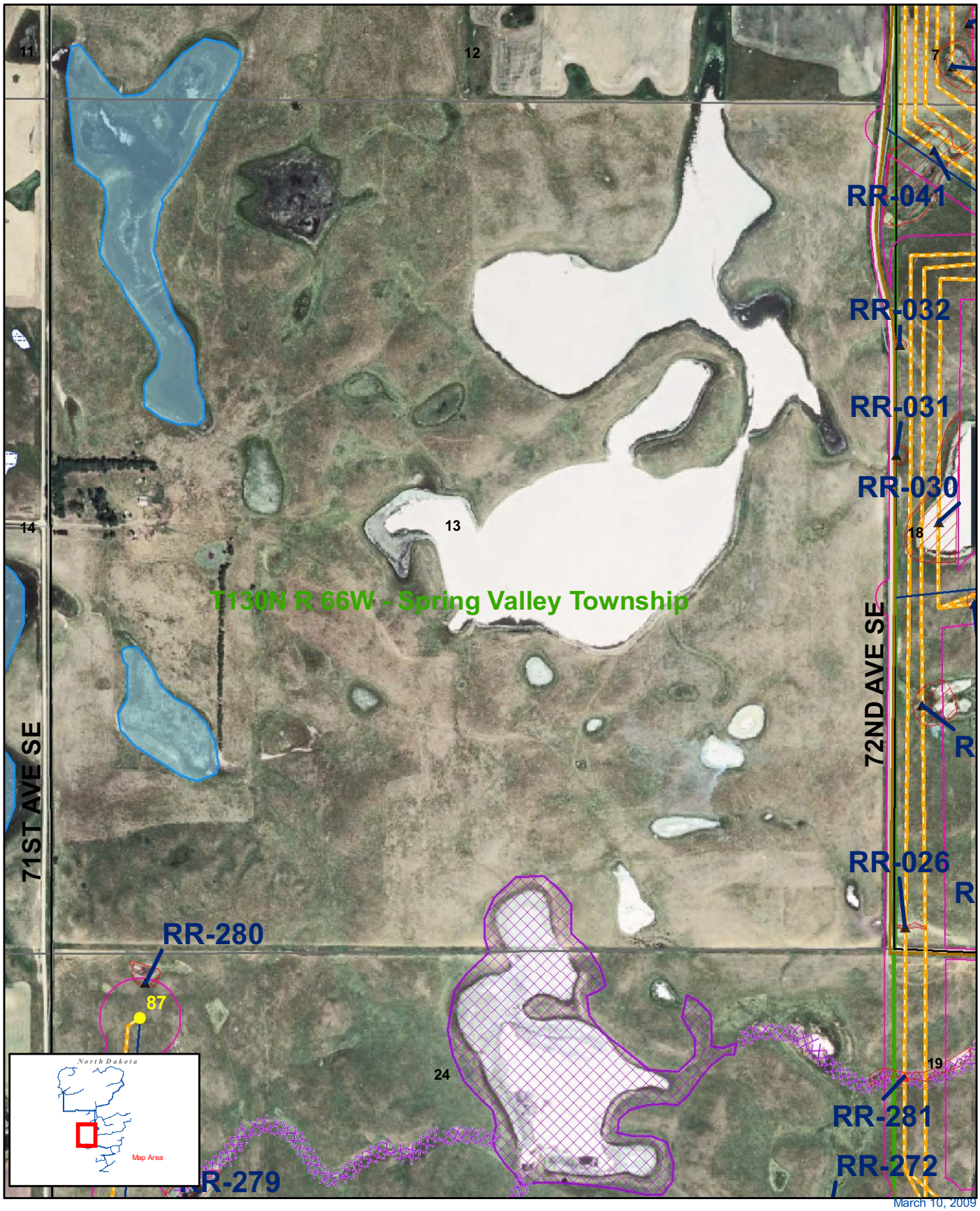
Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-183 View West 12-8-08

TOWNSHIP 130
RANGE 66
SECTION 13

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Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

N W E S

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

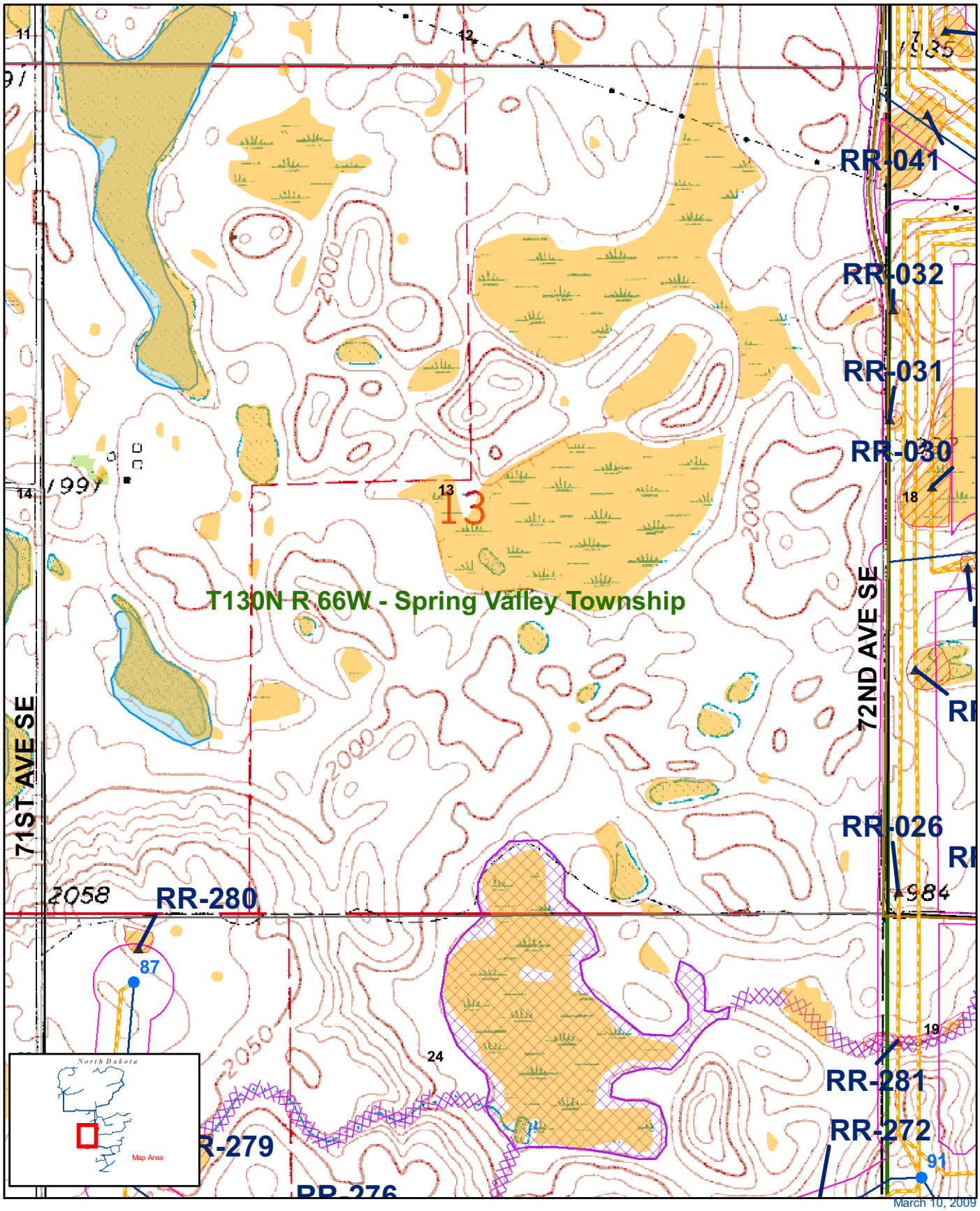
March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Spring Valley Township
Section 2
NAIP Image

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Grid: NAD 83 UTM Zone 14

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Feet
0 250 500 1,000

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data
- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- NWI Wetland Areas
- River / Stream
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- USFWS Wetland Easement

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March 10, 2009

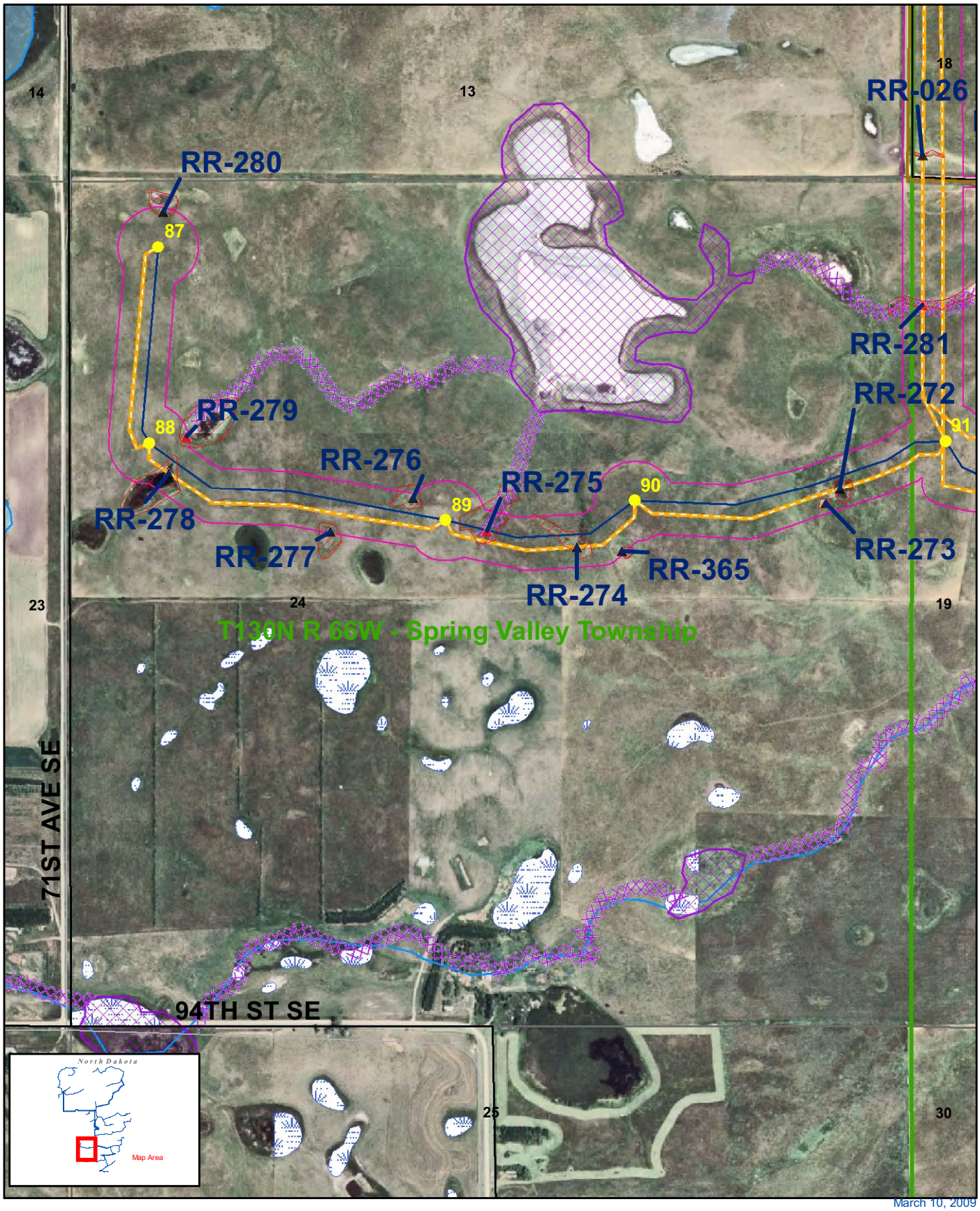
Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Spring Valley Township
Section 13
Quad Image

TOWNSHIP 130
RANGE 66
SECTION 24

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Grid: NAD 83 UTM Zone 14

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0 250 500 1,000 Feet

TETRA TECH

- Non Jurisdictional
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- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

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- Lake / Pond
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- Access Road
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- PLSS Sections
- Facility Buffer

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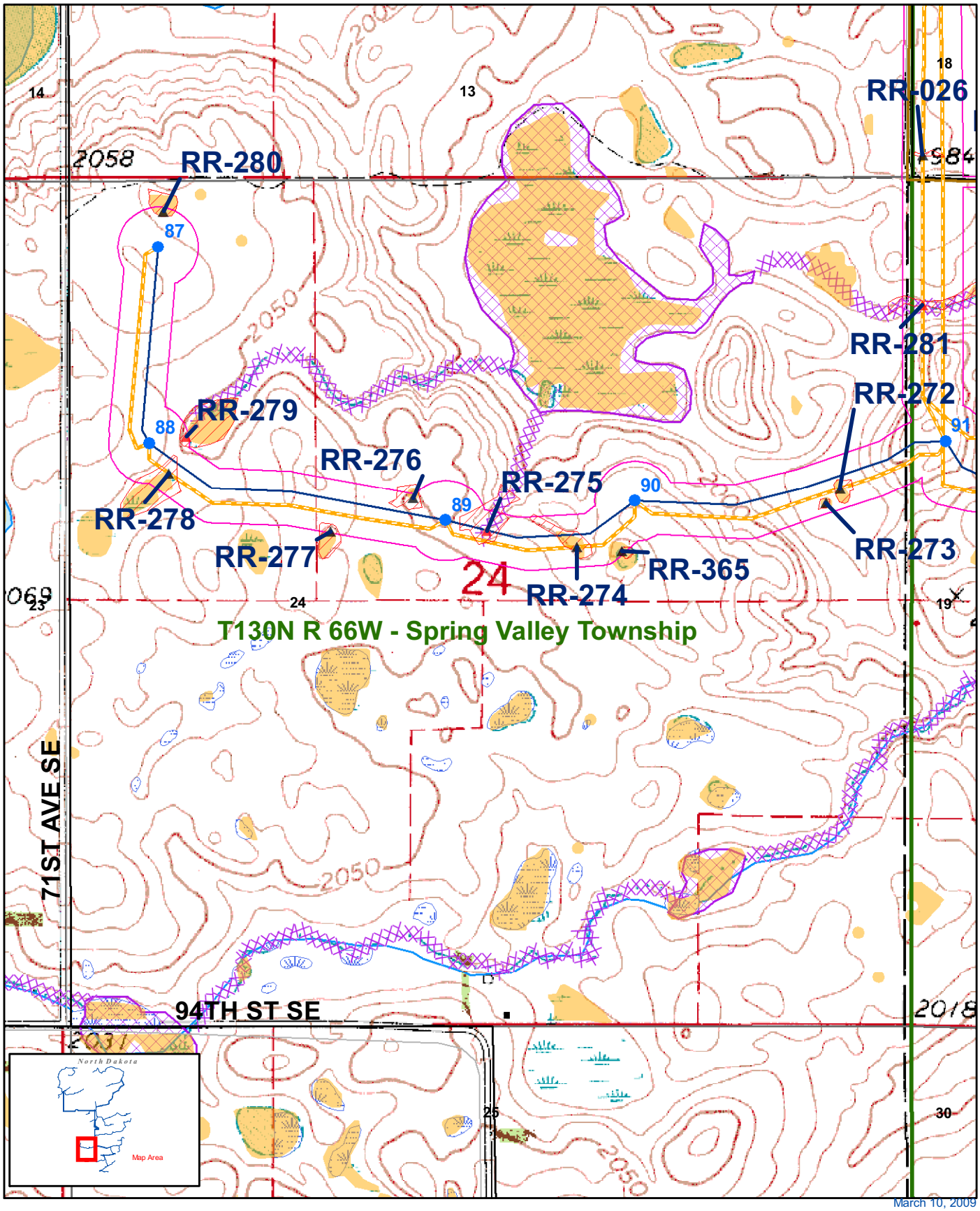
March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Spring Valley Township
Section 24
NAIP Image

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Grid: NAD 83 UTM Zone 14

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0 250 500 1,000 Feet

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
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- GE Turbine Location

GPS Data

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- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

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- NWI Wetland Areas
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March 10, 2009

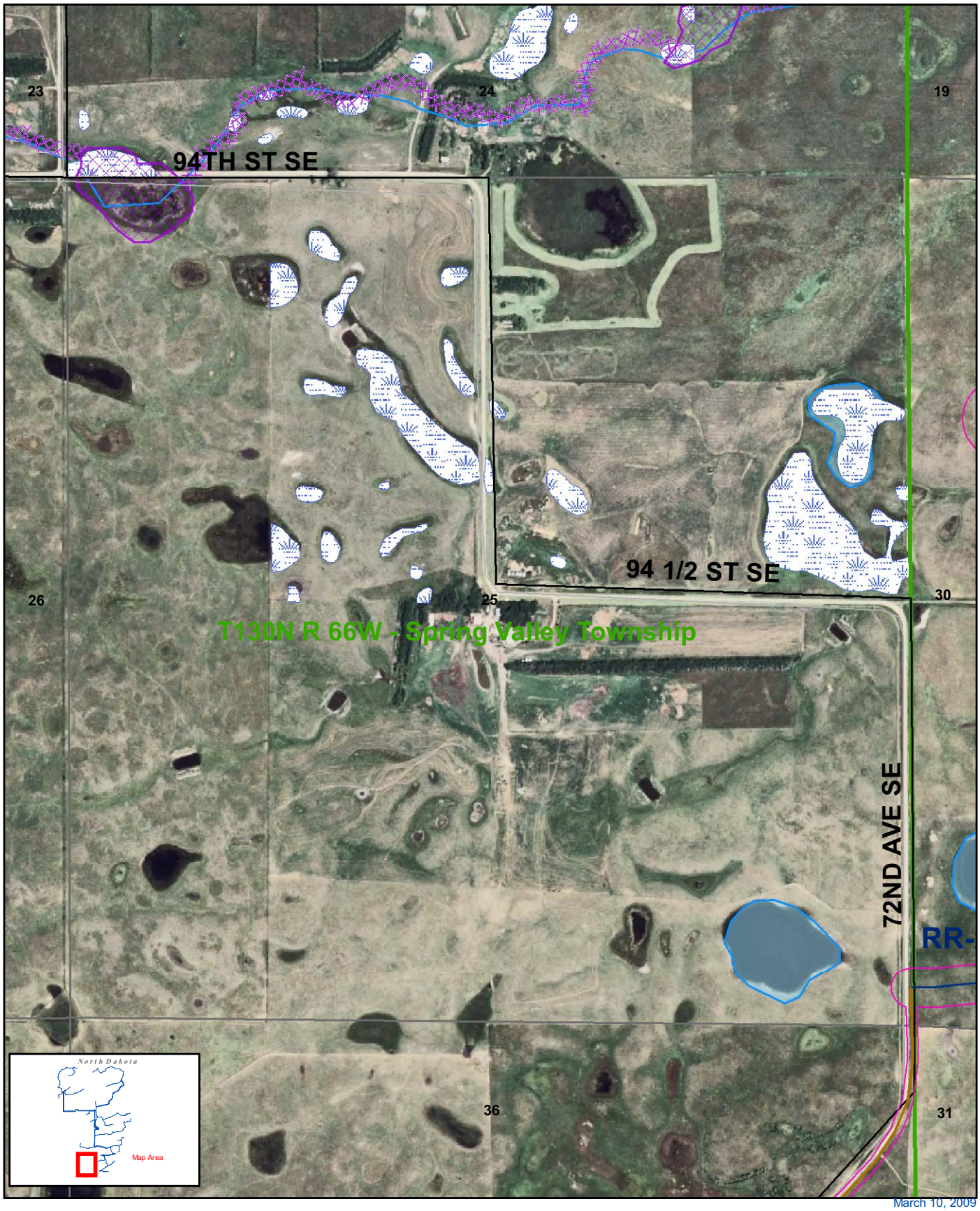
Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Spring Valley Township
Section 24
Quad Image

TOWNSHIP 130
RANGE 66
SECTION 25

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Grid: NAD 83 UTM Zone 14

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Feet
0 250 500 1,000

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data
- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- River / Stream
- Lake / Pond
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- Collector
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- PLSS Sections
- Facility Buffer

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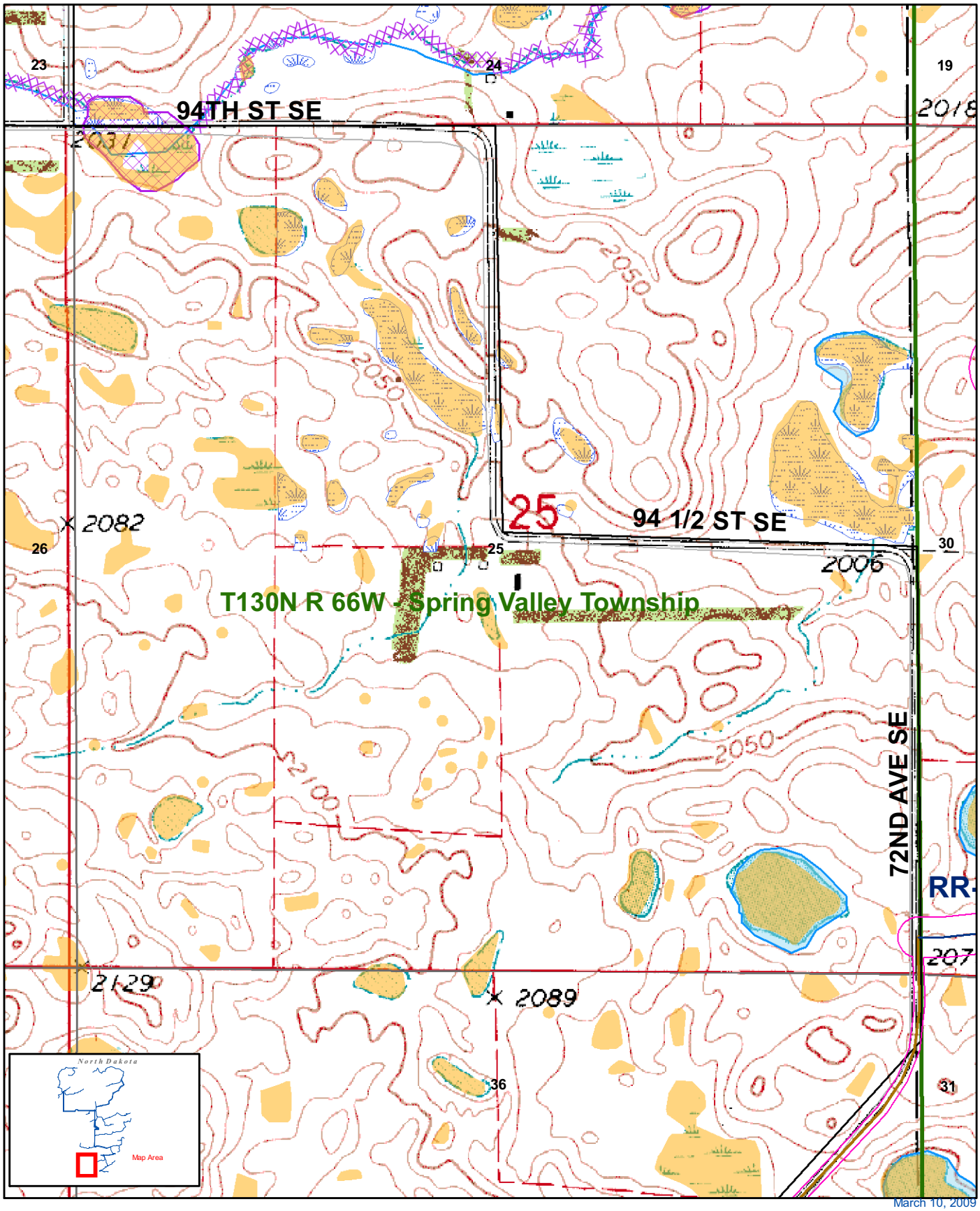
March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Spring Valley Township
Section 25
NAIP Image

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Grid: NAD 83 UTM Zone 14

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Feet
0 250 500 1,000

TETRA TECH

- ▲ Non Jurisdictional
- ▲ USACE Jurisdiction
- ▲ USACE/USFWS Jurisdiction
- ▲ USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data
- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- NWI Wetland Areas
- River / Stream
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March 10, 2009

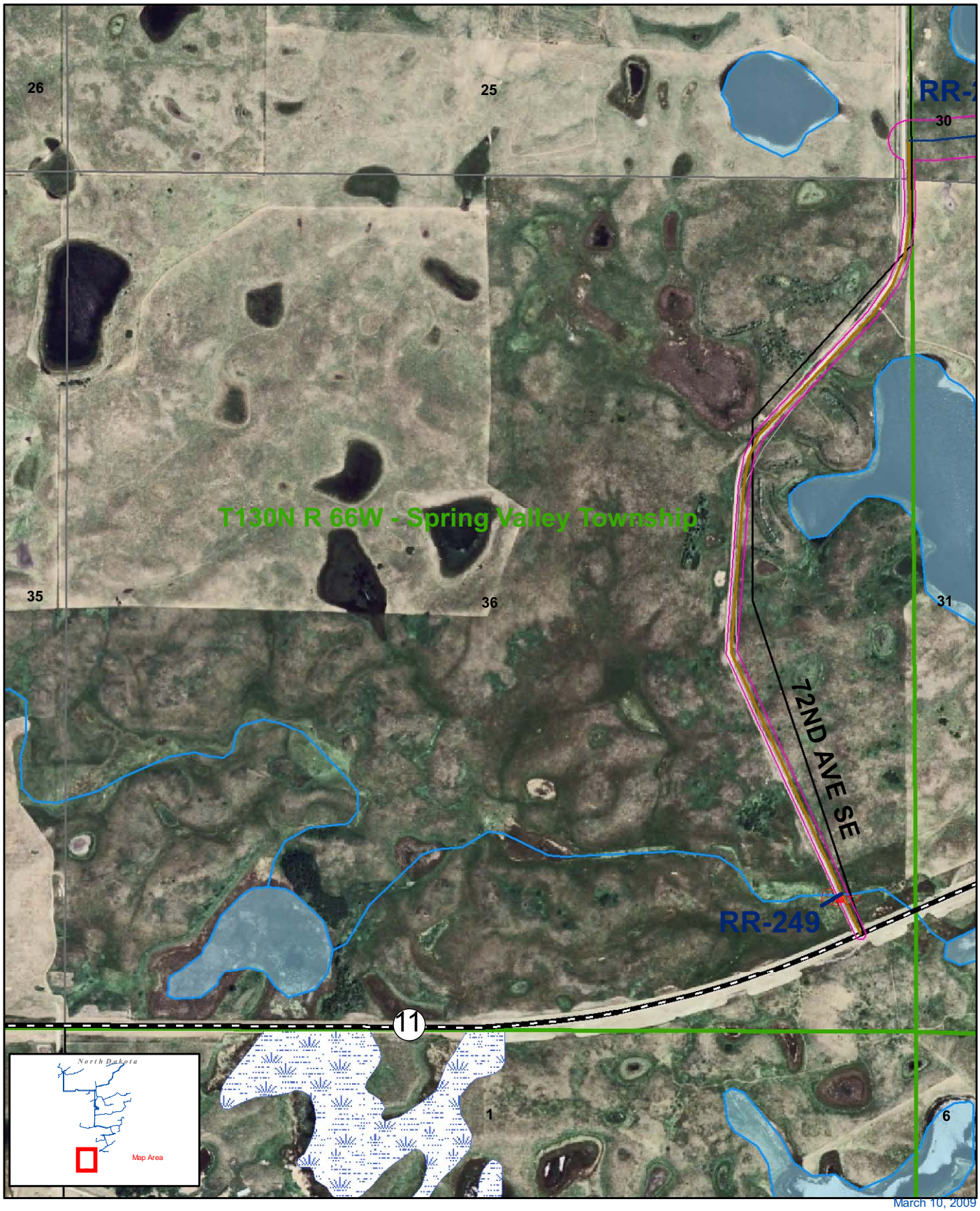
Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Spring Valley Township
Section 25
Quad Image

TOWNSHIP 130
RANGE 66
SECTION 36

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Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

- ▲ Non Jurisdictional
- ▲ USACE Jurisdiction
- ▲ USACE/USFWS Jurisdiction
- ▲ USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

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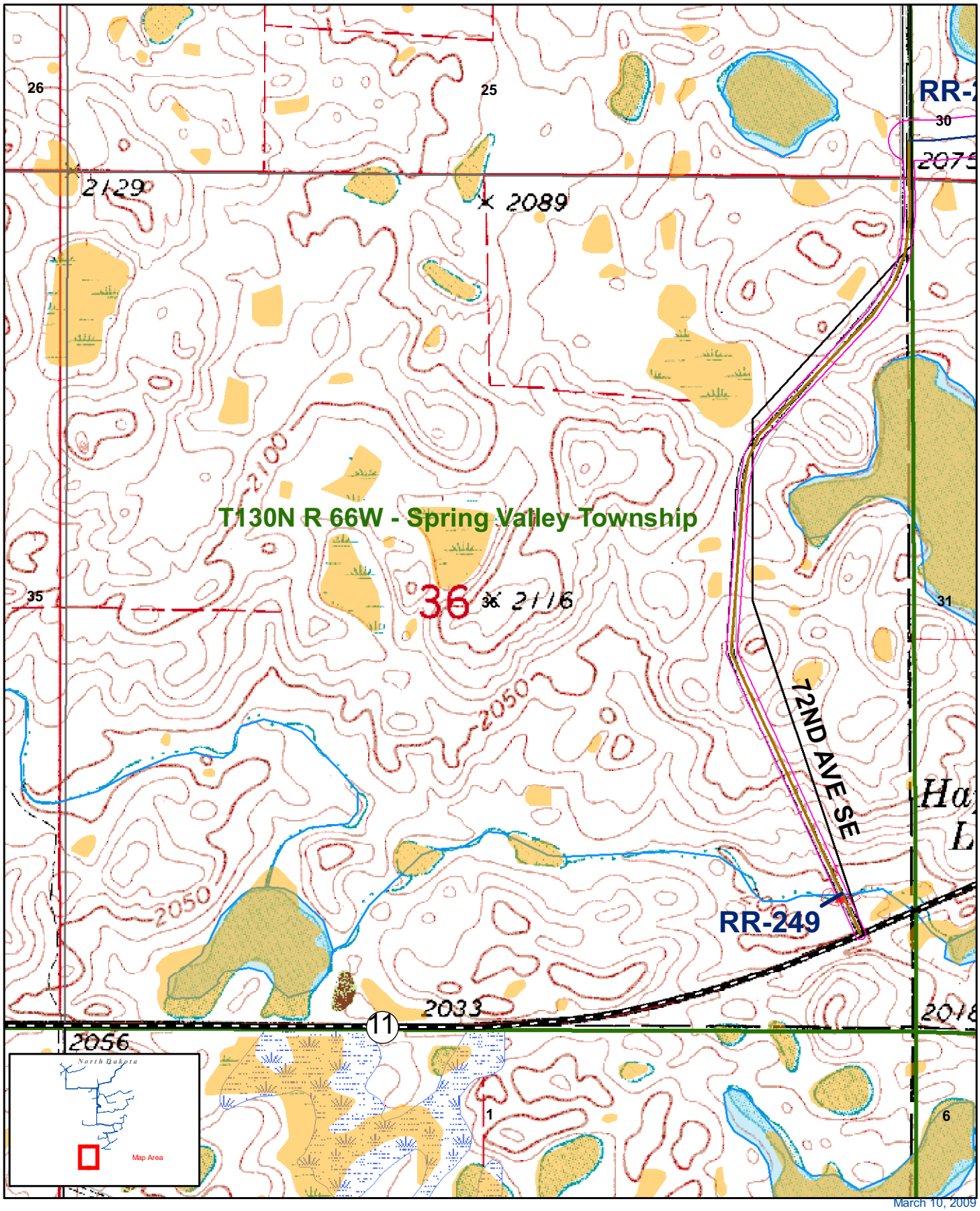
March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Spring Valley Township
Section 36
NAIP Image

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Grid: NAD 83 UTM Zone 14

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0 250 500 1,000 Feet

TETRA TECH

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March 10, 2009

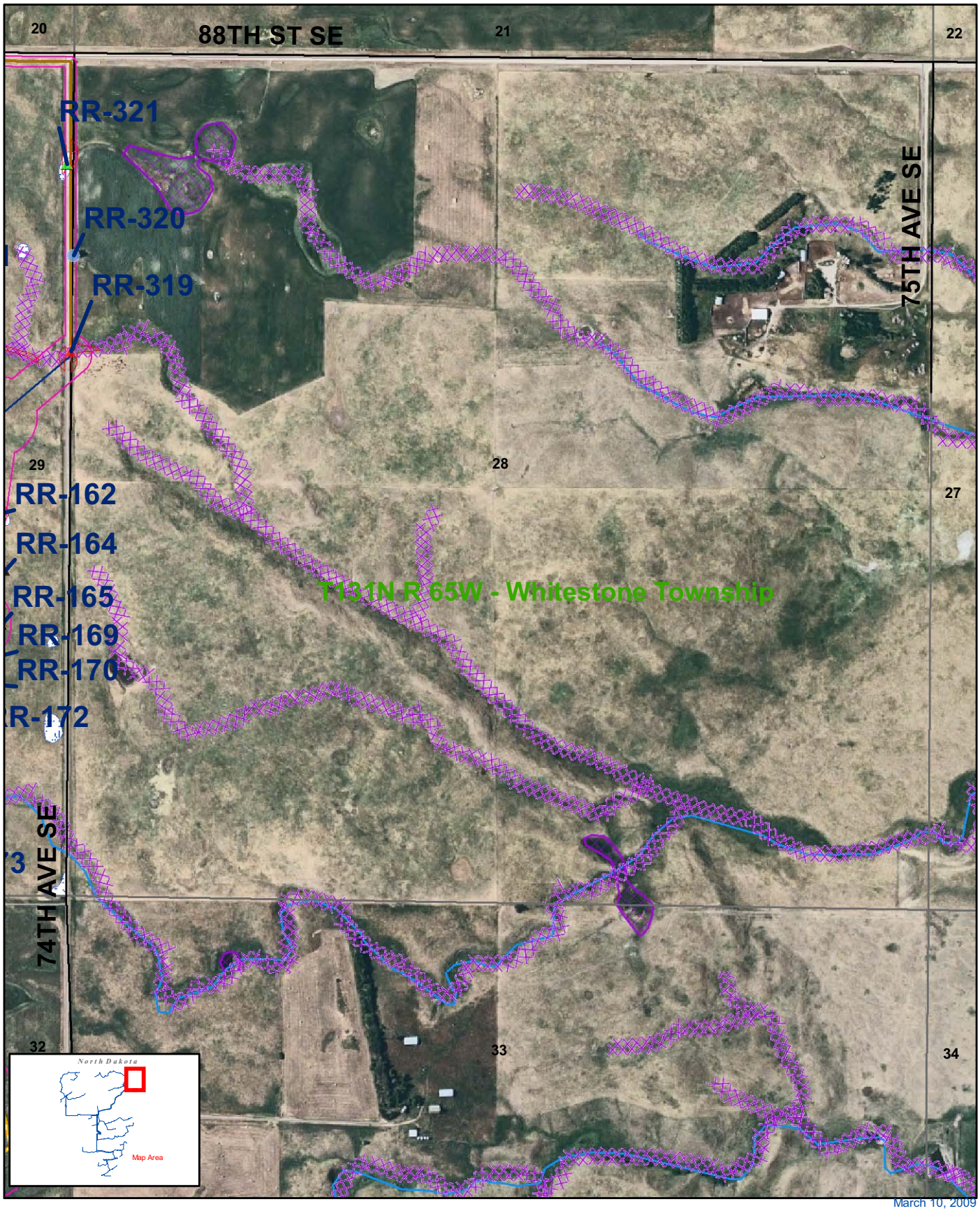
Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Spring Valley Township
Section 36
Quad Image

TOWNSHIP 131
RANGE 65
SECTION 28

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Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

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- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

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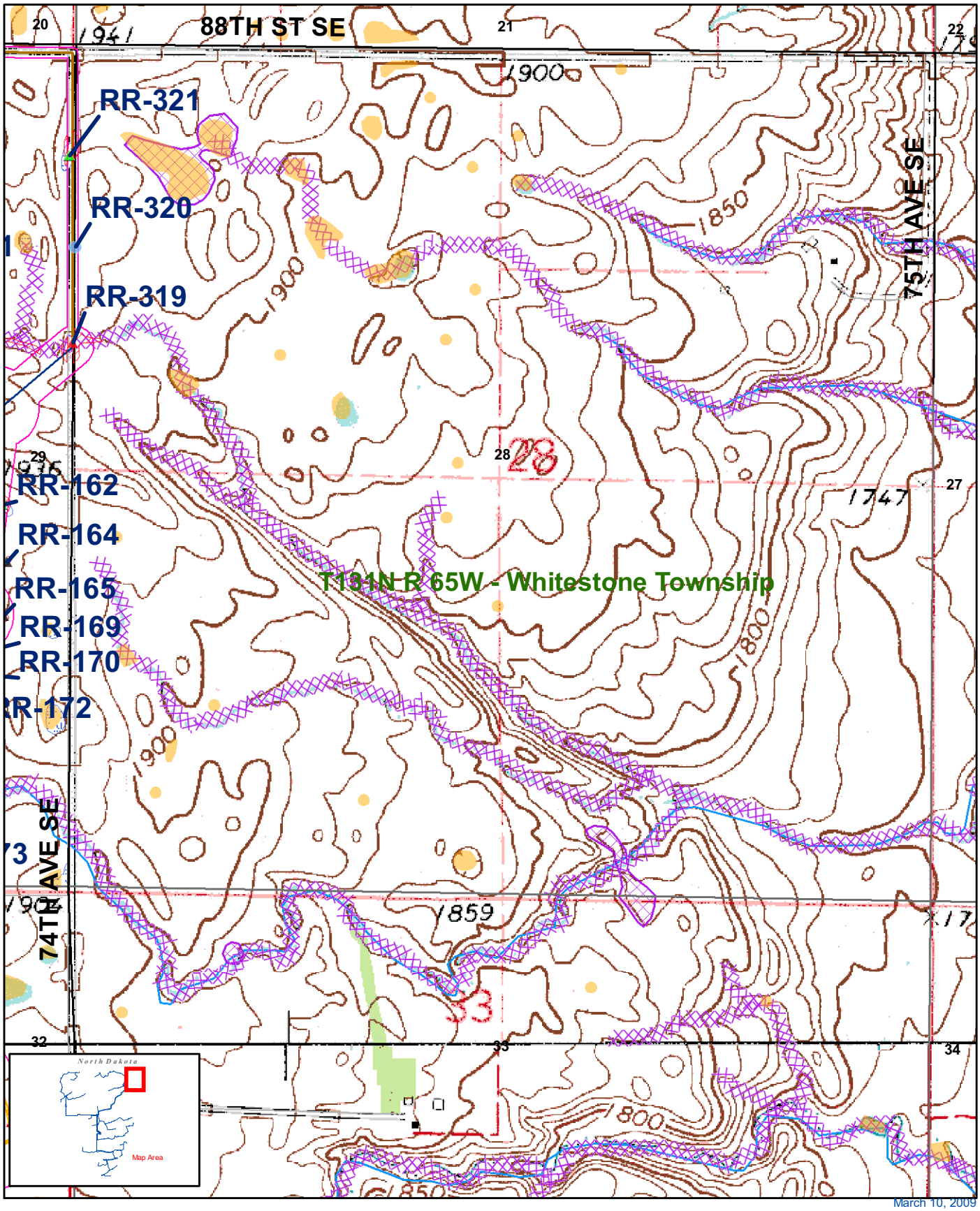
March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Whitestone Township
Section 28
NAIP Image

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Grid: NAD 83 UTM Zone 14

1:10,000

Feet
0 250 500 1,000

TETRA TECH

- ▲ Non Jurisdictional
- ▲ USACE Jurisdiction
- ▲ USACE/USFWS Jurisdiction
- ▲ USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data
- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- NWI Wetland Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Whitestone Township
Section 28
Quad Image

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-161-01U**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 28 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Swale **Local relief (concave, convex, none):** undulating **Slope:** 10.5% / 6.0 °

Subregion (LRR): LRR F **Lat.:** N: 5109311.334 **Long.:** E: 512248.4116 **Datum:** NAD 1983

Soil Map Unit Name: William- Zahl loam **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ◉	No ○	
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
Based on the data collected, this location does not meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Stipa comata	#N/A	100	☑ 100.0%	UPL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	100	x 5 =	500
Column Totals:	100 (A)		500 (B)

Prevalence Index = B/A = 5

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.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:

Vegetation dominated by non-hydrophytes. Photos: View South (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-161-01U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Non-wet data point. No indications of wetland hydrology observed at this site.



RR-161-01U View South 12-7-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-161-01W**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 28 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Channel (active) **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5109311.334 **Long.:** E: 512248.4116 **Datum:** NAD 1983

Soil Map Unit Name: William- Zahl loam **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Carex crawei	Herb	100	☑ 100.0%	FACW
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0	
FACW species	100	x 2 =	200	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	200	(B)

Prevalence Index = B/A = 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)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View North (Page 1), View East (Page 1), View West (Page 2)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-161-01W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
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- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
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- ☐ Depleted Dark Surface (F7)
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- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

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- ☐ 1 cm Muck (A9) (LRR I, J)
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- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Wetland w/ USFWS wetland easement - possesses a discreet or confined surface or shallow subsurface connection to a tributary stream eventual flowing into a navigable water of the United States.



RR-161-01W View North 12-7-08



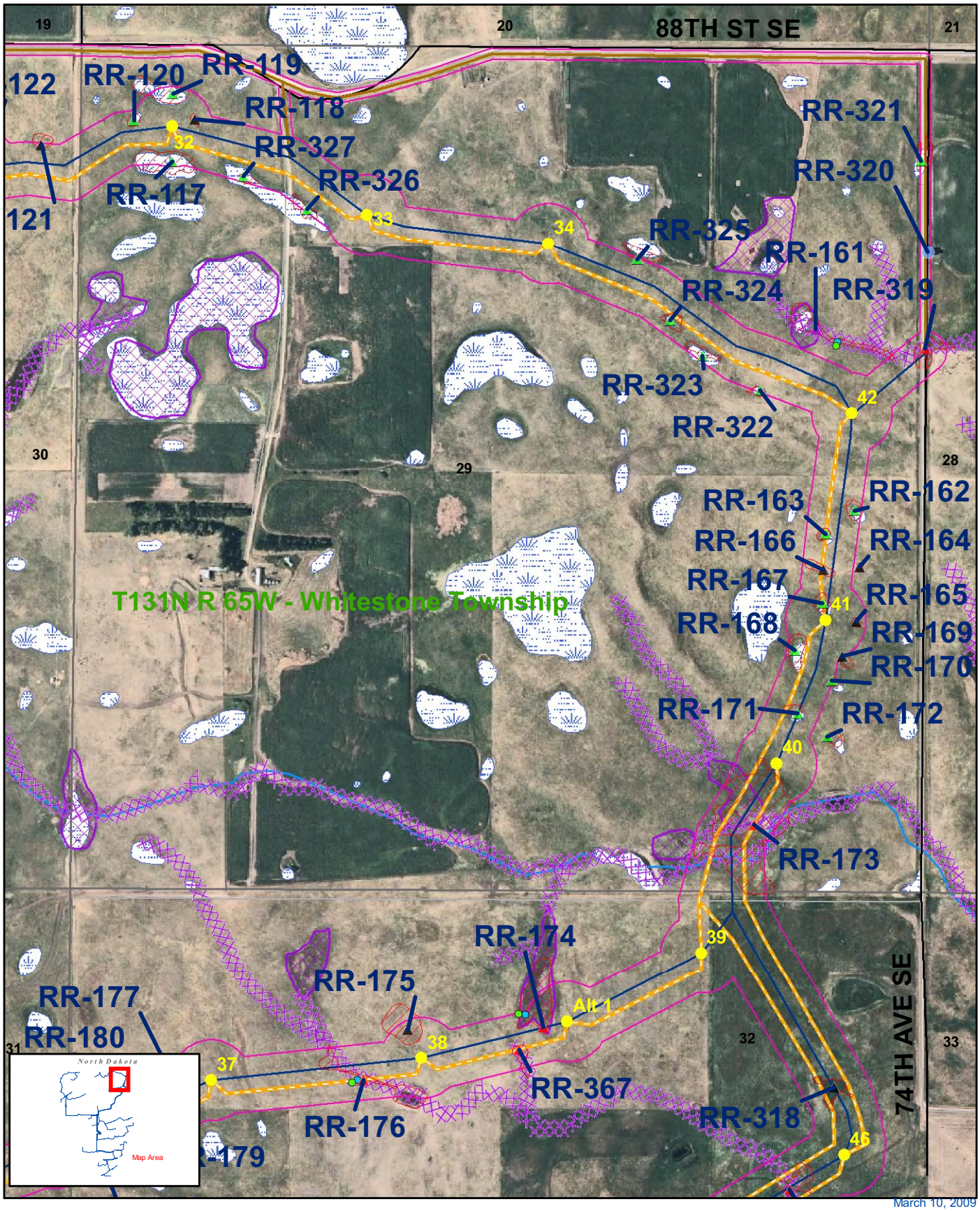
RR-161-01W View East 12-7-08



RR-161-01W View West 12-7-08

TOWNSHIP 131
RANGE 65
SECTION 29

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Grid: NAD 83 UTM Zone 14

1:10,000

Feet
0 250 500 1,000

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

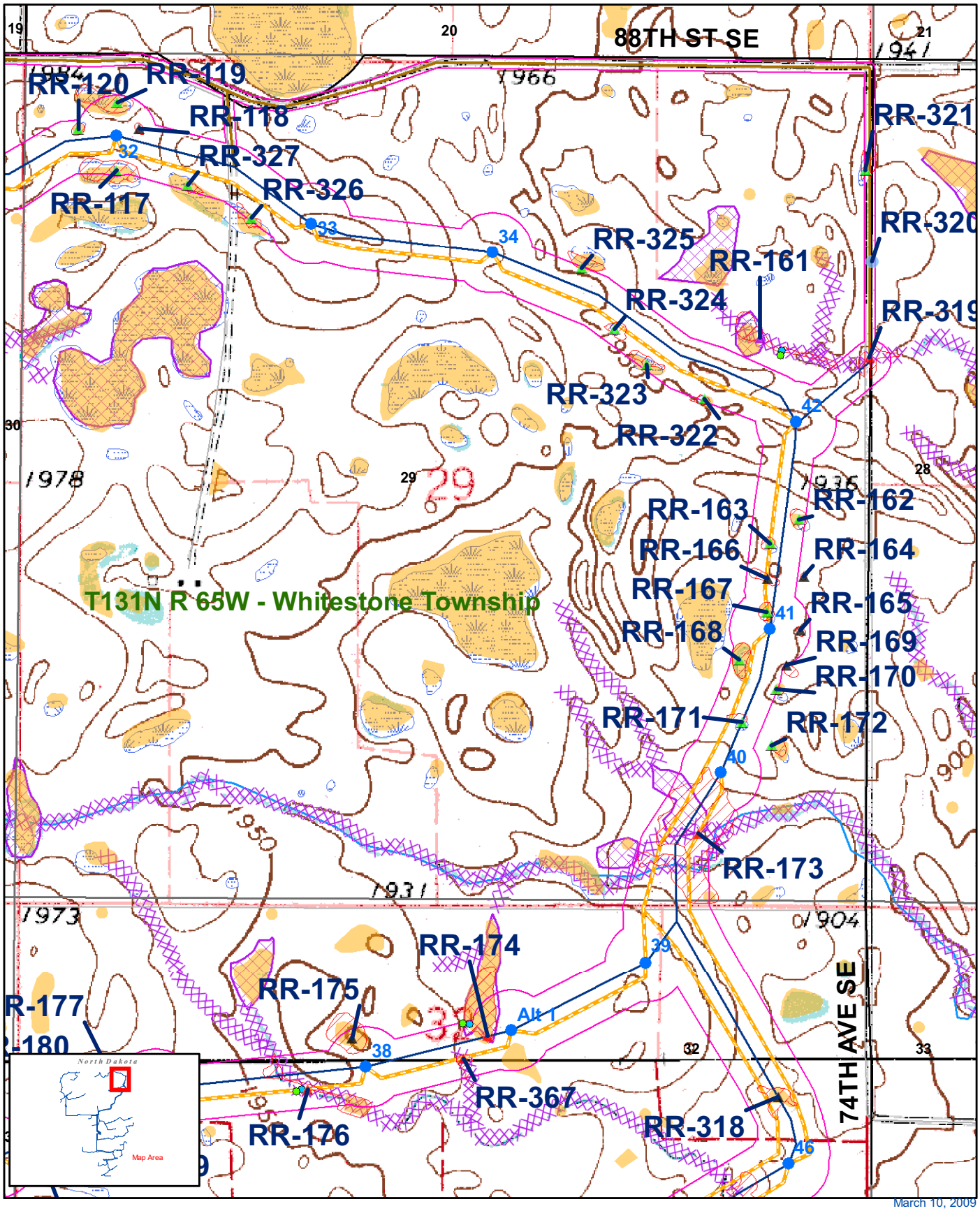
March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Whitestone Township
Section 29
NAIP Image

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March 10, 2009

Grid: NAD 83 UTM Zone 14

1:10,000

Feet
0 250 500 1,000

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data
- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- NWI Wetland Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Whitestone Township
Section 29
Quad Image

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 06-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-117**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 29 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5106869.468 **Long.:** E: 507180.9618 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent slopes **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species? Rel.Strat. Cover		Indicator Status
Tree Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
			0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
5.			0	☐		
			0	= Total Cover		
Herb Stratum (Plot size:)						
1.	Typha angustifolia	Herb	50	☑	50.0%	OBL
2.	Carex aquatilis	Herb	30	☑	30.0%	OBL
3.	Carex atherodes	Herb	20	☑	20.0%	OBL
4.			0	☐	0.0%	
5.			0	☐	0.0%	
6.			0	☐	0.0%	
7.			0	☐	0.0%	
8.			0	☐	0.0%	
9.			0	☐	0.0%	
10.			0	☐	0.0%	
			100	= Total Cover		
Woody Vine Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
			0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View West (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-117

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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): 3

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-117 View East 12-6-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 06-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-118**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 29 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5109705.88 **Long.:** E: 511062.1696 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent slopes **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		**= Total Cover**	
Herb Stratum (Plot size:)					
1. Carex aquatilis	Herb	100	☑	100.0%	OBL
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		**= Total Cover**	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View West (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-118

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-118 View West 12-6-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 06-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-119**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 29 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5109761.623 **Long.:** E: 510995.89 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells loams, 3 to 6 percent **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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		= Total Cover	
Herb Stratum (Plot size:)					
1. Typha angustifolia	Herb	75	☑	75.0%	OBL
2. Rumex crispus	Herb	10	☐	10.0%	FACW
3. Carex aquatilis	Herb	15	☐	15.0%	OBL
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		= Total Cover	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	90	x 1 =	90
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		110 (B)

Prevalence Index = B/A = 1.1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:
Vegetation dominated by hydrophytes. Photos: View West (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-119

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-119 View West 12-6-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 06-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-120**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 29 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** flat **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5109704.528 **Long.:** E:510946.6302 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells loams, 3 to 6 percent **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		= Total Cover	
Herb Stratum (Plot size:)					
1. Carex aquatilis	Herb	100	☑	100.0%	OBL
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		= Total Cover	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View West (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-120

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

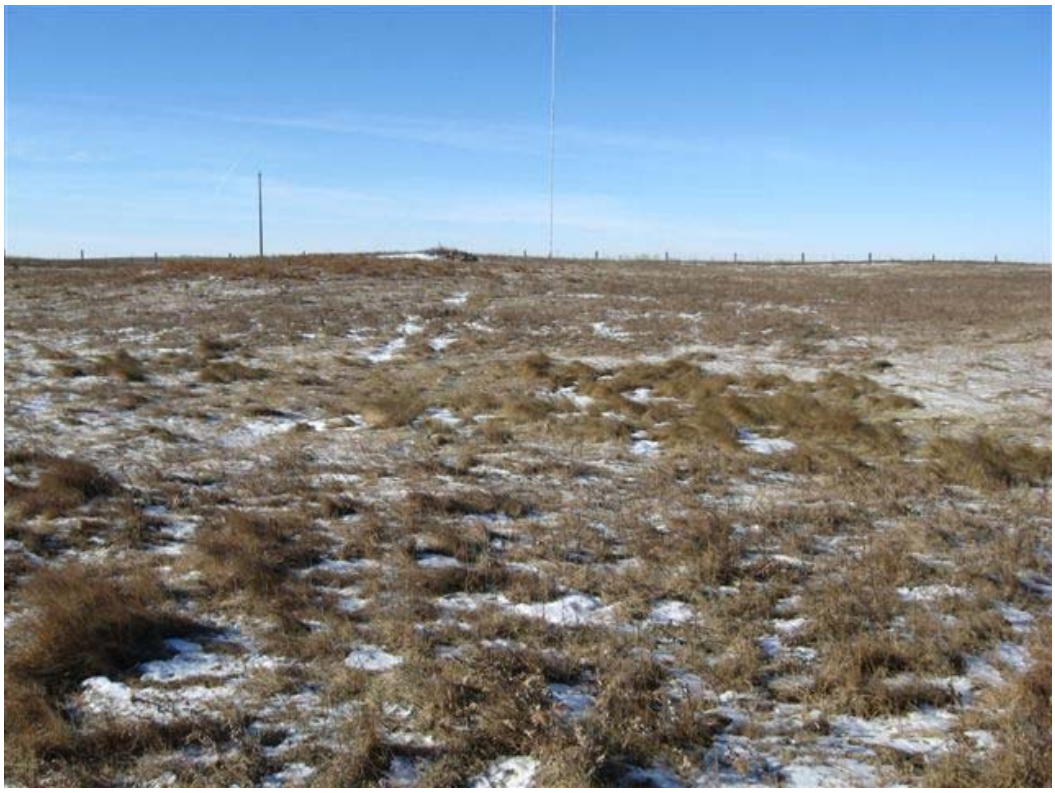
Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-120 View West 12-6-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-162**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 29 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5108966.076 **Long.:** E: 512309.3201 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent 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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	95	☑ 95.0%	OBL
2. Rumex crispus	Herb	5	☐ 5.0%	FACW
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	95	x 1 =	95
FACW species	5	x 2 =	10
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		105 (B)

Prevalence Index = B/A = 1.05

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Southwest (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-162

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-162 View Southwest 12-7-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-163**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 29 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5108919.67 **Long.:** E: 512250.8587 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent slopes **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0	= Total Cover		
Herb Stratum (Plot size:)					
1. Carex aquatilis	Herb	100	☑	100.0%	OBL
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100	= Total Cover		
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	100	(B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Southwest (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-163

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-163 View Southwest 12-7-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-164**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 29 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5108858.636 **Long.:** E: 512319.6775 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent slopes **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by non-hydrophytes. Photos: View Northeast (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-164

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-164 View Northeast 12-7-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-165**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 29 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5108753.868 **Long.:** E:: 512313.5606 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent slopes **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		= Total Cover	
Herb Stratum (Plot size:)					
1. Carex aquatilis	Herb	100	☑	100.0%	OBL
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		= Total Cover	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Southwest (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-165

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-165 View Southwest 12-7-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-166**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 29 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5108856.273 **Long.:** E: 512243.1986 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent slopes **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View West (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-166

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-166 View West 12-7-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-167**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 29 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5108790.759 **Long.:** E: 512248.0582 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View West (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-167

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-167 View West 12-7-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-168**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 29 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5108701.492 **Long.:** E: 512199.6989 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Carex atherodes	Herb	60	☑ 60.0%	OBL
2. Carex aquatilis	Herb	40	☑ 40.0%	OBL
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View South (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-168

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-168 View South 12-7-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-169**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 29 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5108678.158 **Long.:** E: 512294.9523 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent slopes **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-169

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-169 View East 12-7-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-170**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 29 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5108641.005 **Long.:** E: 512271.0656 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent slopes **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View South (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-170

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-170 View South 12-7-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-171**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 29 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5108588.932 **Long.:** E: 512195.0644 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent slopes **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View South (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-171

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-171 View South 12-7-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-172**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 29 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5108532.848 **Long.:** E: 512272.6249 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent slopes **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	50	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		50	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	50	x 1 =	50
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	50 (A)		50 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View North (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-172

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/1							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-172 View North 12-7-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-173**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 29 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Channel (active) **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5108368.619 **Long.:** E: 512112.3173 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent slopes **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	50	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		50	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	50	x 1 =	50
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	50 (A)		50 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View South (Page 1), View Southwest (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-173

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/2							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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): 3

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Perennial RPW w/ Wetland Fringe -this area possesses all of the delineative criteria necessary for classification as a wetland under the USACE 198 Wetland Delineation manual. However, it is not classified as a wetland as it possesses the necessary characteristic to classify it as a Water of the U.S. due to the presence of an incised channel, and defined bed and bank. Therefore, it is classified as a perennially flowing relatively permanent waterway.



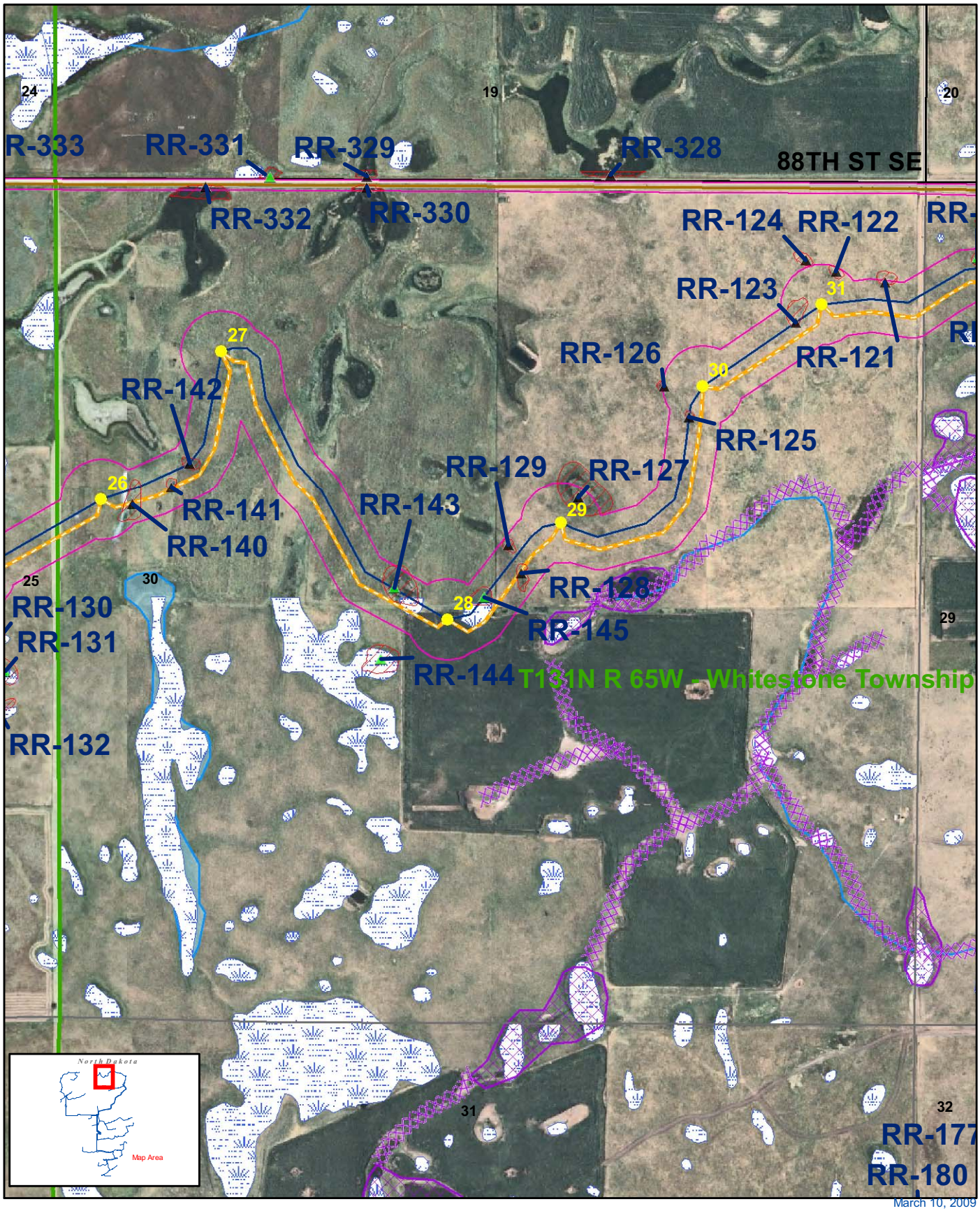
RR-173 View South 12-7-08



RR-173 View Southwest 12-7-08

TOWNSHIP 131
RANGE 65
SECTION 30

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Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement
- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

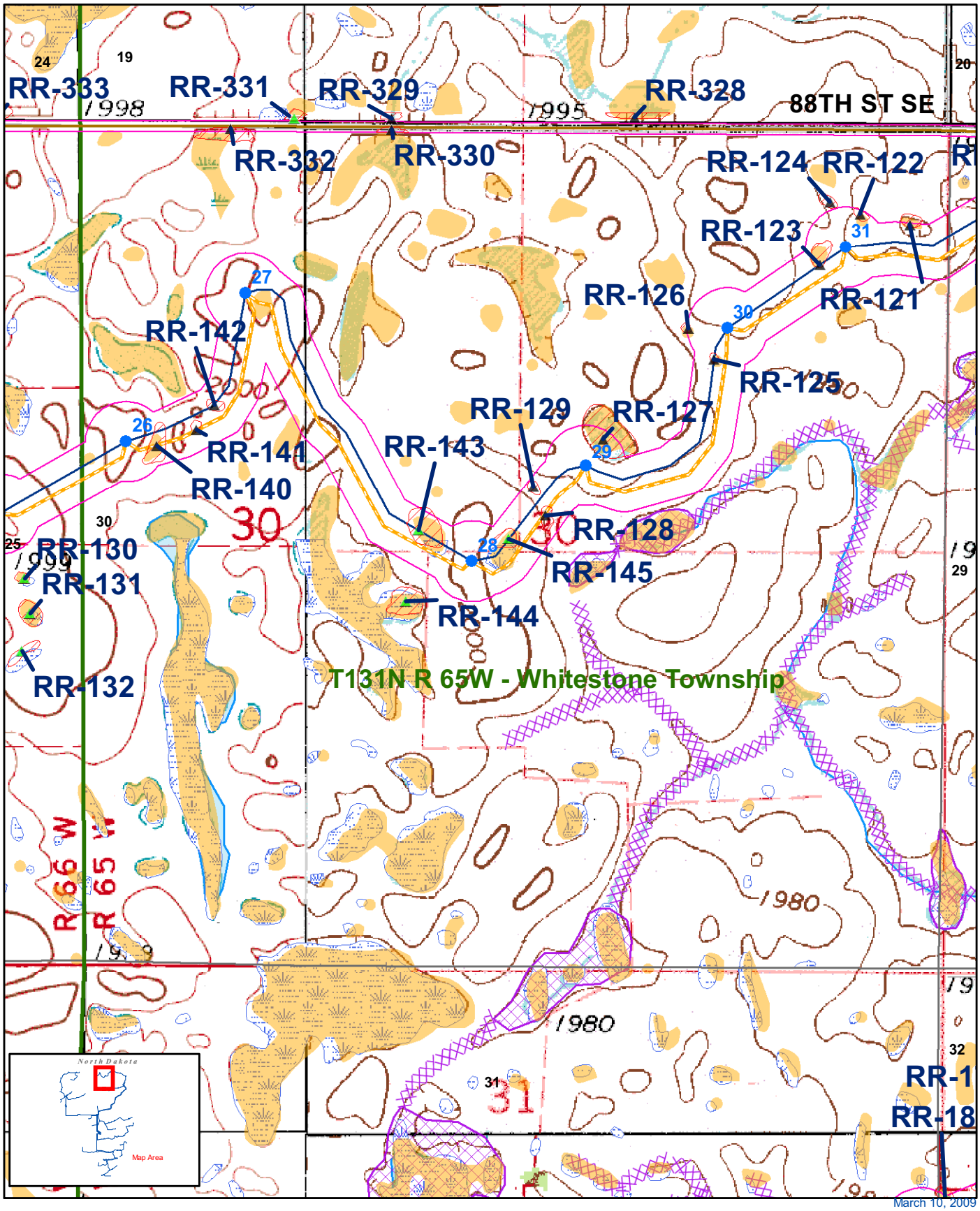
March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Whitestone Township
Section 30
NAIP Image

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Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- NWI Wetland Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Whitestone Township
Section 30
Quad Image

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 06-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-121**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 30 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** flat **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5109666.554 **Long.:** E: 510773.9312 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent 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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View West (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-121

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-121 View West 12-6-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 06-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-122**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 30 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** flat **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5109677.416 **Long.:** E: 510678.7666 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells loams, 3 to 6 percent **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Northwest (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-122

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
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- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-122 View Northwest 12-6-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 06-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-123**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 30 **T** 131N **R**

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** concave **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5109603.73 **Long.:** E: 510603.0816 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells loams, 3 to 6 percent **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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Southwest (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-123

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/4							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-123 View Southwest 12-6-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 06-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-124**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 30 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** flat **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5109703.447 **Long.:** E: 510615.9795 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells loams, 3 to 6 percent **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View West (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-124

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-124 View West 12-6-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 05-Jan-09

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-125**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 30 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5109405.501 **Long.:** E: 510401.2853 **Datum:** NAD 1983

Soil Map Unit Name: William- Bowbells Loam, 3 to 6 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		= Total Cover	
Herb Stratum (Plot size:)					
1. Carex aquatilis	Herb	100	☑	100.0%	OBL
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		= Total Cover	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	100	(B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Northwest (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-125

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-125 View Northwest 1-5-09

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 06-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-126**

Investigator(s): Enter Investigator **Section, Township, Range:** **S** 30 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5109462.079 **Long.:** E: 510348.6129 **Datum:** NAD 1983

Soil Map Unit Name: William- Bowbells Loam, 3 to 6 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	60	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		60	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	60	x 1 =	60
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	60 (A)		60 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View South (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-126

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-126 View South 12-6-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 06-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-127**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 30 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5109262.7 **Long.:** E: 510198.963 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		= Total Cover	
Herb Stratum (Plot size:)					
1. Typha angustifolia	Herb	75	☑	75.0%	OBL
2. Carex aquatilis	Herb	25	☑	25.0%	OBL
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		= Total Cover	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	100	(B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View North (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-127

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-127 View North 12-6-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 06-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-128**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 30 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Swale **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5109100.384 **Long.:** E: 510085.1113 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent slopes **NWI classification:** PEMB

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View North (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-128

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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): 3

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-128 View North 12-6-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 06-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-129**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 30 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5109159.073 **Long.:** E: 510060.3882 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		= Total Cover	
Herb Stratum (Plot size:)					
1. Carex aquatilis	Herb	100	☑	100.0%	OBL
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		= Total Cover	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:
Vegetation dominated by hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-129

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-129 View East 12-6-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 06-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-140**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 30 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** flat **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5109239.608 **Long.:** E: 509347.0967 **Datum:** NAD 1983

Soil Map Unit Name: Parnell Silty Clay 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species? Rel.Strat. Cover		Indicator Status
Tree Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
			0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
5.			0	☐		
			0	= Total Cover		
Herb Stratum (Plot size:)						
1.	Carex aquatilis	Herb	80	☑	80.0%	OBL
2.	Phalaris arundinacea	Herb	20	☑	20.0%	FACW+
3.			0	☐	0.0%	
4.			0	☐	0.0%	
5.			0	☐	0.0%	
6.			0	☐	0.0%	
7.			0	☐	0.0%	
8.			0	☐	0.0%	
9.			0	☐	0.0%	
10.			0	☐	0.0%	
			100	= Total Cover		
Woody Vine Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
			0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	80	x 1 =	80	
FACW species	20	x 2 =	40	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	120	(B)

Prevalence Index = B/A = 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)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Southeast (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-140

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-140 View Southeast 12-6-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 06-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-141**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 30 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5109277.29 **Long.:** E: 509421.1688 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent slopes **NWI classification:** PEMB

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species? Rel.Strat. Cover		Indicator Status
Tree Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
			0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
5.			0	☐		
			0	= Total Cover		
Herb Stratum (Plot size:)						
1.	Phalaris arundinacea	Herb	95	☑	95.0%	FACW+
2.	Rumex crispus	Herb	5	☐	5.0%	FACW
3.			0	☐	0.0%	
4.			0	☐	0.0%	
5.			0	☐	0.0%	
6.			0	☐	0.0%	
7.			0	☐	0.0%	
8.			0	☐	0.0%	
9.			0	☐	0.0%	
10.			0	☐	0.0%	
			100	= Total Cover		
Woody Vine Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
			0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0	
FACW species	100	x 2 =	200	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	200	(B)

Prevalence Index = B/A = 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)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View North (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-141

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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): 3

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-141 View North 12-6-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 05-Jan-09

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-142**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 30 **T** 130N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** flat **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5109316.103 **Long.:** E: 509458.3644 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent 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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.			0	☐	
2.			0	☐	
3.			0	☐	
4.			0	☐	
			0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.			0	☐	
2.			0	☐	
3.			0	☐	
4.			0	☐	
5.			0	☐	
			0	= Total Cover	
Herb Stratum (Plot size:)					
1.	Phalaris arundinacea	Herb	100	☑ 100.0%	FACW+
2.			0	☐ 0.0%	
3.			0	☐ 0.0%	
4.			0	☐ 0.0%	
5.			0	☐ 0.0%	
6.			0	☐ 0.0%	
7.			0	☐ 0.0%	
8.			0	☐ 0.0%	
9.			0	☐ 0.0%	
10.			0	☐ 0.0%	
			100	= Total Cover	
Woody Vine Stratum (Plot size:)					
1.			0	☐	
2.			0	☐	
			0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:
OBL species	0	x 1 =	0
FACW species	100	x 2 =	200
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		200 (B)

Prevalence Index = B/A = 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)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View North (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-142

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-142 View North 1-5-09

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 06-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-143**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 30 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** flat **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5109083.888 **Long.:** E: 509854.8083 **Datum:** NAD 1983

Soil Map Unit Name: William- Bowbells Loam, 3 to 6 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0	= Total Cover		
Herb Stratum (Plot size:)					
1. Typha angustifolia	Herb	35	☑	35.0%	OBL
2. Carex aquatilis	Herb	20	☑	20.0%	OBL
3. Phalaris arundinacea	Herb	40	☑	40.0%	FACW+
4. Rumex crispus	Herb	5	☐	5.0%	FACW
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100	= Total Cover		
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	55	x 1 =	55
FACW species	45	x 2 =	90
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		145 (B)

Prevalence Index = B/A = 1.45

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-143

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-18	10YR 2/1							

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches): 12

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-143 View East 12-6-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 06-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-144**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 30 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5108943.807 **Long.:** E: 509818.3249 **Datum:** NAD 1983

Soil Map Unit Name: Parnell Silty Clay Loam **NWI classification:** PEMF

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
			0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
5.			0	☐		
			0	= Total Cover		
Herb Stratum (Plot size:)						
1.	Typha angustifolia	Herb	50	☑	50.0%	OBL
2.	Carex atherodes	Herb	40	☑	40.0%	OBL
3.	Phalaris arundinacea	Herb	10	☐	10.0%	FACW+
4.			0	☐	0.0%	
5.			0	☐	0.0%	
6.			0	☐	0.0%	
7.			0	☐	0.0%	
8.			0	☐	0.0%	
9.			0	☐	0.0%	
10.			0	☐	0.0%	
			100	= Total Cover		
Woody Vine Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
			0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	90	x 1 =	90	
FACW species	10	x 2 =	20	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	110	(B)

Prevalence Index = B/A = 1.1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View West (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-144

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-18	10YR 2/1							

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches): 12

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-144 View West 12-6-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 06-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-145**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 30 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** convex **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5109061.882 **Long.:** E: 510007.527 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent 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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Phalaris arundinacea	Herb	90	☑ 90.0%	FACW+
2. Rumex crispus	Herb	10	☐ 10.0%	FACW
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	100	x 2 =	200
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		200 (B)

Prevalence Index = B/A = 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)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:
Vegetation dominated by hydrophytes. Photos: View Northwest (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-145

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☑ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

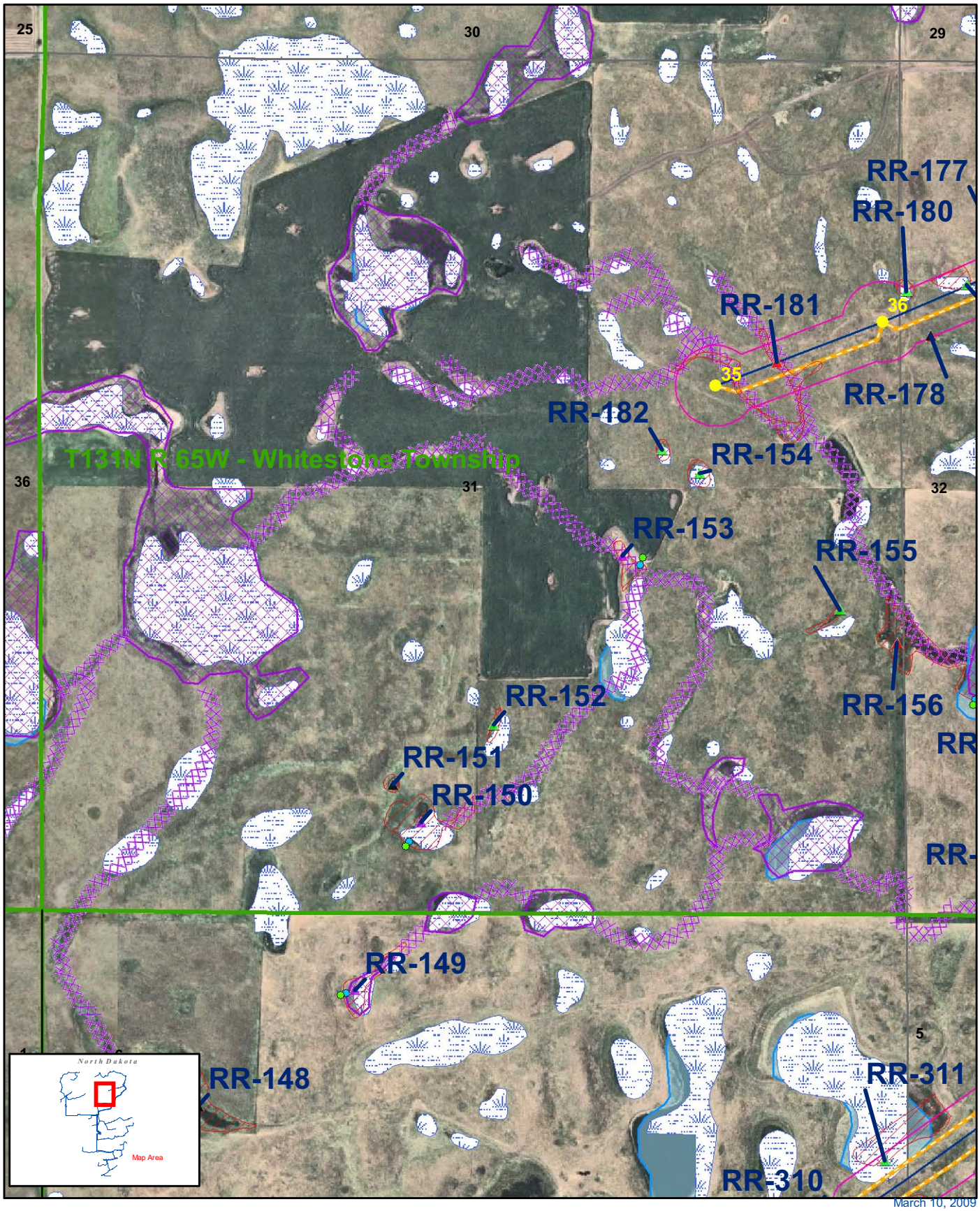
Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-145 View Northwest 12-6-08

TOWNSHIP 131
RANGE 65
SECTION 31

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March 10, 2009

Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

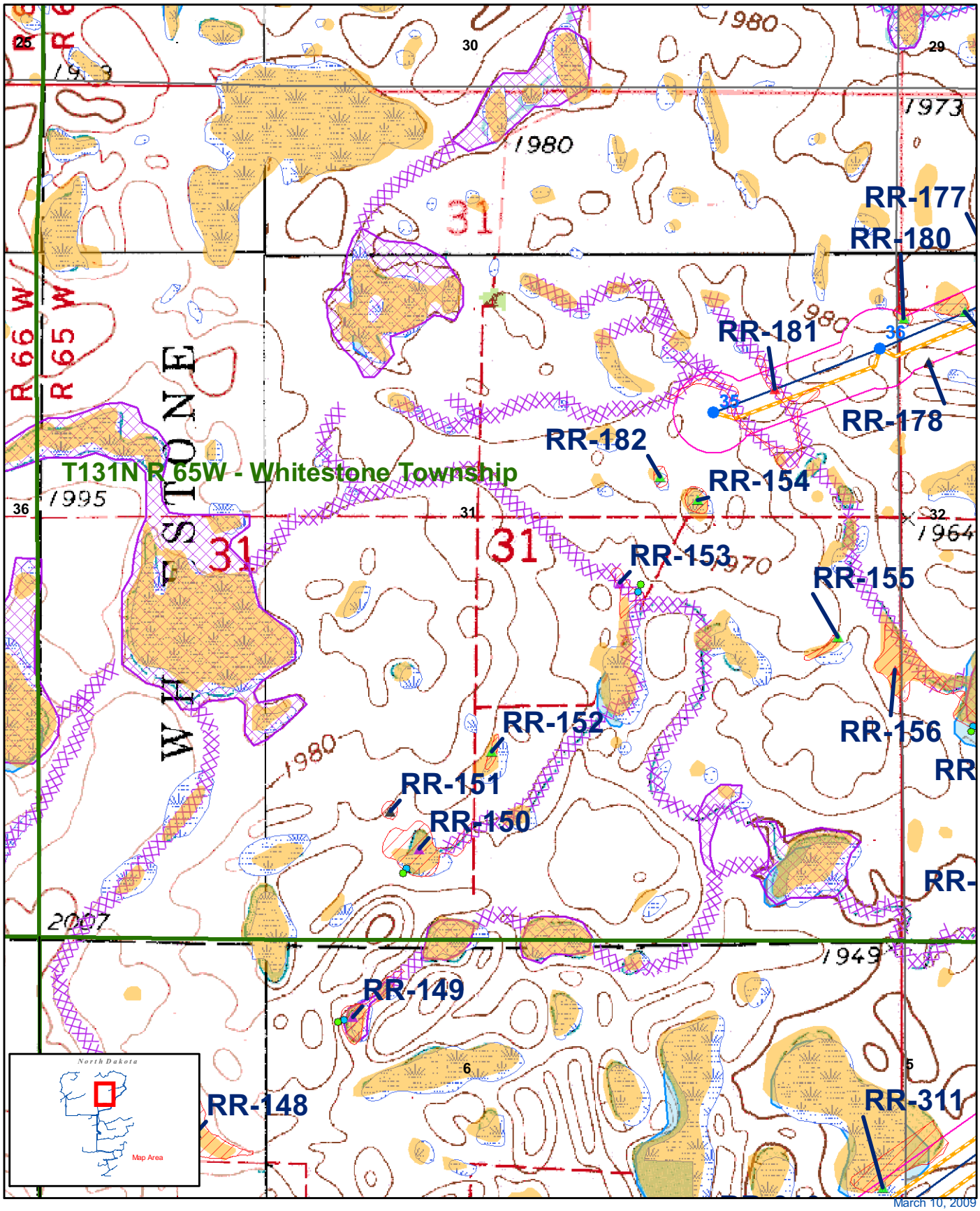
Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Whitestone Township
Section 31
NAIP Image

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Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- NWI Wetland Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Whitestone Township
Section 31
Quad Image

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-150-01U**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 31 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Hillside **Local relief (concave, convex, none):** undulating **Slope:** 12.3% / 7.0 °

Subregion (LRR): LRR F **Lat.:** N: 5106811.212 **Long.:** E: 509923.4769 **Datum:** NAD 1983

Soil Map Unit Name: William- Bowbells Loam, 3 to 6 percent slopes **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ○ No ◉

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ○ No ◉

Is the Sampled Area within a Wetland? Yes ○ No ◉

Remarks:
Based on the data collected, this location does not meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Stipa comata	#N/A	100	☑ 100.0%	UPL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	100	x 5 =	500
Column Totals:	100 (A)		500 (B)

Prevalence Index = B/A = 5

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.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:
Vegetation dominated by non-hydrophytes. Photos: View Southwest (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-150-01U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Non-wet data point. No indications of wetland hydrology observed at this site.



RR-150-01U View Southwest 12-7-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-150-01W**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 31 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5106811.212 **Long.:** E: 509923.4769 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent slopes **NWI classification:** PEMF

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		= Total Cover	
Herb Stratum (Plot size:)					
1. Typha angustifolia	Herb	80	☑	80.0%	OBL
2. Phragmites australis	Herb	5	☐	5.0%	FACW
3. Phalaris arundinacea	Herb	15	☐	15.0%	FACW+
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		= Total Cover	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	80	x 1 =	80
FACW species	20	x 2 =	40
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		120 (B)

Prevalence Index = B/A = 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)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Northeast (Page 1), View Northeast (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-150-01W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Wetland w/ USFWS wetland easement - possesses a discreet or confined surface or shallow subsurface connection to a tributary stream eventual flowing into a navigable water of the United States.



RR-150-01W View Northeast 12-7-08



RR-150-01 View Northeast 12-7-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-151**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 31 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5106883.666 **Long.:** E: 509866.129 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent slopes **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0	**= Total Cover**		
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0	**= Total Cover**		
Herb Stratum (Plot size:)					
1. Carex atherodes	Herb	40	☑	40.0%	OBL
2. Rumex crispus	Herb	30	☑	30.0%	FACW
3. Phalaris arundinacea	Herb	30	☑	30.0%	FACW+
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100	**= Total Cover**		
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0	**= Total Cover**		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:
OBL species	40	x 1 =	40
FACW species	60	x 2 =	120
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		160 (B)

Prevalence Index = B/A = 1.6

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Southeast (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-151

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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): 1

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-151 View Southeast 12-7-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-152**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 31 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5106992.272 **Long.:** E: 510060.3839 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		= Total Cover	
Herb Stratum (Plot size:)					
1. Carex atherodes	Herb	50	☑	50.0%	OBL
2. Carex aquatilis	Herb	50	☑	50.0%	OBL
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		= Total Cover	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	100	(B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Southeast (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-152

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-152 View Southeast 12-7-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-153-01U**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 31 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** undulating **Slope:** 5.2% / 3.0 °

Subregion (LRR): **Lat.:** N: 5107295.326 **Long.:** E: 510313.0217 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent slopes **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ○ No ◉	**Is the Sampled Area**
Hydric Soil Present? Yes ◉ No ○	**within a Wetland?** Yes ○ No ◉
Wetland Hydrology Present? Yes ○ No ◉	

Remarks:
Based on the data collected, this location does not meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species? Rel.Strat. Cover		Indicator Status
Tree Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
			0	**= Total Cover**		
Sapling/Shrub Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
5.			0	☐		
			0	**= Total Cover**		
Herb Stratum (Plot size:)						
1.	Zea mays	Herb	100	☑	100.0%	UPL
2.			0	☐	0.0%	
3.			0	☐	0.0%	
4.			0	☐	0.0%	
5.			0	☐	0.0%	
6.			0	☐	0.0%	
7.			0	☐	0.0%	
8.			0	☐	0.0%	
9.			0	☐	0.0%	
10.			0	☐	0.0%	
			100	**= Total Cover**		
Woody Vine Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
			0	**= Total Cover**		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	100	x 5 =	500	
Column Totals:	100	(A)	500	(B)

Prevalence Index = B/A = 5

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.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:

Vegetation dominated by non-hydrophytes. Photos: View Northwest (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-153-01U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Non-wet data point. No indications of wetland hydrology observed at this site.



RR-153-01U View northwest 12-7-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-153-01W**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 31 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5107295.326 **Long.:** E: 510313.0217 **Datum:** NAD 1983

Soil Map Unit Name: William- Bowbells 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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
			0	**= Total Cover**		
Sapling/Shrub Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
5.			0	☐		
			0	**= Total Cover**		
Herb Stratum (Plot size:)						
1.	Typha angustifolia	Herb	20	☑	20.0%	OBL
2.	Carex atherodes	Herb	30	☑	30.0%	OBL
3.	Phalaris arundinacea	Herb	50	☑	50.0%	FACW+
4.			0	☐	0.0%	
5.			0	☐	0.0%	
6.			0	☐	0.0%	
7.			0	☐	0.0%	
8.			0	☐	0.0%	
9.			0	☐	0.0%	
10.			0	☐	0.0%	
			100	**= Total Cover**		
Woody Vine Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
			0	**= Total Cover**		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50	
FACW species	50	x 2 =	100	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	150	(B)

Prevalence Index = B/A = 1.5

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Southeast (Page 1), View South (Page 1), View West (Page 2)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-153-01W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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): 1

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Wetland w/ USFWS wetland easement - possesses a discreet or confined surface or shallow subsurface connection to a tributary stream eventual flowing into a navigable water of the United States.



RR-153-01W View Southeast 12-7-08



RR-153-01W View South 12-7-08



RR-153-01W View West 12-7-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-154**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 31 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5107470.039 **Long.:** E: 510446.4875 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-154

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-154 View East 12-7-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-155**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 31 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Swale **Local relief (concave, convex, none):** undulating **Slope:** 5.2% / 3.0 °

Subregion (LRR): LRR F **Lat.:** N: 5107190.27 **Long.:** E: 510686.5895 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Southwest (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-155

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-155 View Southwest 12-7-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-156-01U**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 31 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Hillside **Local relief (concave, convex, none):** undulating **Slope:** 10.5% / 6.0 °

Subregion (LRR): LRR F **Lat.:** N: 5107071.716 **Long.:** E: 510954.1501 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent slopes **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ◉	No ○	
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
Based on the data collected, this location does not meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover		Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0	**= Total Cover**		
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0	**= Total Cover**		
Herb Stratum (Plot size:)					
1. Stipa viridula	#N/A	80	☑	80.0%	UPL
2. Stipa comata	#N/A	20	☑	20.0%	UPL
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100	**= Total Cover**		
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0	**= Total Cover**		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	100	x 5 =	500
Column Totals:	100 (A)		500 (B)

Prevalence Index = B/A = 5

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.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:

Vegetation dominated by non-hydrophytes. Photos: View Southwest (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-156-01U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Non-wet data point. No indications of wetland hydrology observed at this site.



RR-156-01U View Southwest 12-7-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-156-01W**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 31 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** undulating **Slope:** 0.0% / 0.0 °

Subregion (LRR): LRR F **Lat.:** N: 5107071.716 **Long.:** E: 510954.1501 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent slopes **NWI classification:** PEMF

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		**= Total Cover**	
Herb Stratum (Plot size:)					
1. Carex atherodes	Herb	30	☑	30.0%	OBL
2. Carex aquatilis	Herb	10	☐	10.0%	OBL
3. Typha angustifolia	Herb	30	☑	30.0%	OBL
4. Eleocharis palustris	#N/A	30	☑	30.0%	OBL
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		**= Total Cover**	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Northeast (Page 1), View Northeast (Page 1), View Northwest (Page 2)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-156-01W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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): 36

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Wetland - possesses a discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable wat of the United States.



RR-156-01W View Northeast 12-7-08



RR-156-01W View Northeast 12-7-08



RR-156-01W View Northwest 12-7-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-181-01U**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 31 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** undulating **Slope:** 5.2% / 3.0 °

Subregion (LRR): LRR F **Lat.:** N: 5107635.85 **Long.:** E: 510578.5168 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent slopes **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ◉	No ○	
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
Based on the data collected, this location does not meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Stipa comata	#N/A	100	☑ 100.0%	UPL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	100	x 5 =	500	
Column Totals:	100	(A)	500	(B)

Prevalence Index = B/A = 5

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.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:

Vegetation dominated by non-hydrophytes. Photos: View South (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-181-01U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Non-wet data point. No indications of wetland hydrology observed at this site.



RR-181-01U View South 12-7-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-181-01W**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 31 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Channel (active) **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5107635.85 **Long.:** E: 510578.5168 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent slopes **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	50	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		50	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	50	x 1 =	50
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	50 (A)		50 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View North (Page 1), View Northeast (Page 1), View Northeast (Page 2), View Southwest (Page 2), View Southwest (Page 3)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-181-01W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☑ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Seasonal RPW w/ Wetland Fringe -this area possesses all of the delineative criteria necessary for classification as a wetland under the USACE 198 Wetland Delineation manual. However, it is not classified as a wetland as it possesses the necessary characteristic to classify it as a Water of the U.S. due to the presence of an incised channel, and defined bed and bank. Therefore, it is classified as a seasonally flowing relatively permanent waterway.



RR-181-01W View North 12-7-08



RR-181-01W View Northeast 12-7-08



RR-181-01W View Northeast 12-7-08



RR-181-01W View Southwest 12-7-08



RR-181-01W View Southwest 12-7-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-182**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 31 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5107515.201 **Long.:** E: 510378.0689 **Datum:** NAD 1983

Soil Map Unit Name: William- Bowbells Loam, 3 to 6 percent slopes **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		**= Total Cover**	
Herb Stratum (Plot size:)					
1. Carex aquatilis	Herb	100	☑	100.0%	OBL
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		**= Total Cover**	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	100	(B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-182

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

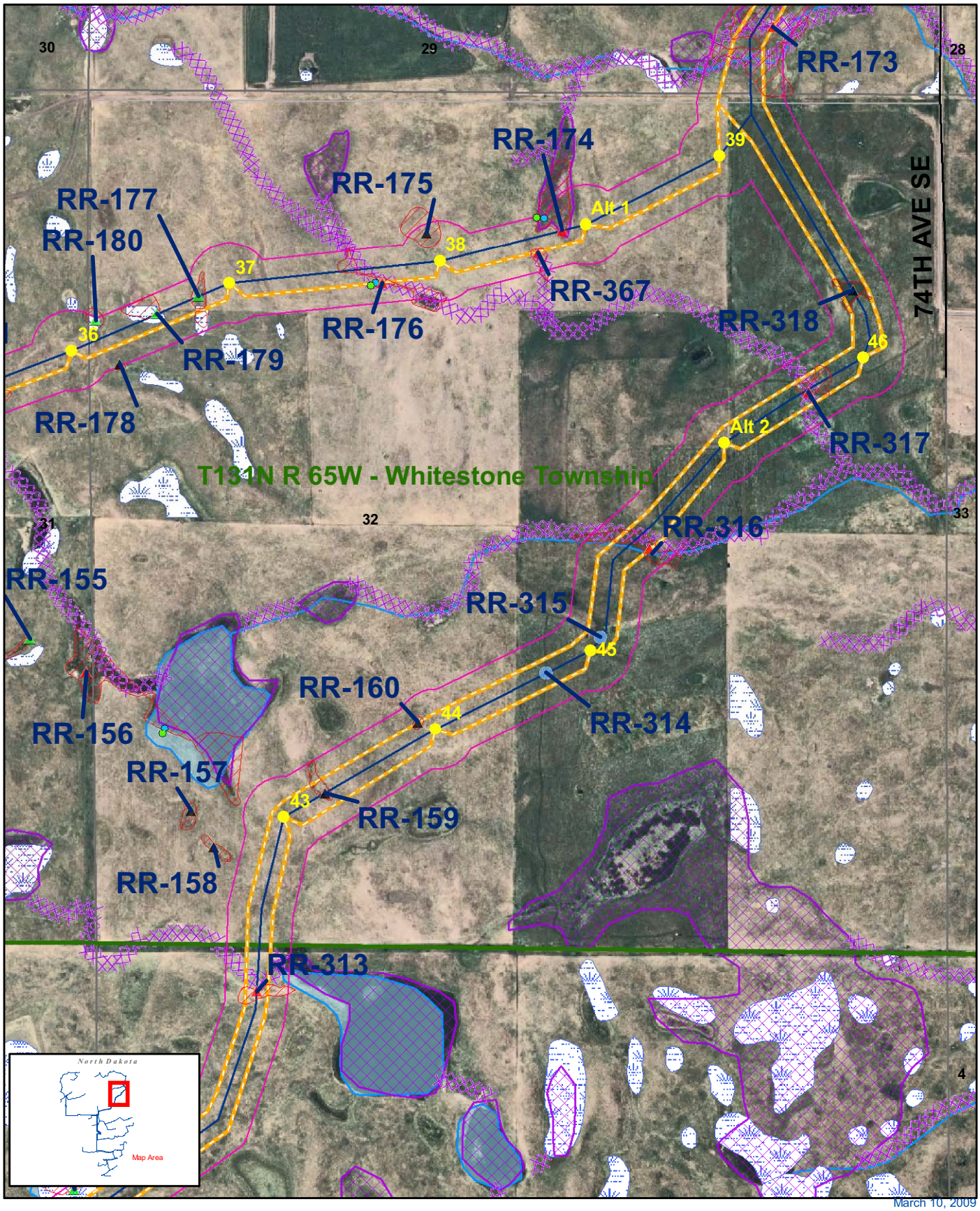
Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-182 View East 12-7-08

TOWNSHIP 131
RANGE 65
SECTION 32

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March 10, 2009

Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

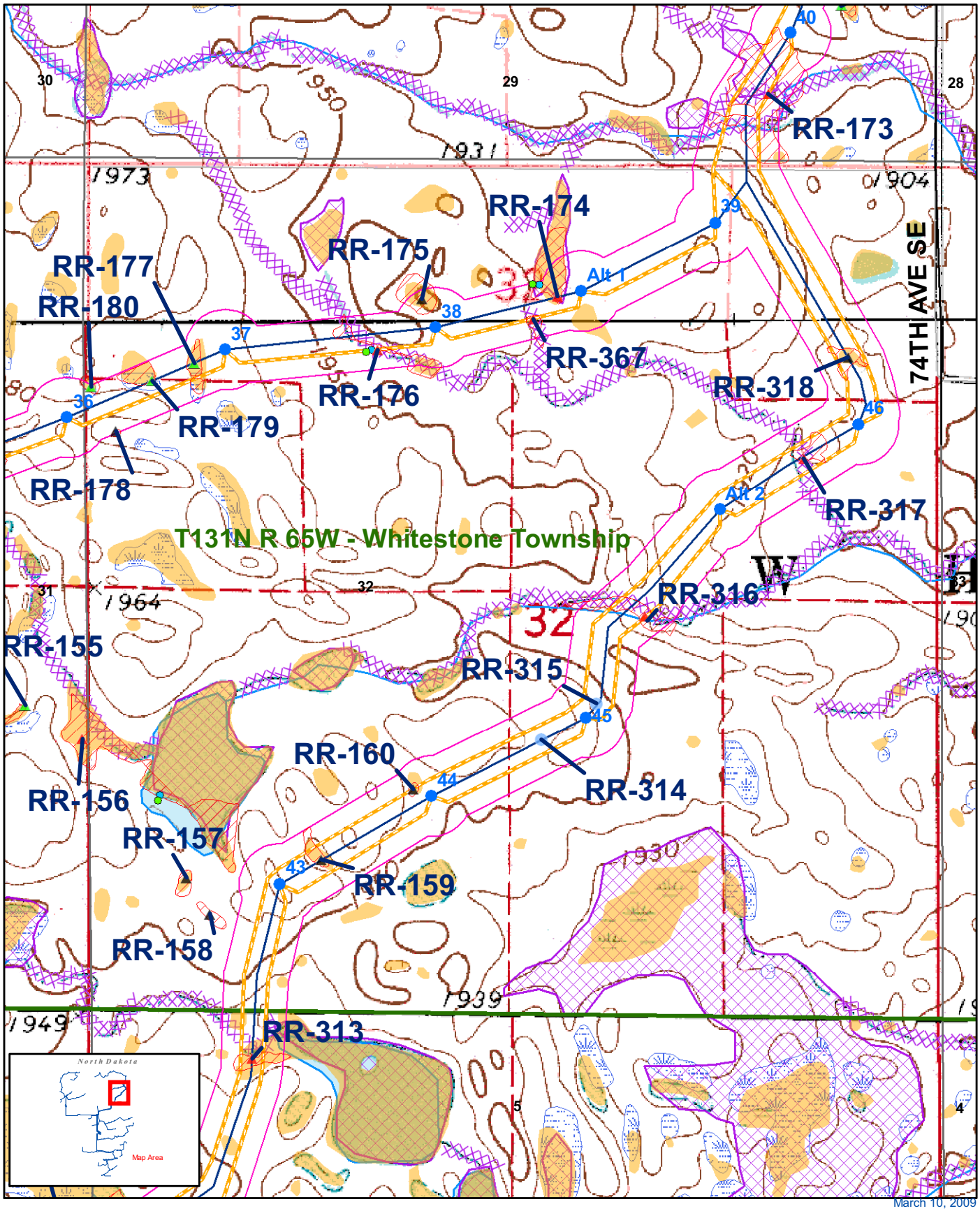
Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Whitestone Township
Section 32
NAIP Image

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March 10, 2009

Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- NWI Wetland Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

Whitestone Township
Section 32
Quad Image

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-157**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 32 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5106874.909 **Long.:** E: 511015.3226 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent slopes **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-157

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-157 View East 12-7-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-158**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 32 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5106814.878 **Long.:** E: 511067.9375 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent slopes **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-158

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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): 1

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-158 View East 12-7-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-159**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 32 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 516938.792 **Long.:** E: 511260.5781 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent slopes **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View East-Northeast (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-159

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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): 1

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-159 View East-Northeast 12-7-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-160**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 32 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 5.2% / 3.0 °

Subregion (LRR): LRR F **Lat.:** N: 517053.478 **Long.:** E: 511448.8026 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View West (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-160

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-160 View West 12-7-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 23-Jan-09

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-174-01U**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 32 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Hillside **Local relief (concave, convex, none):** undulating **Slope:** 10.5% / 6.0 °

Subregion (LRR): LRR F **Lat.:** N: 5108042.724 **Long.:** E: 517710.2169 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent slopes **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ◉	No ○	
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
Based on the data collected, this location does not meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		**= Total Cover**	
Herb Stratum (Plot size:)					
1. Stipa comata	#N/A	100	☑	100.0%	UPL
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		**= Total Cover**	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	100	x 5 =	500
Column Totals:	100 (A)		500 (B)

Prevalence Index = B/A = 5

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.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:

Vegetation dominated by non-hydrophytes. Photos: View West (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-174-01U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Non-wet data point. Site shows no evidence of wetland hydrology.



RR-174-01U View West 1-23-09

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-174-01W**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 32 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5108042.724 **Long.:** E: 517710.2169 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species? Rel.Strat. Cover		Indicator Status
Tree Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
			0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
5.			0	☐		
			0	= Total Cover		
Herb Stratum (Plot size:)						
1.	Carex aquatilis	Herb	75	☑	75.0%	OBL
2.	Carex atherodes	Herb	25	☑	25.0%	OBL
3.			0	☐	0.0%	
4.			0	☐	0.0%	
5.			0	☐	0.0%	
6.			0	☐	0.0%	
7.			0	☐	0.0%	
8.			0	☐	0.0%	
9.			0	☐	0.0%	
10.			0	☐	0.0%	
			100	= Total Cover		
Woody Vine Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
			0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	100	(B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View North (Page 1), View East (Page 1), View South (Page 2)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-174-01W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Wetland - possesses a discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable wat of the United States.



RR-174-01W View North 12-7-08



RR-174-01W View East 12-7-08



RR-174-01W View South 12-7-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-175**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 32 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5107991.429 **Long.:** E: 511455.87 **Datum:** NAD 1983

Soil Map Unit Name: William- Bowbells Loam, 3 to 6 percent 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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View West (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-175

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-175 View West 12-7-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-176-01U**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 32 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** undulating **Slope:** 5.2% / 3.0 °

Subregion (LRR): LRR F **Lat.:** N: 5107878.787 **Long.:** E: 511412.8322 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent slopes **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	**Is the Sampled Area**
Hydric Soil Present?	Yes ◉	No ○	**within a Wetland?** Yes ○ No ◉
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
Based on the data collected, this location does not meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Stipa comata	#N/A	100	☑ 100.0%	UPL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	100	x 5 =	500
Column Totals:	100 (A)		500 (B)

Prevalence Index = B/A = 5

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.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:

Vegetation dominated by non-hydrophytes. Photos: View Northeast (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-176-01U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Non-wet data point. Site shows no presence of wetland hydrology.



RR-176-01U View Northeast 12-7-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-176-01W**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 32 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Channel (active) **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5107878.787 **Long.:** E: 511412.8322 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent slopes **NWI classification:** PABF

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View North (Page 1), View Southeast (Page 1), View Southwest (Page 2)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-176-01W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Seasonal RPW w/ Wetland Fringe -this area possesses all of the delineative criteria necessary for classification as a wetland under the USACE 198 Wetland Delineation manual. However, it is not classified as a wetland as it possesses the necessary characteristic to classify it as a Water of the U.S. due to the presence of an incised channel, and defined bed and bank. Therefore, it is classified as a seasonally flowing relatively permanent waterway.



RR-176-01W View North 12-7-08



RR-176-01W View Southeast 12-7-08



RR-176-01W View Southwest 12-7-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-177**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 32 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5107865.194 **Long.:** E: 511035.7495 **Datum:** NAD 1983

Soil Map Unit Name: William- Bowbells Loam, 3 to 6 percent 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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View South (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-177

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-177 View South 12-7-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-178**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 32 **T** 131N **R**

Landform (hillslope, terrace, etc.): Swale **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5107727.873 **Long.:** E: 510866.7717 **Datum:** NAD 1983

Soil Map Unit Name: Zahl- Williams loams, 6 to 25 percent slope **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Northeast (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-178

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-5	10YR 2/2							
5-18	2.5Y 4/4							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
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- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-178 View Northeast 12-7-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-179**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 32 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5107820.912 **Long.:** E: 510837.8055 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent 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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

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FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Northwest (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-179

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-179 View Northwest 12-7-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 07-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-180**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 32 **T** 131N **R** 65 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5107820.912 **Long.:** E: 510837.8055 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent 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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-180

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

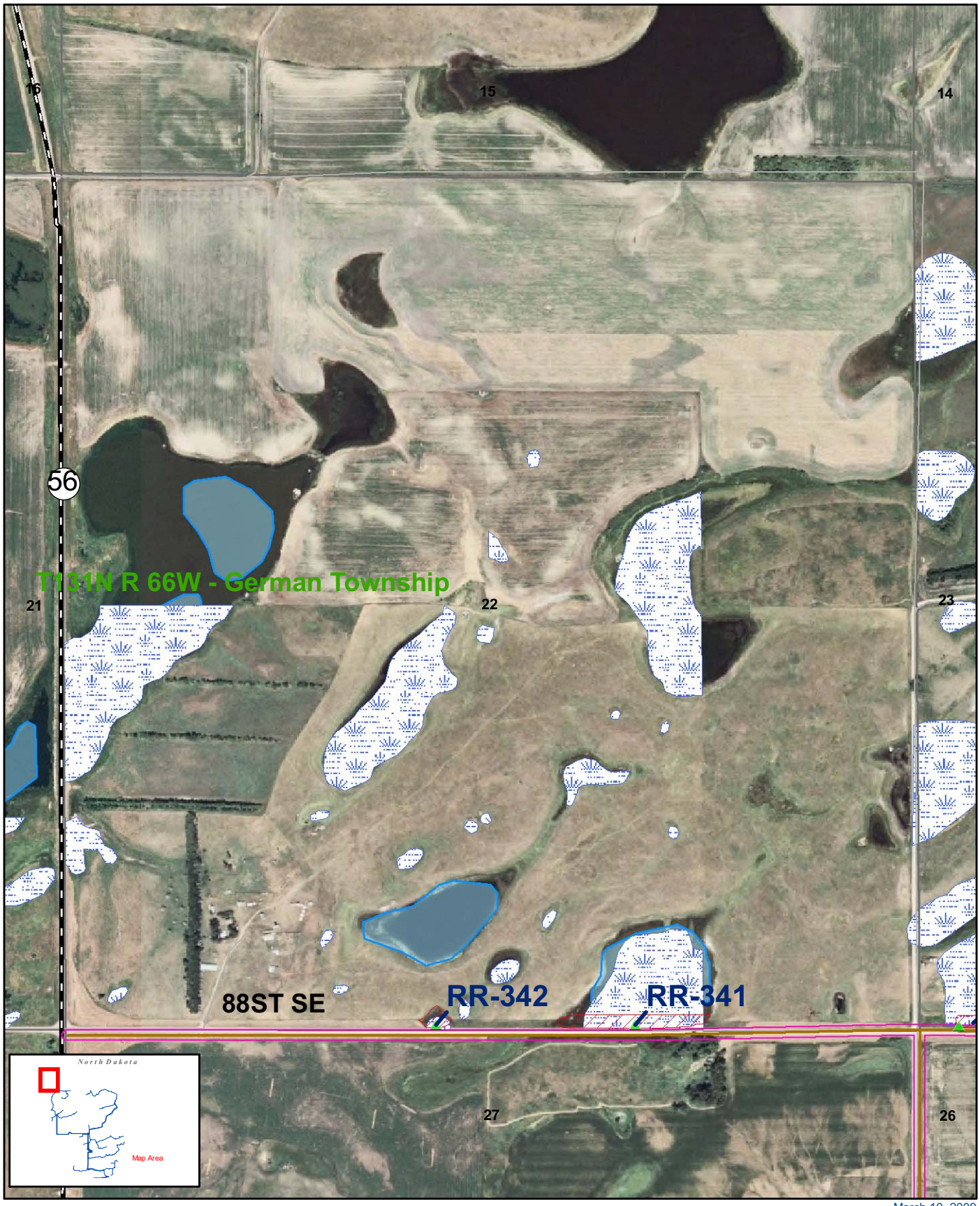
Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-180 View East 12-7-08

TOWNSHIP 131
RANGE 66
SECTION 22

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Grid: NAD 83 UTM Zone 14

1:10,000

Feet
0 250 500 1,000

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data
- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

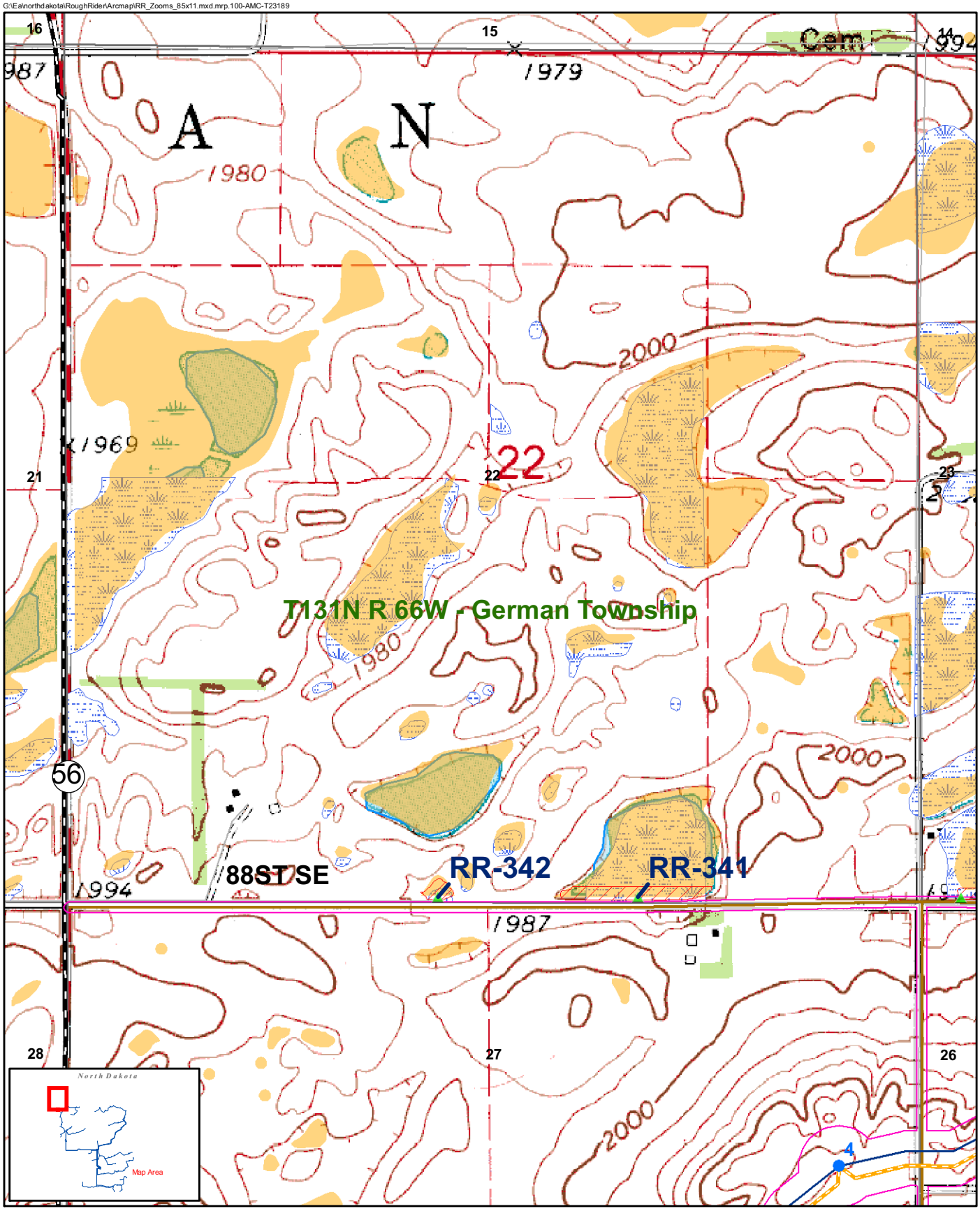
March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

German Township
Section 22
NAIP Image

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March 10, 2009

Grid: NAD 83 UTM Zone 14

1:10,000

Feet
0 250 500 1,000

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data
- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- NWI Wetland Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

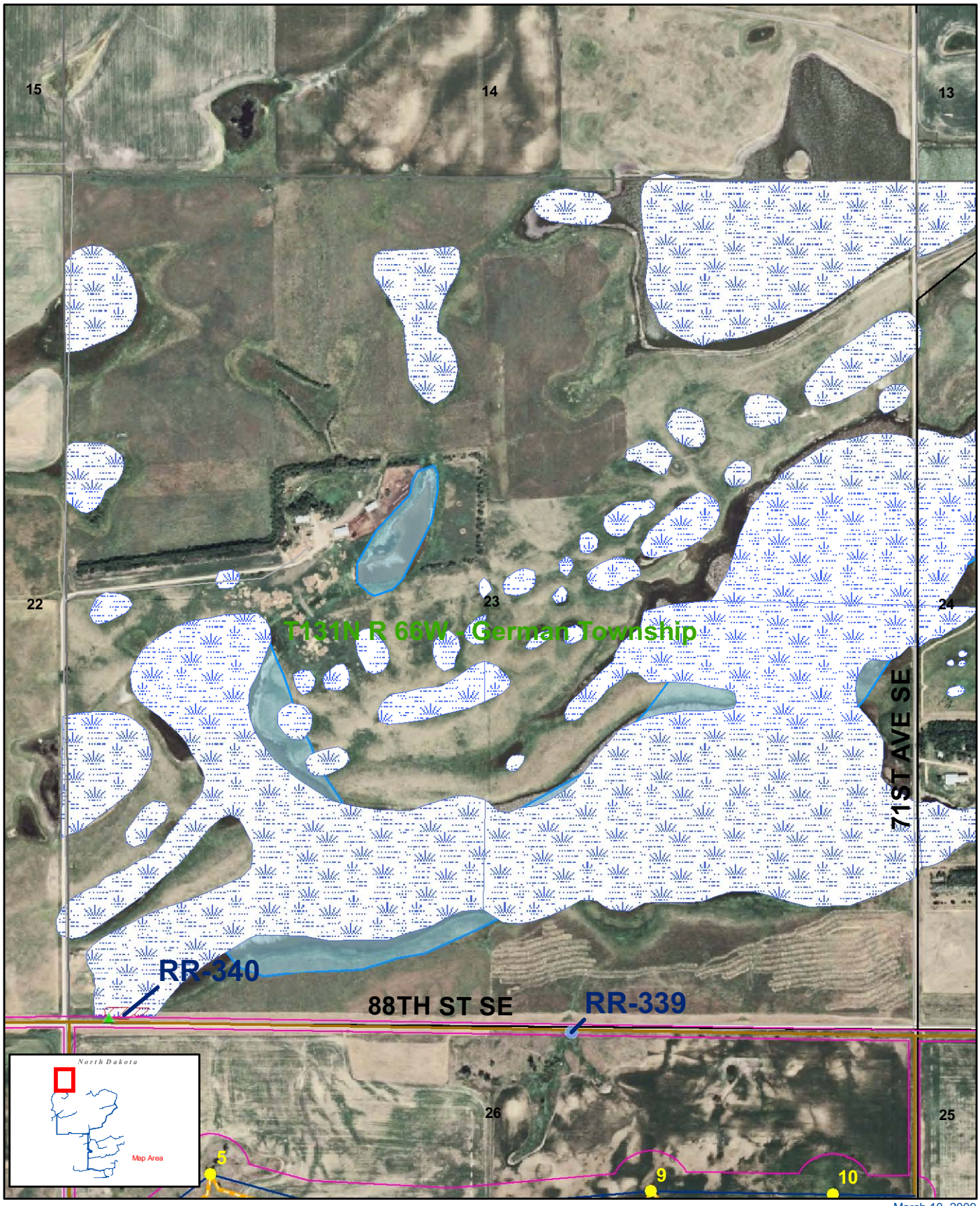
Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

German Township
Section 22
Quad Image

TOWNSHIP 131
RANGE 66
SECTION 23

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Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

- ▲ Non Jurisdictional
- ▲ USACE Jurisdiction
- ▲ USACE/USFWS Jurisdiction
- ▲ USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

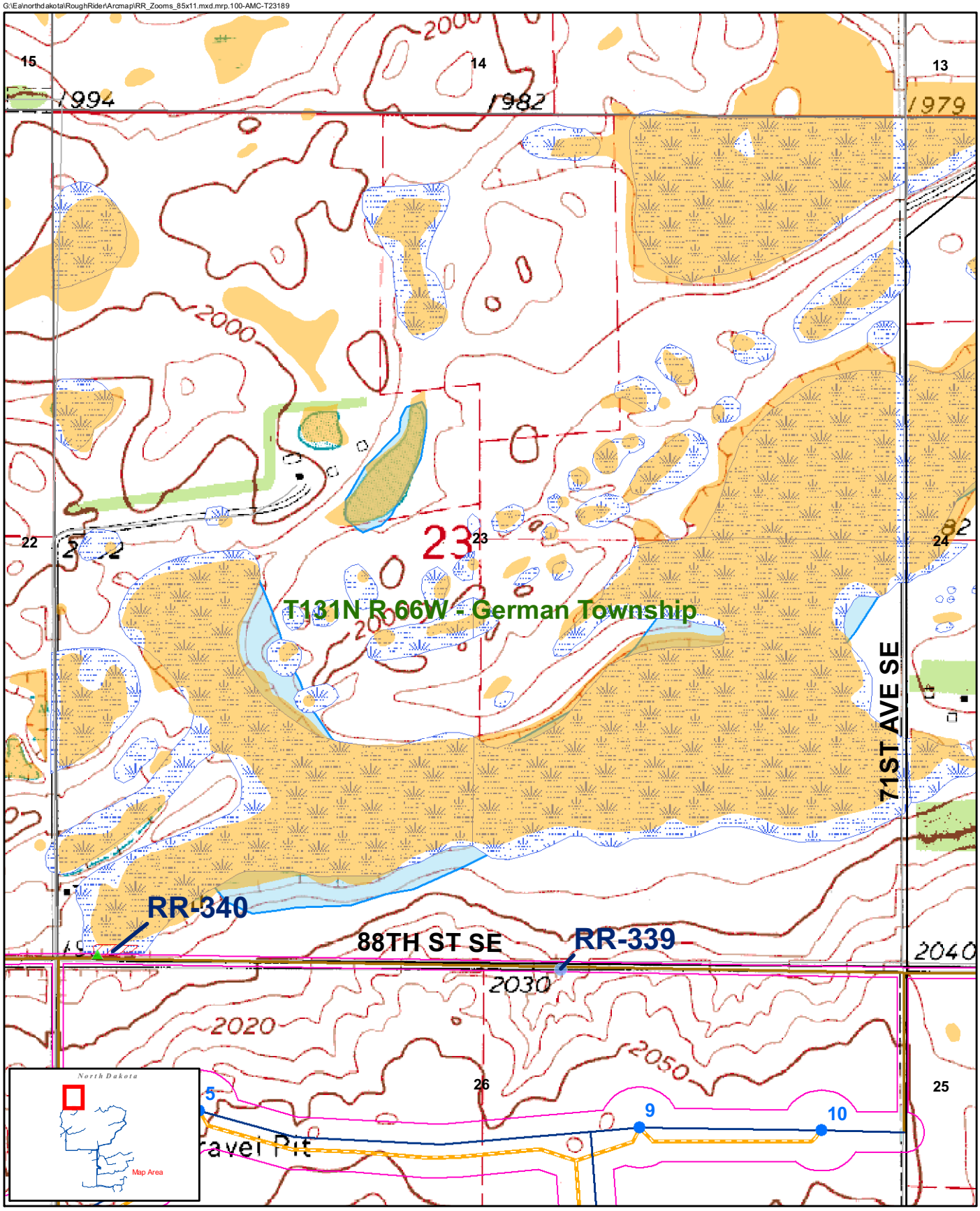
March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

German Township
Section 23
NAIP Image

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March 10, 2009

Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

- ▲ Non Jurisdictional
- ▲ USACE Jurisdiction
- ▲ USACE/USFWS Jurisdiction
- ▲ USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- NWI Wetland Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

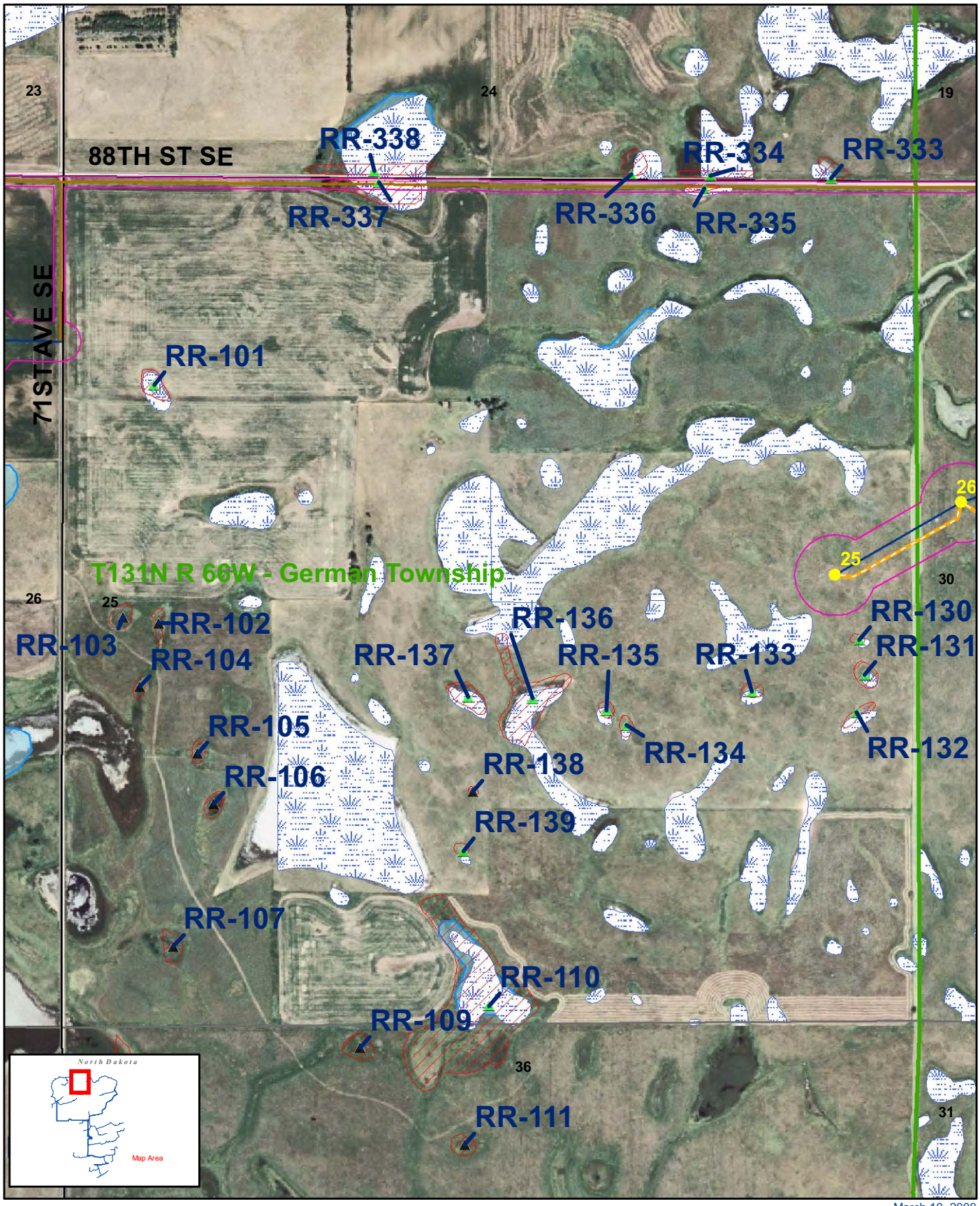
Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

German Township
Section 23
Quad Image

TOWNSHIP 131
RANGE 66
SECTION 25

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Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

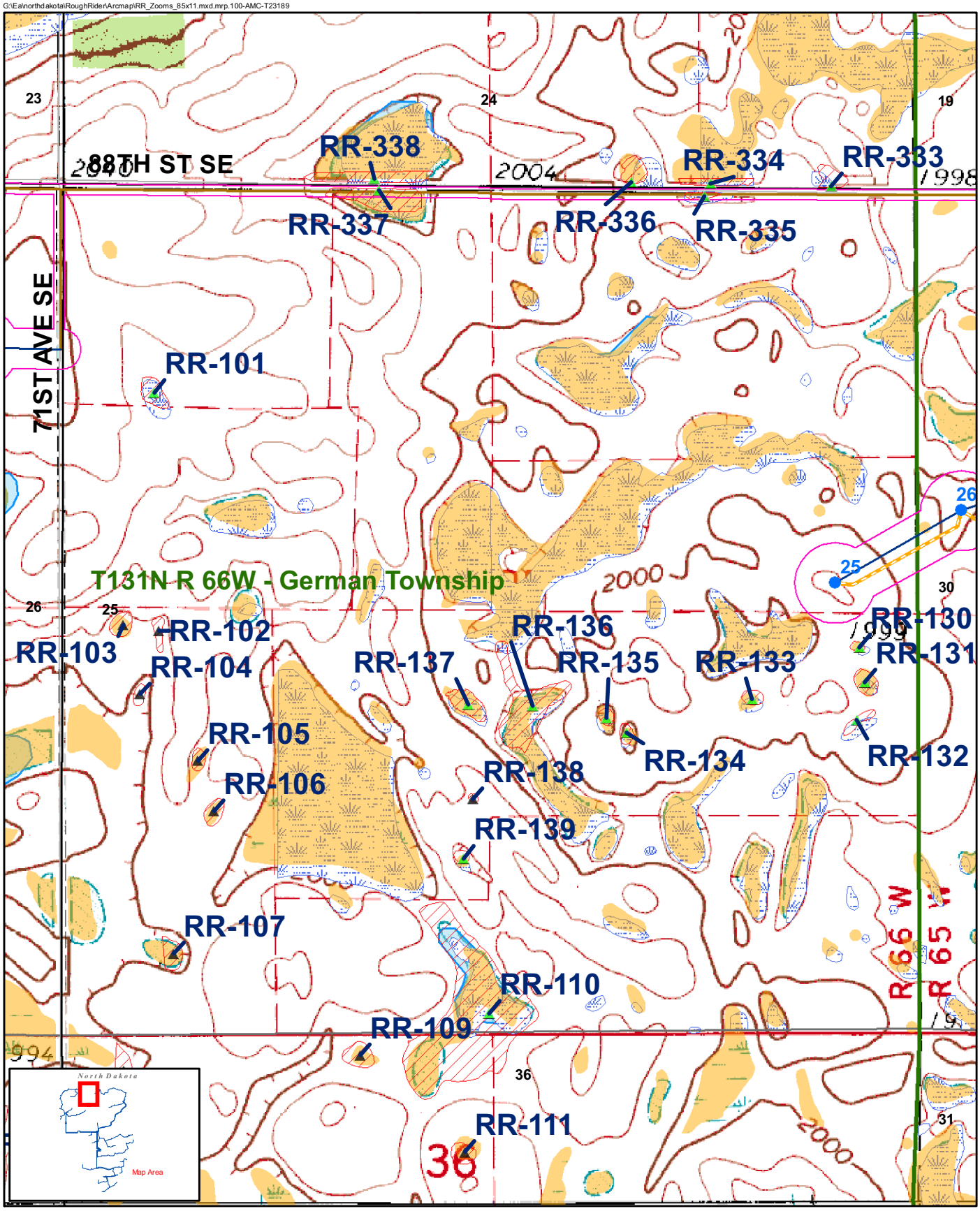
March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

German Township
Section 25
NAIP Image

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March 10, 2009

Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- NWI Wetland Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

German Township
Section 25
Quad Image

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 05-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-101**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 25 **T** 131N **R** 66 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5109470.52 **Long.:** E:507761.4956 **Datum:** NAD 1983

Soil Map Unit Name: Lehr-Wabek loams, 2 to 6 percent slope **NWI classification:** PEMF

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Phalaris arundinacea	Herb	100	☑ 100.0%	FACW+
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	100	x 2 =	200
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		200 (B)

Prevalence Index = B/A = 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)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View South (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-101

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-9	10YR 2/2							
9-14	10YR 3/3							
14-18	10YR 4/2							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as non-hydric soil by the NRCS. However, due to the presence of hydrophytic vegetation and positive indicator of wetland hydrology, the soil has been assumed to be hydric for the purposes of this investigataion.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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): 5

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-101 View South 12-5-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 05-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-102**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 25 **T** 131N **R** 66 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5109017.098 **Long.:** E: 507770.7843 **Datum:** NAD 1983

Soil Map Unit Name: William- Bowbells Loam, 3 to 6 percent slopes **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View South (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-102

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-102 View South 12-5-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 05-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-103**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 25 **T** 131N **R** 66 W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5109032.226 **Long.:** E: 507700.4273 **Datum:** NAD 1983

Soil Map Unit Name: William- Bowbells Loam, 3 to 6 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.			0	☐	
2.			0	☐	
3.			0	☐	
4.			0	☐	
			0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.			0	☐	
2.			0	☐	
3.			0	☐	
4.			0	☐	
5.			0	☐	
			0	= Total Cover	
Herb Stratum (Plot size:)					
1.	Phalaris arundinacea	Herb	100	☑ 100.0%	FACW+
2.			0	☐ 0.0%	
3.			0	☐ 0.0%	
4.			0	☐ 0.0%	
5.			0	☐ 0.0%	
6.			0	☐ 0.0%	
7.			0	☐ 0.0%	
8.			0	☐ 0.0%	
9.			0	☐ 0.0%	
10.			0	☐ 0.0%	
			100	= Total Cover	
Woody Vine Stratum (Plot size:)					
1.			0	☐	
2.			0	☐	
			0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0	
FACW species	100	x 2 =	200	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	200	(B)

Prevalence Index = B/A = 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)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View South (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-103

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☑ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-103 View South 12-5-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 05-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-104**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 25 **T** 131N **R** 66 W

Landform (hillslope, terrace, etc.): Swale **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5108897.788 **Long.:** E: 507734.3964 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent slopes **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Phalaris arundinacea	Herb	100	☑ 100.0%	FACW+
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	100	x 2 =	200
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		200 (B)

Prevalence Index = B/A = 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)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View South (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-104

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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): 1

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-104 View South 12-5-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 05-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-105**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 25 **T** 131N **R** 66 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5108774.355 **Long.:** E: 507846.0009 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover		Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0	= Total Cover		
Herb Stratum (Plot size:)					
1. Phalaris arundinacea	Herb	40	☑	40.0%	FACW+
2. Carex aquatilis	Herb	60	☑	60.0%	OBL
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100	= Total Cover		
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	60	x 1 =	60
FACW species	40	x 2 =	80
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		140 (B)

Prevalence Index = B/A = 1.4

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Southeast (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-105

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-105 View Southeast 12-5-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 05-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-106**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 25 **T** 131N **R** 66 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5108675.421 **Long.:** E: 507875.6244 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Typha angustifolia	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Northwest (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-106

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-106 View West-Northwest 1-2-09

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 05-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-107**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 25 **T** 131N **R** 66 W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5108407.875 **Long.:** E: 507795.9359 **Datum:** NAD 1983

Soil Map Unit Name: William- Bowbells Loam, 3 to 6 percent slopes **NWI classification:** PEMF

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0	= Total Cover		
Herb Stratum (Plot size:)					
1. Typha angustifolia	Herb	70	☑	70.0%	OBL
2. Phalaris arundinacea	Herb	25	☑	25.0%	FACW+
3. Rumex crispus	Herb	5	☐	5.0%	FACW
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100	= Total Cover		
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	70	x 1 =	70
FACW species	30	x 2 =	60
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		130 (B)

Prevalence Index = B/A = 1.3

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Southwest (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-107

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-107 View Southwest 12-5-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 05-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-110**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 25 **T** 131N **R** 66 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 5.2% / 3.0 °

Subregion (LRR): LRR F **Lat.:** N: 5108292.293 **Long.:** E: 508354.2703 **Datum:** NAD 1983

Soil Map Unit Name: Tonka Silt Loam, 0 to 1 percent slope **NWI classification:** PEMF

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
			0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
5.			0	☐		
			0	= Total Cover		
Herb Stratum (Plot size:)						
1.	Typha angustifolia	Herb	85	☑	85.0%	OBL
2.	Phalaris arundinacea	Herb	15	☐	15.0%	FACW+
3.			0	☐	0.0%	
4.			0	☐	0.0%	
5.			0	☐	0.0%	
6.			0	☐	0.0%	
7.			0	☐	0.0%	
8.			0	☐	0.0%	
9.			0	☐	0.0%	
10.			0	☐	0.0%	
			100	= Total Cover		
Woody Vine Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
			0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	85	x 1 =	85
FACW species	15	x 2 =	30
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		115 (B)

Prevalence Index = B/A = 1.15

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View North (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-110

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-13	10YR 2/1							
13-18	10YR 3/1							

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils 3:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-110 View North 12-5-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 06-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-130**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 25 **T** 131N **R** 66 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5108989.585 **Long.:** E: 509092.586 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent slopes **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		= Total Cover	
Herb Stratum (Plot size:)					
1. Carex aquatilis	Herb	100	☑	100.0%	OBL
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		= Total Cover	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View North (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-130

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-130 View North 12-6-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 06-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-131**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 25 **T** 131N **R** 66 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5108921.892 **Long.:** E: 509108.286 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells loams, 3 to 6 percent **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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		= Total Cover	
Herb Stratum (Plot size:)					
1. Carex aquatilis	Herb	100	☑	100.0%	OBL
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		= Total Cover	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:
Vegetation dominated by hydrophytes. Photos: View Southeast (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-131

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-131 View Southeast 12-6-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 06-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-132**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 25 **T** 131N **R** 66 W

Landform (hillslope, terrace, etc.): Swale **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5108848.444 **Long.:** E: 509094.4129 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent slopes **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View South (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-132

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☑ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-132 View South 12-6-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 06-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-133**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 25 **T** 131N **R** 66 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** flat **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5108893.742 **Long.:** E: 508894.2869 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species? Rel.Strat. Cover		Indicator Status
Tree Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
			0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
5.			0	☐		
			0	= Total Cover		
Herb Stratum (Plot size:)						
1.	Phalaris arundinacea	Herb	80	☑	80.0%	FACW+
2.	Carex aquatilis	Herb	20	☑	20.0%	OBL
3.			0	☐	0.0%	
4.			0	☐	0.0%	
5.			0	☐	0.0%	
6.			0	☐	0.0%	
7.			0	☐	0.0%	
8.			0	☐	0.0%	
9.			0	☐	0.0%	
10.			0	☐	0.0%	
			100	= Total Cover		
Woody Vine Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
			0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	20	x 1 =	20
FACW species	80	x 2 =	160
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		180 (B)

Prevalence Index = B/A = 1.8

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:
Vegetation dominated by hydrophytes. Photos: View North (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-133

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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): 1

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-133 View North 12-6-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 06-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-134**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 25 **T** 131N **R** 66 W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5108824.053 **Long.:** E: 508655.2977 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-134

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-134 View East 12-6-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 06-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-135**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 25 **T** 131N **R** 66 W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5108857.099 **Long.:** E: 508617.8641 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent 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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-135

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-135 View East 12-6-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 06-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-136**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 25 **T** 131N **R** 66 W

Landform (hillslope, terrace, etc.): Swale **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5108878.088 **Long.:** E: 508464.1873 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent slopes **NWI classification:** PEMF

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Typha angustifolia	Herb	75	☑ 75.0%	OBL
2. Carex aquatilis	Herb	25	☑ 25.0%	OBL
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Northwest (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-136

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-136 View Northwest 12-6-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 06-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-137**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 25 **T** 131N **R** 66 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5108880.824 **Long.:** E: 508355.7954 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent slopes **NWI classification:** PEMF

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.			0	☐	
2.			0	☐	
3.			0	☐	
4.			0	☐	
			0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.			0	☐	
2.			0	☐	
3.			0	☐	
4.			0	☐	
5.			0	☐	
			0	= Total Cover	
Herb Stratum (Plot size:)					
1.	Typha angustifolia	Herb	85	☑ 85.0%	OBL
2.	Carex aquatilis	Herb	15	☐ 15.0%	OBL
3.			0	☐ 0.0%	
4.			0	☐ 0.0%	
5.			0	☐ 0.0%	
6.			0	☐ 0.0%	
7.			0	☐ 0.0%	
8.			0	☐ 0.0%	
9.			0	☐ 0.0%	
10.			0	☐ 0.0%	
			100	= Total Cover	
Woody Vine Stratum (Plot size:)					
1.			0	☐	
2.			0	☐	
			0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-137

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-137 View East 12-6-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 06-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-138**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 25 **T** 131N **R** 66 W

Landform (hillslope, terrace, etc.): Swale **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5108702.455 **Long.:** E: 508365.8108 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent slopes **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View North (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-138

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☑ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-138 View North 12-6-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 06-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-139**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 25 **T** 131N **R** 66 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5108591.818 **Long.:** E: 508343.9549 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent 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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
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5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

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FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Northwest (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-139

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
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- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
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- ☐ Depleted Matrix (F3)
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- ☐ 1 cm Muck (A9) (LRR I, J)
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- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

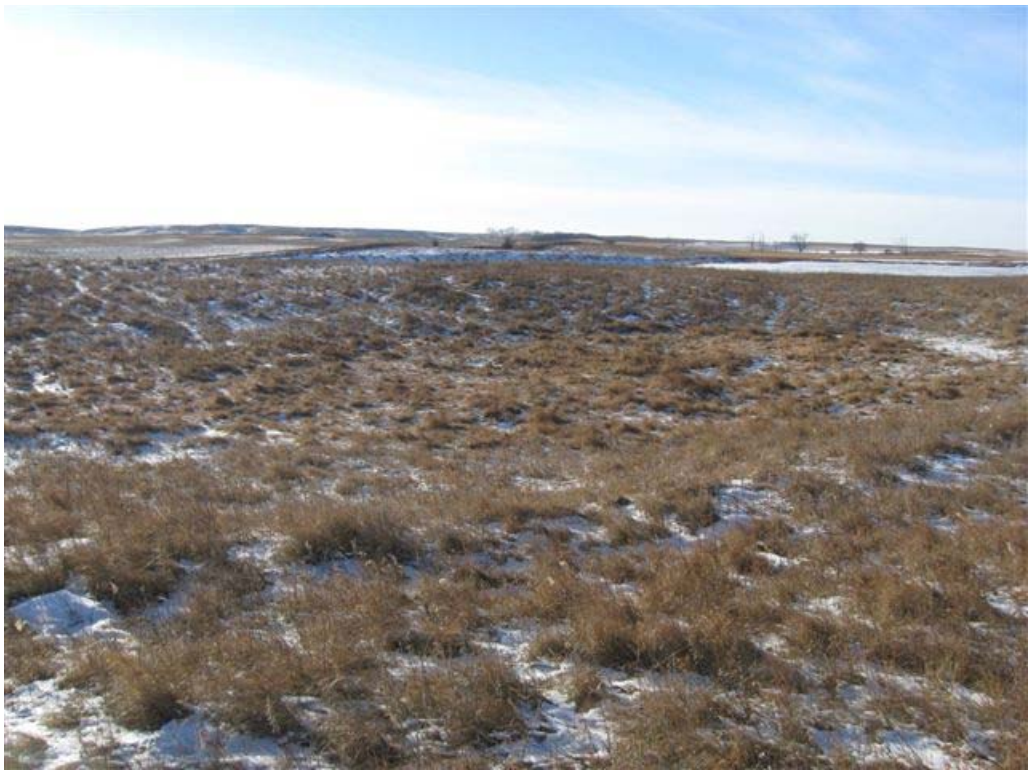
Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

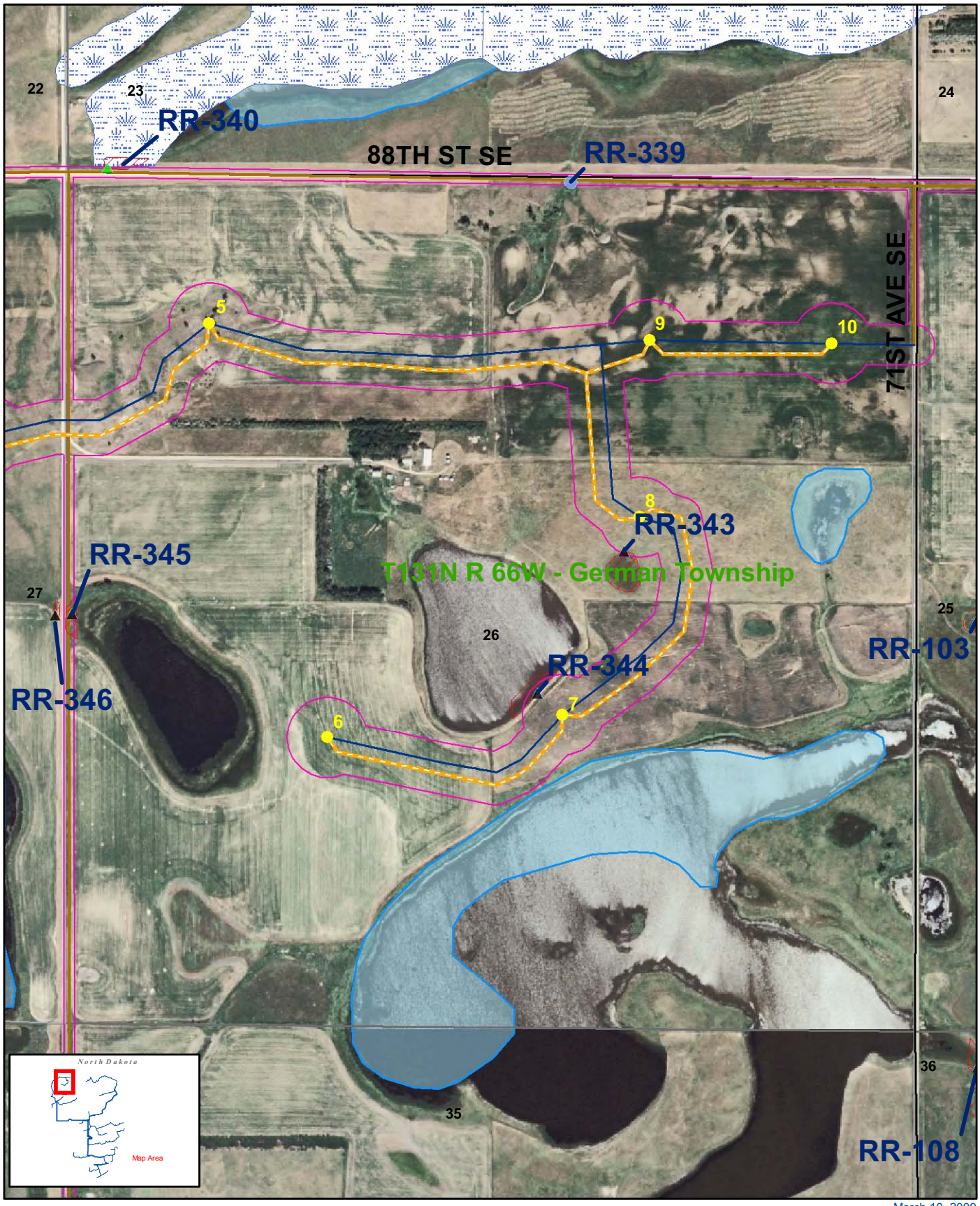
Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-139 View Northwest 12-6-08

TOWNSHIP 131
RANGE 66
SECTION 26

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Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

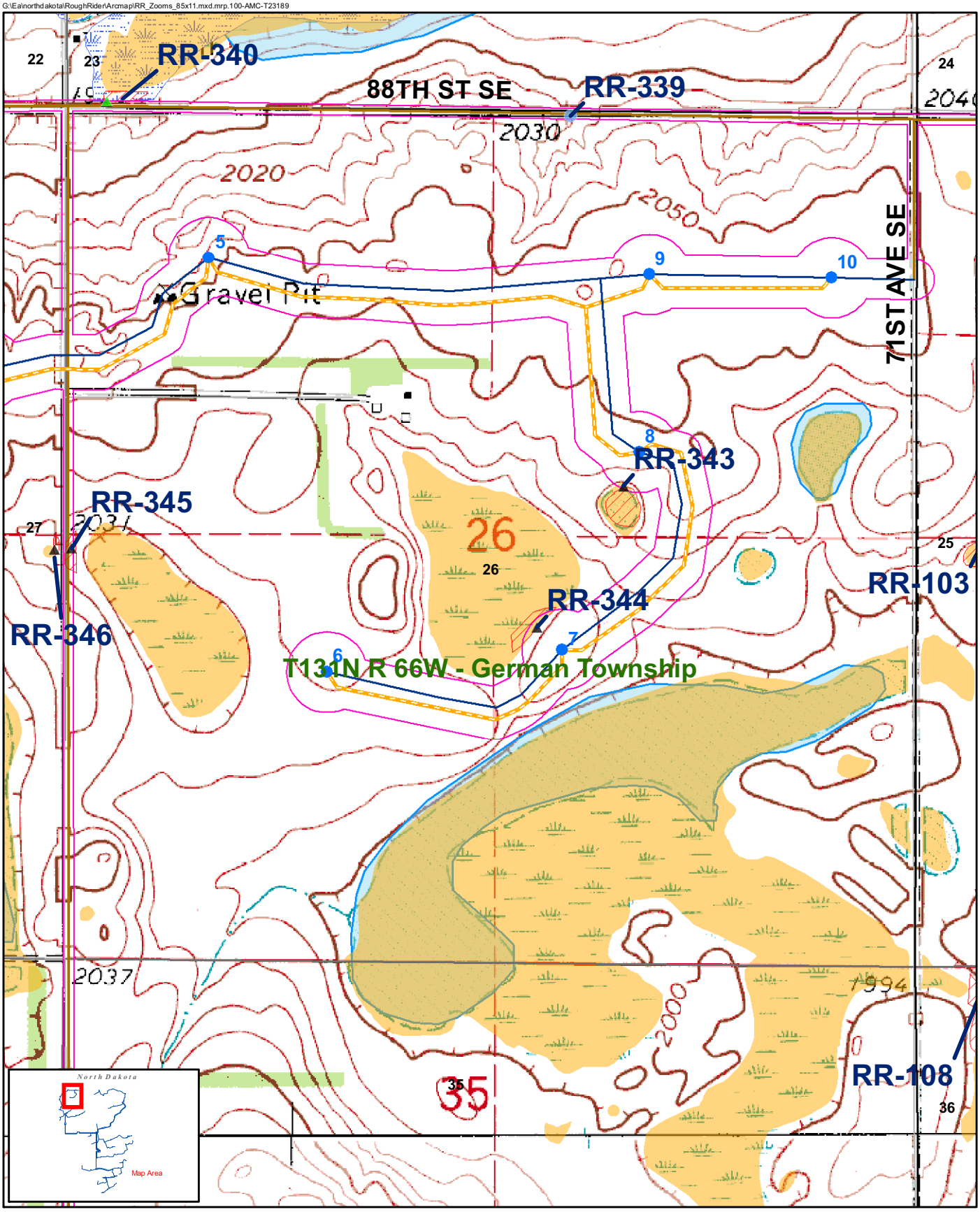
March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

German Township
Section 26
NAIP Image

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March 10, 2009

Grid: NAD 83 UTM Zone 14

1:10,000

Feet
0 250 500 1,000

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data
- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- NWI Wetland Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

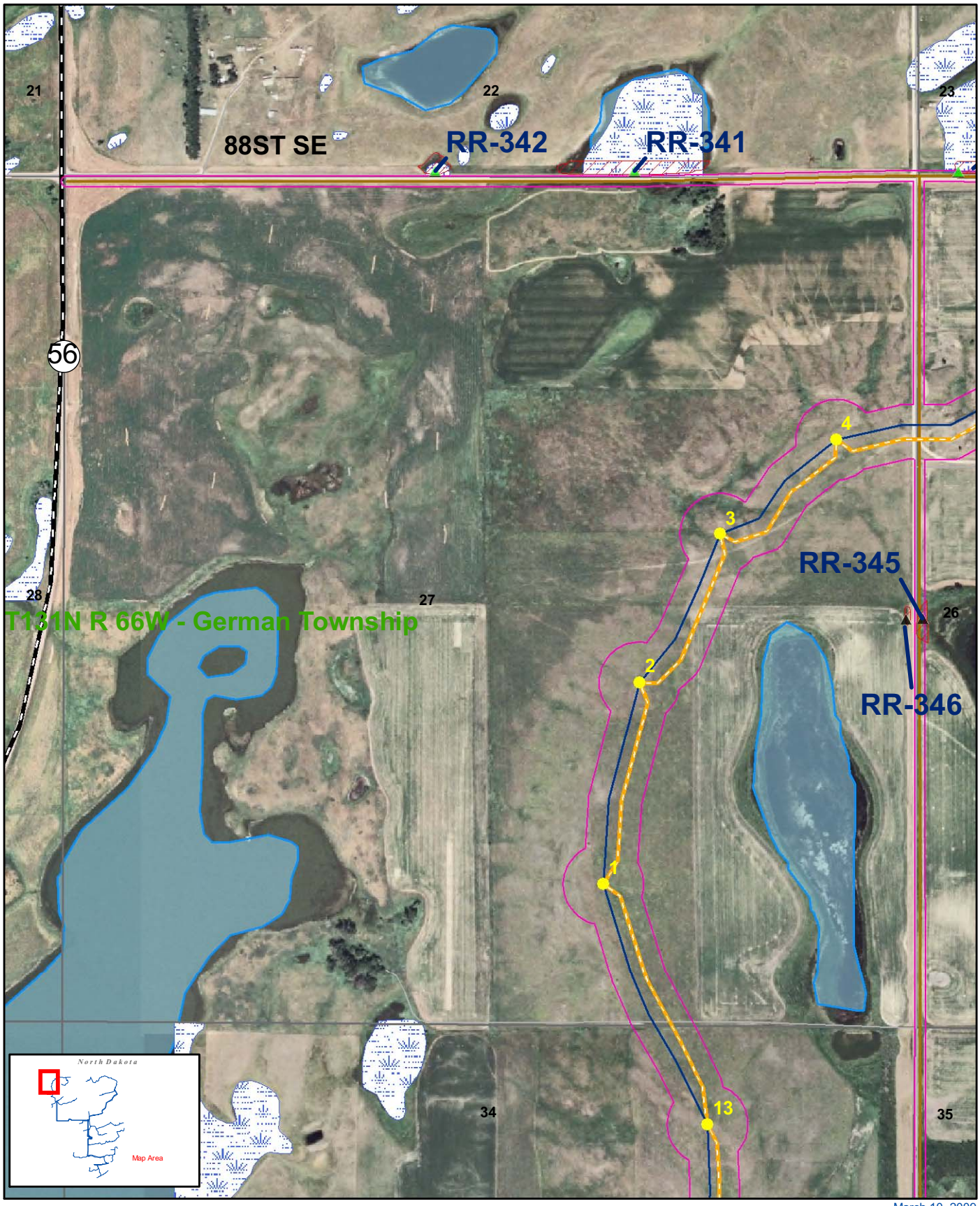
Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

German Township
Section 26
Quad Image

TOWNSHIP 131
RANGE 66
SECTION 27

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Grid: NAD 83 UTM Zone 14

1:10,000

Feet
0 250 500 1,000

TETRA TECH

- ▲ Non Jurisdictional
- ▲ USACE Jurisdiction
- ▲ USACE/USFWS Jurisdiction
- ▲ USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
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- PLSS Sections
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Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

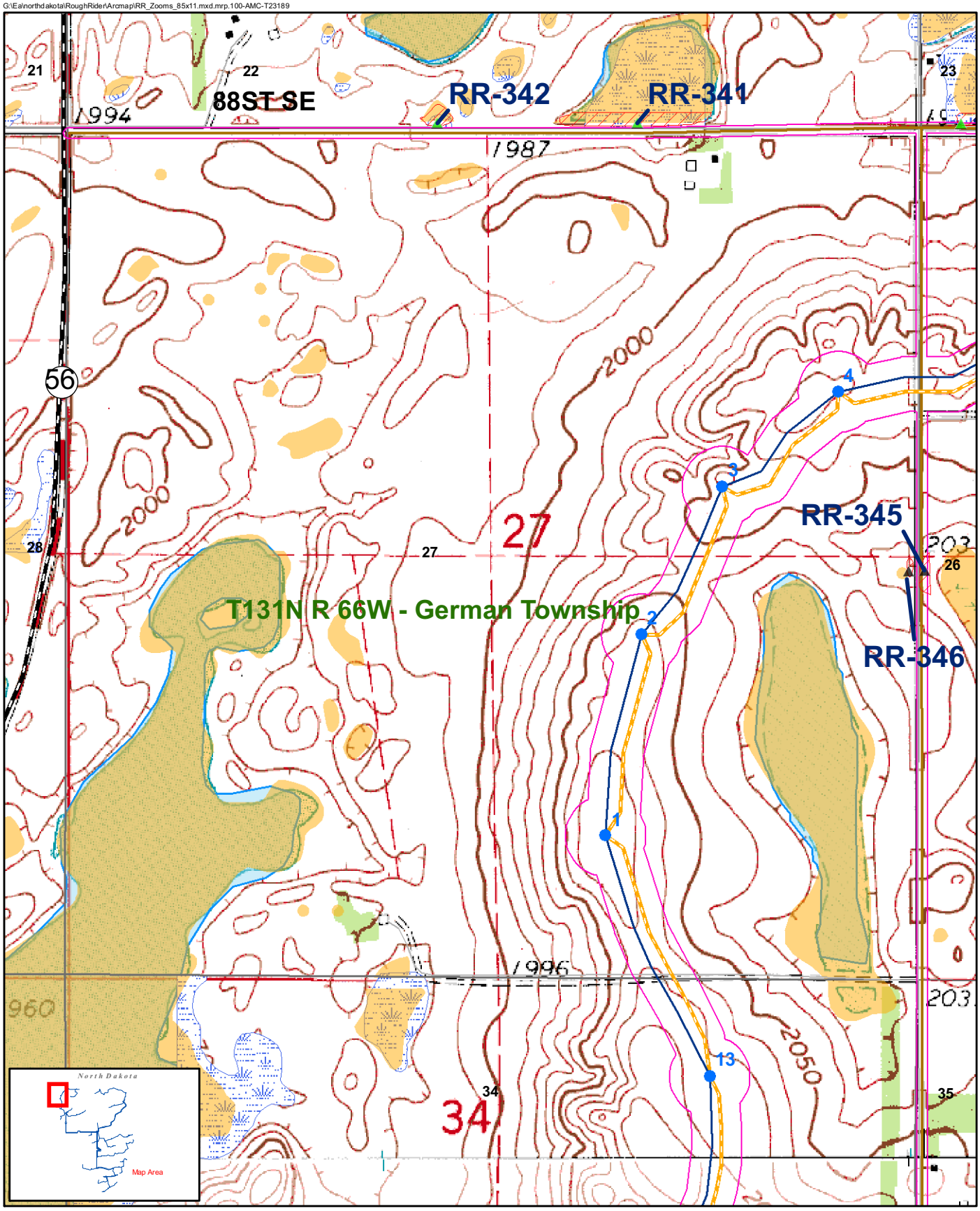
March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

German Township
Section 27
NAIP Image

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March 10, 2009

Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- NWI Wetland Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement
- Service Road
- State Highway
- County Road
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- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
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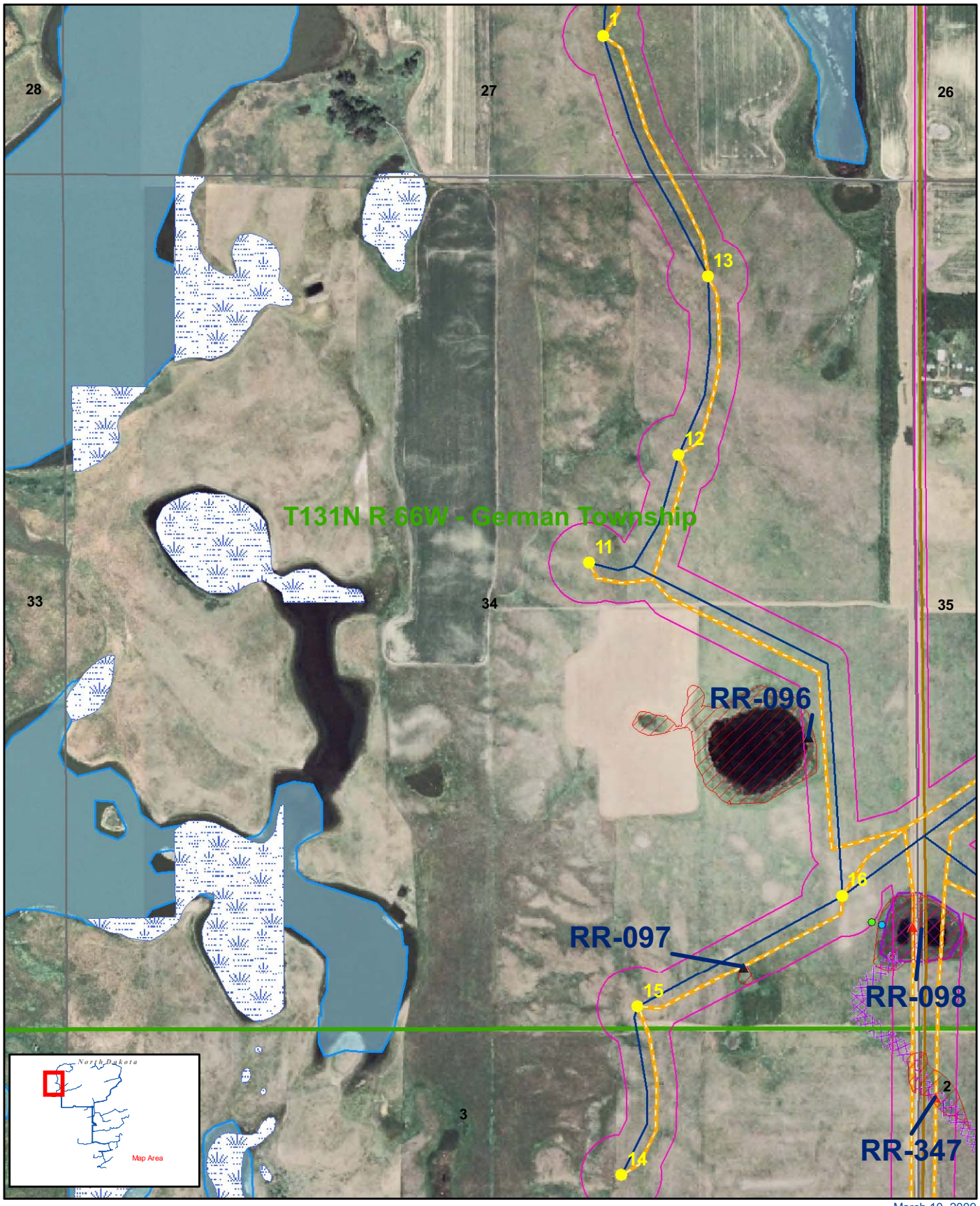
Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

German Township
Section 27
Quad Image

TOWNSHIP 131
RANGE 66
SECTION 34

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Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

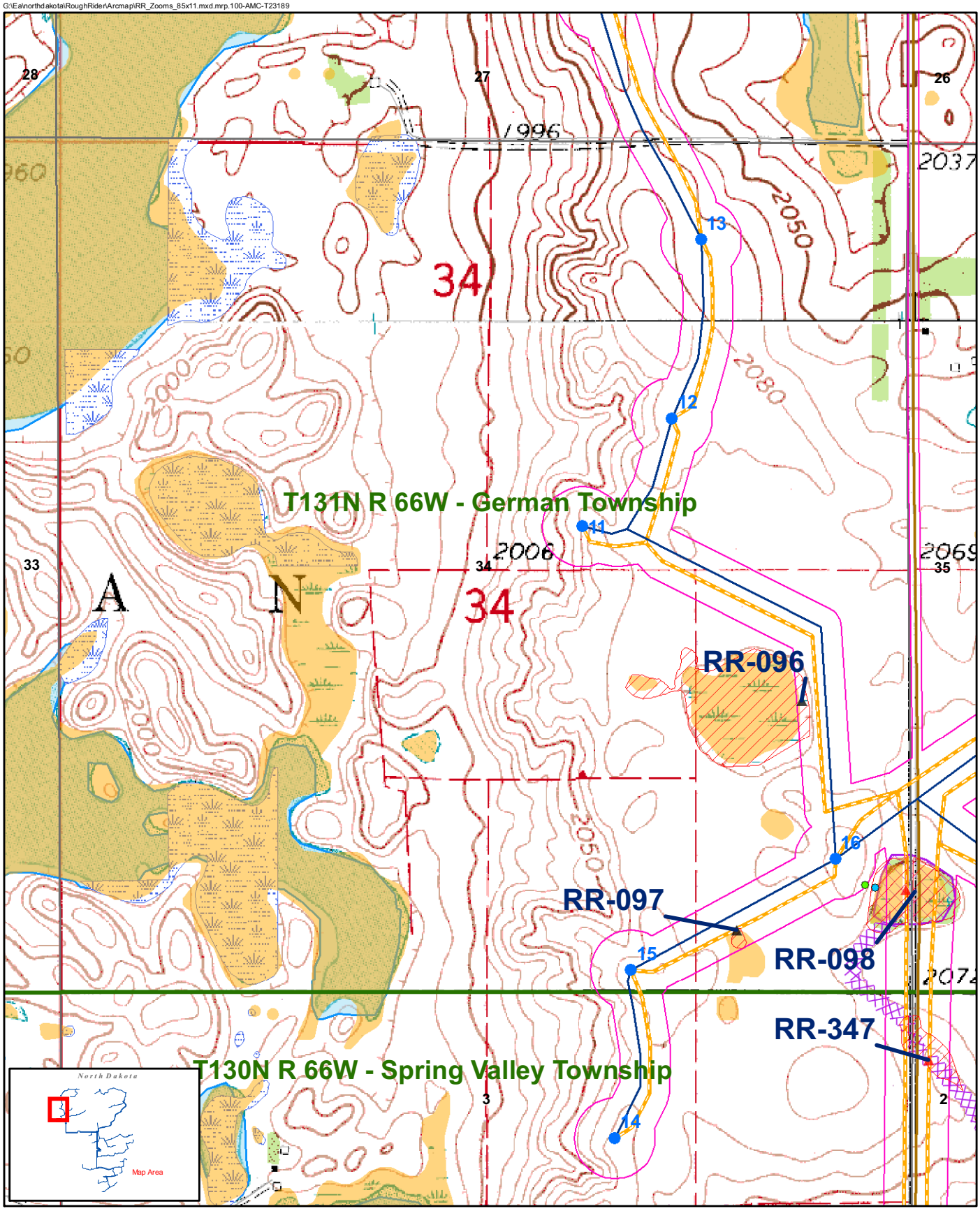
March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

German Township
Section 34
NAIP Image

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March 10, 2009

Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

- ▲ Non Jurisdictional
- ▲ USACE Jurisdiction
- ▲ USACE/USFWS Jurisdiction
- ▲ USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- NWI Wetland Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

German Township
Section 34
Quad Image

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 24-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-096**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 34 **T** 131N **R** 66 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5107251.742 **Long.:** E: 505520.249 **Datum:** NAD 1983

Soil Map Unit Name: Vallers Loam **NWI classification:** PEMF

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover		Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0	**= Total Cover**		
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0	**= Total Cover**		
Herb Stratum (Plot size:)					
1. Typha angustifolia	Herb	75	☑	75.0%	OBL
2. Rumex crispus	Herb	25	☑	25.0%	FACW
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100	**= Total Cover**		
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0	**= Total Cover**		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:
OBL species	75	x 1 =	75
FACW species	25	x 2 =	50
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		125 (B)

Prevalence Index = B/A = 1.25

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-096

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-8	N	2/0						
8-18	2.5Y	3/2						

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-096 View East 11-24-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 24-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-097**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 34 **T** 131N **R** 66 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5106761.584 **Long.:** E: 505656.2138 **Datum:** NAD 1983

Soil Map Unit Name: Ruso sandy loam, 0 to 6 percent 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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Rumex crispus	Herb	80	☑ 80.0%	FACW
2. Phalaris arundinacea	Herb	20	☑ 20.0%	FACW+
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	100	x 2 =	200
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		200 (B)

Prevalence Index = B/A = 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)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-097

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-6	10YR 2/1							
6-18	5Y 2/1							

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as non-hydric soil by the NRCS. However, due to the presence of hydrophytic vegetation and positive indicator of wetland hydrology, the soil has been assumed to be hydric for the purposes of this investigation.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-097 View East 11-24-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 24-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-098_01W**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 34 **T** 131N **R** 66 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5106844.669 **Long.:** E: 505979.8586 **Datum:** NAD 1983

Soil Map Unit Name: Southham silt loam **NWI classification:** PEMH

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)						
1. Salix discolor	#N/A		100	☑	100.0%	FACW
2.			0	☐	0.0%	
3.			0	☐	0.0%	
4.			0	☐	0.0%	
			100		= Total Cover	
Sapling/Shrub Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
5.			0	☐		
			0		= Total Cover	
Herb Stratum (Plot size:)						
1. Typha angustifolia	Herb		70	☑	70.0%	OBL
2. Phalaris arundinacea	Herb		20	☑	20.0%	FACW+
3. Rumex crispus	Herb		10	☐	10.0%	FACW
4.			0	☐	0.0%	
5.			0	☐	0.0%	
6.			0	☐	0.0%	
7.			0	☐	0.0%	
8.			0	☐	0.0%	
9.			0	☐	0.0%	
10.			0	☐	0.0%	
			100		= Total Cover	
Woody Vine Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
			0		= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	70	x 1 =	70
FACW species	130	x 2 =	260
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	200 (A)		330 (B)

Prevalence Index = B/A = 1.65

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View East (Page 1), View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-098_01V

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-6	10YR 2/1							
6-18	5Y 2/1							

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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): 36

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Wetland - possesses a discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable wat of the United States.



RR-098-01W View East 11-24-08



RR-098-01W View East 11-24-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 24-Nov-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-098-01U**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 34 **T** 131N **R** 66 W

Landform (hillslope, terrace, etc.): Hillside **Local relief (concave, convex, none):** undulating **Slope:** 15.8% / 9.0 °

Subregion (LRR): LRR F **Lat.:** N: 5106844.669 **Long.:** E: 505979.8586 **Datum:** NAD 1983

Soil Map Unit Name: Southham silt loam **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ○ No ◉

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ○ No ◉

Is the Sampled Area within a Wetland? Yes ○ No ◉

Remarks:
Based on the data collected, this location does not meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		= Total Cover	
Herb Stratum (Plot size:)					
1. Bromus inermis	#N/A	100	☑	100.0%	UPL
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		= Total Cover	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	100	x 5 =	500
Column Totals:	100 (A)		500 (B)

Prevalence Index = B/A = 5

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.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:
Vegetation dominated by non-hydrophytes. Photos: View West (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-098-01U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-6	10YR 2/1							
6-18	5Y 2/1							

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Non-wet data point. No indications of wetland hydrology observed at this site.



RR-098-01U View West 11-24-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 05-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-100-01U**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 34 **T** 131N **R** 66 W

Landform (hillslope, terrace, etc.): Hillside **Local relief (concave, convex, none):** undulating **Slope:** 8.7% / 5.0 °

Subregion (LRR): LRR F **Lat.:** N: 5106713.458 **Long.:** E: 506409.2756 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent slopes **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ◉	No ○	
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
Based on the data collected, this location does not meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Andropogon gerardii	Herb	100	☑ 100.0%	FACU
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	100	x 4 =	400	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	400	(B)

Prevalence Index = B/A = 4

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.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:
Vegetation dominated by non-hydrophytes. Photos: View West (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-100-01U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Non-wet data point. No indications of wetland hydrology observed at this site.



RR-100-01U View West 12-5-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 05-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-100-02U**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 34 **T** 131N **R** 66 W

Landform (hillslope, terrace, etc.): Undulating **Local relief (concave, convex, none):** undulating **Slope:** 5.2% / 3.0 °

Subregion (LRR): LRR F **Lat.:** N: 5106713.458 **Long.:** E: 506409.2756 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent slopes **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ◉	No ○	
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
Based on the data collected, this location does not meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Andropogon gerardii	Herb	100	☑ 100.0%	FACU
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	100	x 4 =	400
UPL species	0	x 5 =	0
Column Totals:	100 (A)		400 (B)

Prevalence Index = B/A = 4

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.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:

Vegetation dominated by non-hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-100-02U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Non-wet data point. No indications of wetland hydrology observed at this site.



RR-100-02U View East 12-5-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 05-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-100-02W**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 34 **T** 131N **R** 66 W

Landform (hillslope, terrace, etc.): Swale **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5106713.458 **Long.:** E: 506409.2756 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent 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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

			Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.			0	☐	
2.			0	☐	
3.			0	☐	
4.			0	☐	
			0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.			0	☐	
2.			0	☐	
3.			0	☐	
4.			0	☐	
5.			0	☐	
			0	= Total Cover	
Herb Stratum (Plot size:)					
1.	Phalaris arundinacea	Herb	100	☑ 100.0%	FACW+
2.			0	☐ 0.0%	
3.			0	☐ 0.0%	
4.			0	☐ 0.0%	
5.			0	☐ 0.0%	
6.			0	☐ 0.0%	
7.			0	☐ 0.0%	
8.			0	☐ 0.0%	
9.			0	☐ 0.0%	
10.			0	☐ 0.0%	
			100	= Total Cover	
Woody Vine Stratum (Plot size:)					
1.			0	☐	
2.			0	☐	
			0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0	
FACW species	100	x 2 =	200	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	200	(B)

Prevalence Index = B/A = 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)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View North (Page 1), View East (Page 1), View South (Page 2)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-100-02W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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): 1

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Seasonal RPW w/ Wetland Fringe -this area possesses all of the delineative criteria necessary for classification as a wetland under the USACE 198 Wetland Delineation manual. However, it is not classified as a wetland as it possesses the necessary characteristic to classify it as a Water of the U.S. Therefore, it is classified as a seasonally flowing relatively permanent waterway.



RR-100-02W View North 12-5-08



RR-100-02W View East 12-5-08



RR-100-02W View South 12-5-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 05-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-115**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 34 **T** 131N **R** 66 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 516991.727 **Long.:** E: 507240.0945 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	10	☐ 10.0%	OBL
2. Carex atherodes	Herb	40	☑ 40.0%	OBL
3. Typha angustifolia	Herb	50	☑ 50.0%	OBL
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Northwest (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-115

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

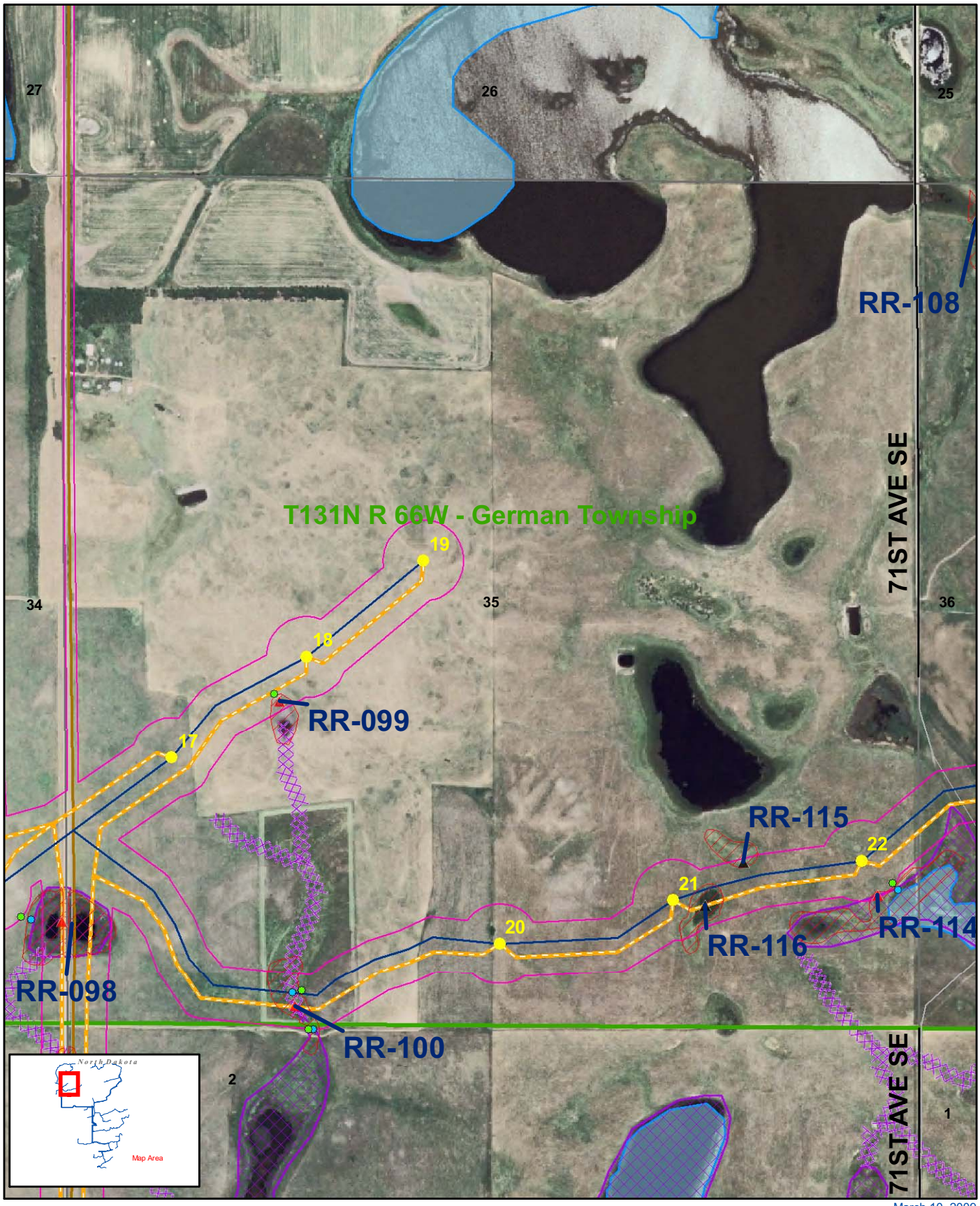
Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-115 View Northwest 12-5-08

TOWNSHIP 131
RANGE 66
SECTION 35

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Grid: NAD 83 UTM Zone 14

1:10,000

Feet
0 250 500 1,000

TETRA TECH

- ▲ Non Jurisdictional
- ▲ USACE Jurisdiction
- ▲ USACE/USFWS Jurisdiction
- ▲ USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

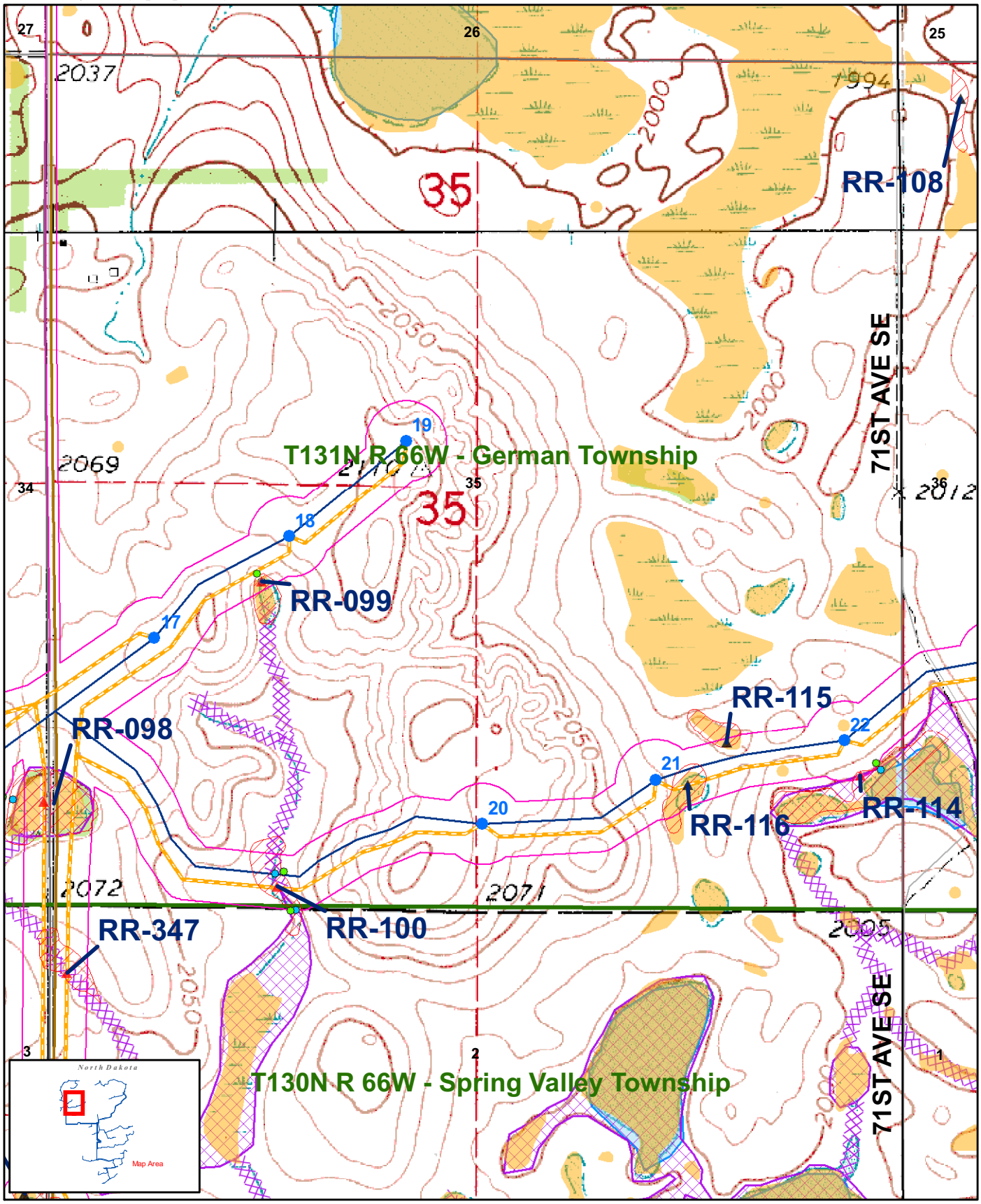
March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

German Township
Section 35
NAIP Image

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March 10, 2009

Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- NWI Wetland Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

German Township
Section 35
Quad Image

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 05-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-099-01U**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 35 **T** 131N **R** 66 W

Landform (hillslope, terrace, etc.): Hillside **Local relief (concave, convex, none):** undulating **Slope:** 8.7% / 5.0 °

Subregion (LRR): LRR F **Lat.:** N: 5107238.473 **Long.:** E: 506393.0577 **Datum:** NAD 1983

Soil Map Unit Name: Zahl- Williams loam, 6 to 25 percent slope **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ◉	No ○	
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
Based on the data collected, this location does not meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		**= Total Cover**	
Herb Stratum (Plot size:)					
1. Agropyron smithii	Herb	100	☑	100.0%	FACU
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		**= Total Cover**	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	100	x 4 =	400	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	400	(B)

Prevalence Index = B/A = 4

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.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:
Vegetation dominated by non-hydrophytes. Photos: View North (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-099-01U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-5	10YR 2/2							
5-18	2.5Y 4/4							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Non-wet data point. No indications of wetland hydrology observed at this site.



RR-099-01U View North 12-5-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 05-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-099-01W**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 35 **T** 131N **R** 66 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5107238.473 **Long.:** E: 506393.0577 **Datum:** NAD 1983

Soil Map Unit Name: Zahl- Williams loam, 6 to 25 percent slope **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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		= Total Cover	
Herb Stratum (Plot size:)					
1. Carex aquatilis	Herb	50	☑	100.0%	OBL
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		50		= Total Cover	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		= Total Cover	

% Bare Ground in Herb Stratum 50

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	50	(A)	50	(B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View South (Page 1), View Southwest (Page 1). The percentage of bare ground reflects hydrophytic vegetation that has been trampled by livestock.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-099-01W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-5	10YR 2/1							
5-18	2.5Y 4/4							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Wetland - possesses a discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable wat of the United States.



RR-099-01W View South 12-5-08



RR-099-01W View Southwest 12-5-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 05-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-100-01W**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 35 **T** 131N **R** 66 W

Landform (hillslope, terrace, etc.): Swale **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5106713.458 **Long.:** E: 506409.2756 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Bowbells Loams, 3 to 6 percent 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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0	**= Total Cover**		
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0	**= Total Cover**		
Herb Stratum (Plot size:)					
1. Phalaris arundinacea	Herb	80	☑	80.0%	FACW+
2. Rumex crispus	Herb	10	☐	10.0%	FACW
3. Carex aquatilis	Herb	10	☐	10.0%	OBL
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100	**= Total Cover**		
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0	**= Total Cover**		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	10	x 1 =	10
FACW species	90	x 2 =	180
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		190 (B)

Prevalence Index = B/A = 1.9

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View North (Page 1), View East (Page 1), View South (Page 2)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-100-01W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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): 1

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Seasonal RPW w/ Wetland Fringe -this area possesses all of the delineative criteria necessary for classification as a wetland under the USACE 198 Wetland Delineation manual. However, it is not classified as a wetland as it possesses the necessary characteristic to classify it as a Water of the U.S. Therefore, it is classified as a seasonally flowing relatively permanent waterway.



RR-100-01W View North 12-5-08



RR-100-01W View East 12-5-08



RR-100-01W View South 12-5-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 05-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-116**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 35 **T** 131N **R** 66 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** concave **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5106869.468 **Long.:** E: 507180.9618 **Datum:** NAD 1983

Soil Map Unit Name: Hamerly-Tonka-Parnell complex, 0 to 3 percent **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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0	= Total Cover		
Herb Stratum (Plot size:)					
1. Carex aquatilis	Herb	50	☑	50.0%	OBL
2. Typha angustifolia	Herb	50	☑	50.0%	OBL
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100	= Total Cover		
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	100	(B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Northwest (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-116

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/1							
7-18	2.5Y 5/4							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

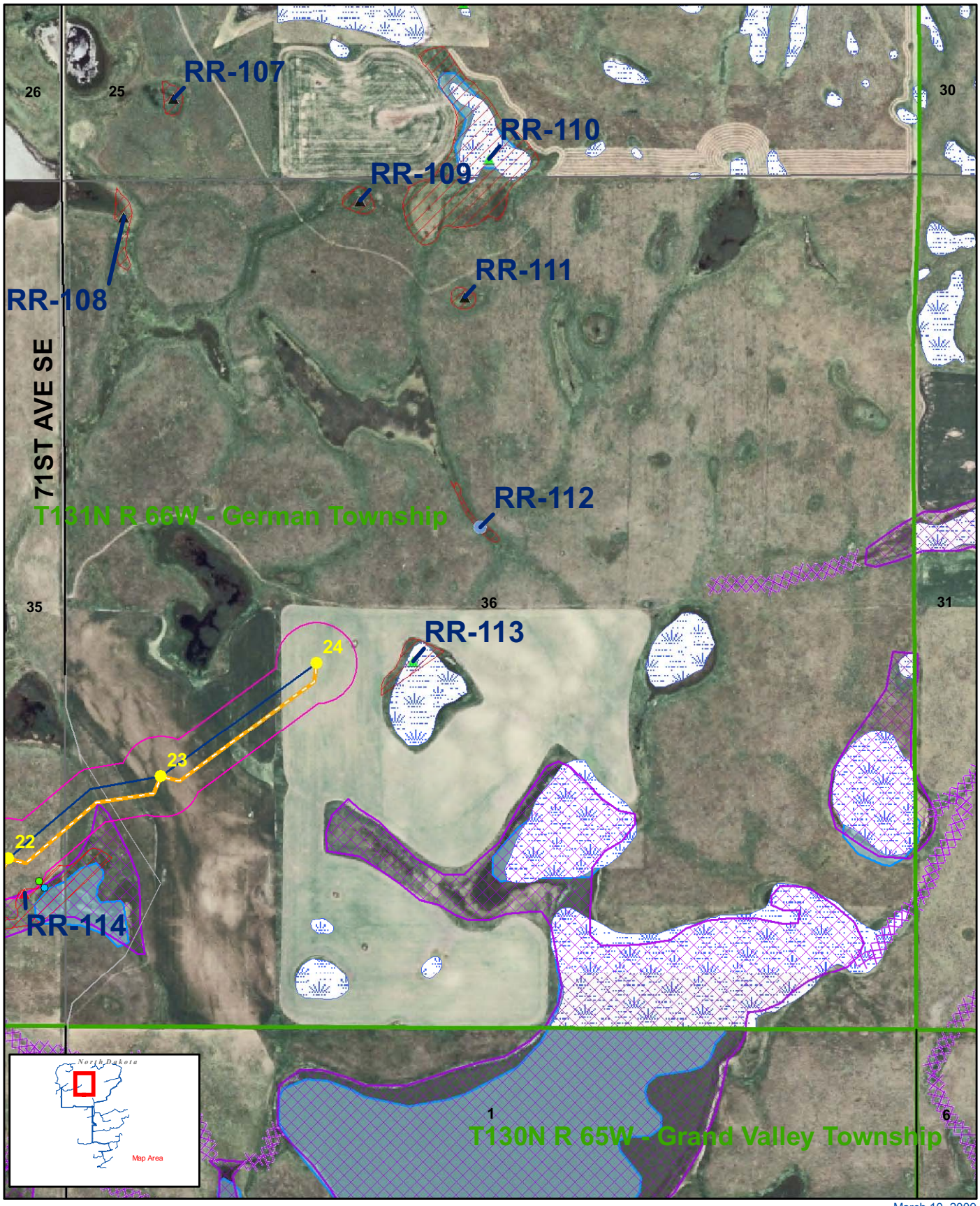
Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-116 View Northwest 12-5-08

TOWNSHIP 131
RANGE 66
SECTION 36

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Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

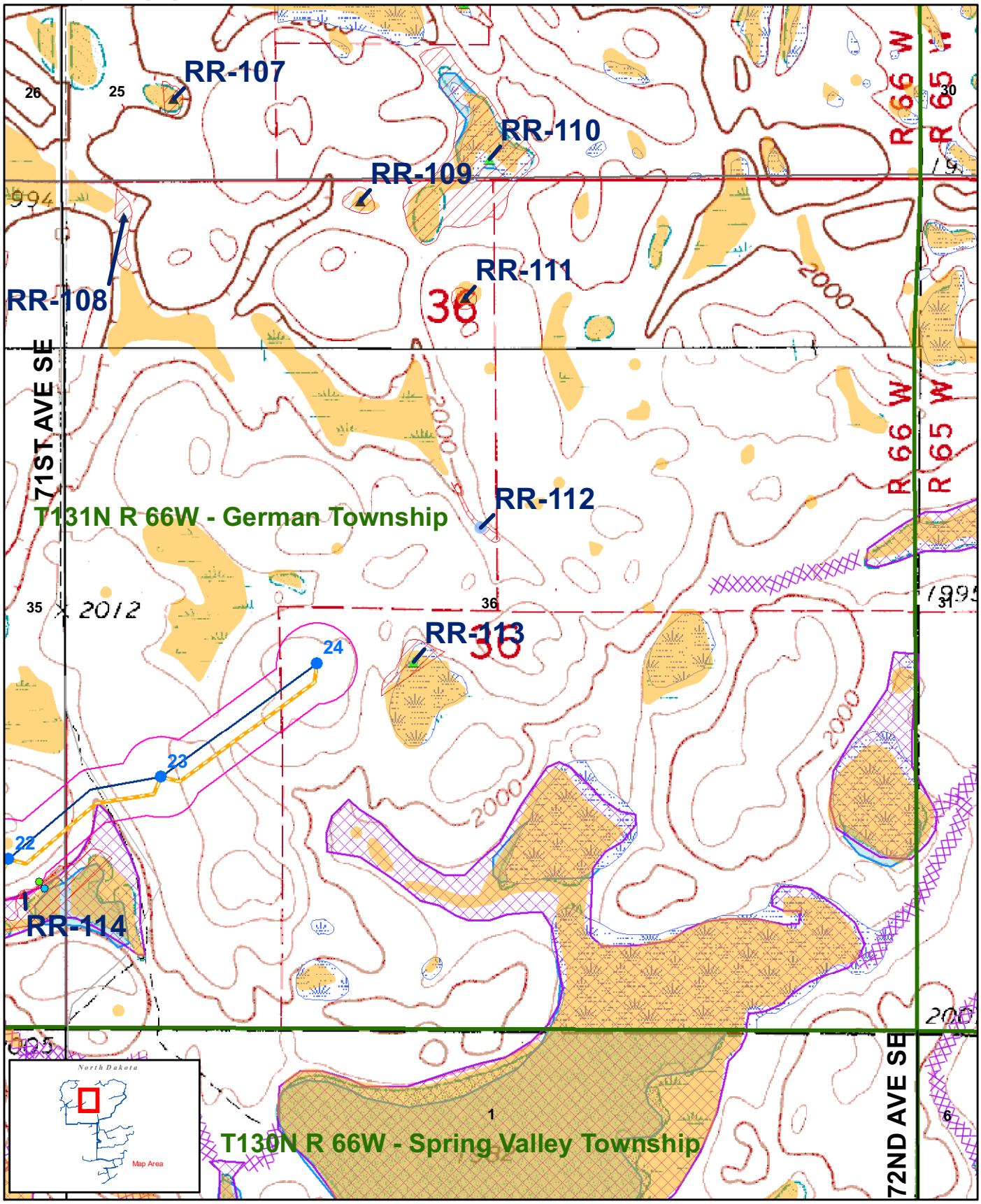
March 10, 2009

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

German Township
Section 36
NAIP Image

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March 10, 2009

Grid: NAD 83 UTM Zone 14

1:10,000

0 250 500 1,000 Feet

TETRA TECH

- Non Jurisdictional
- USACE Jurisdiction
- USACE/USFWS Jurisdiction
- USFWS Jurisdiction
- Crossing Location
- GE Turbine Location

GPS Data

- Culvert
- Non-wet Data Point
- Wetland Data Point
- Wetland Area

(Collected Nov. 20-24 & Dec. 5-10 2008)

- Jurisdictional Areas
- NWI Wetland Areas
- River / Stream
- Lake / Pond
- USFWS Wetland Easement

- Service Road
- State Highway
- County Road
- Access Road
- Collector
- Facility Townships
- PLSS Sections
- Facility Buffer

Turbine: 250' radius
Access Roads and Collectors: 250' (125' each side)
Public Service Roads: 66' (33' each side)

Rough Rider I Wind Energy Center

Investigated Areas
Dickey County, North Dakota

German Township
Section 36
Quad Image

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 05-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-108**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 36 **T** 131N **R** 66 W

Landform (hillslope, terrace, etc.): Swale **Local relief (concave, convex, none):** undulating **Slope:** 5.2% / 3.0 °

Subregion (LRR): LRR F **Lat.:** N: 5108163.806 **Long.:** E: 507702.8776 **Datum:** NAD 1983

Soil Map Unit Name: Hamerly-Tonka-Parnell complex, 0 to 3 percent **NWI classification:** PEMA

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	100	(B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View North (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-108

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/1							
7-18	2.5YR 5/4							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-108 View North 12-5-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 05-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-109**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 36 **T** 131N **R** 66 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5108215.373 **Long.:** E: 508149.4767 **Datum:** NAD 1983

Soil Map Unit Name: Hamerly-Tonka-Parnell complex, 0 to 3 percent **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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-109

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/1							
7-18	2.5Y 5/4							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-109 View East 12-5-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 05-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-111**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 36 **T** 131N **R** 66 W

Landform (hillslope, terrace, etc.): Pothole **Local relief (concave, convex, none):** flat **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 5108030.167 **Long.:** E: 508346.2895 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent 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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	**= Total Cover**	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	**= Total Cover**	
Herb Stratum (Plot size:)				
1. Carex aquatilis	Herb	100	☑ 100.0%	OBL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	**= Total Cover**	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View East (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-111

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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): 3

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland - possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-111 View East 12-5-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 05-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-112**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 36 **T** 131N **R** 66 W

Landform (hillslope, terrace, etc.): Undulating **Local relief (concave, convex, none):** undulating **Slope:** 5.2% / 3.0 °

Subregion (LRR): LRR F **Lat.:** N: 5107612.369 **Long.:** E: 508372.0012 **Datum:** NAD 1983

Soil Map Unit Name: Zahl- Williams loam, 6 to 25 percent slope **NWI classification:** PEMA

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:
Based on the data collected, this location does not meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region: R4

			Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
			0	**= Total Cover**		
Sapling/Shrub Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
3.			0	☐		
4.			0	☐		
5.			0	☐		
			0	**= Total Cover**		
Herb Stratum (Plot size:)						
1.	Medicago sativa	Herb	100	☑	100.0%	UPL
2.			0	☐	0.0%	
3.			0	☐	0.0%	
4.			0	☐	0.0%	
5.			0	☐	0.0%	
6.			0	☐	0.0%	
7.			0	☐	0.0%	
8.			0	☐	0.0%	
9.			0	☐	0.0%	
10.			0	☐	0.0%	
			100	**= Total Cover**		
Woody Vine Stratum (Plot size:)						
1.			0	☐		
2.			0	☐		
			0	**= Total Cover**		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	100	x 5 =	500	
Column Totals:	100	(A)	500	(B)

Prevalence Index = B/A = 5

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.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:
Vegetation dominated by non-hydrophytes. Photos: (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-112

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-5	10YR 2/2							
5-18	2.5Y 4/4							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Nothing Evident, Farmed Through = Site shows no evident signs of a typical hydrophitic vegetative community, and is presently or has recently been farmed.



RR-112 View North 12-5-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 05-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-113**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 36 **T** 131N **R** 66 W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** undulating **Slope:** 3.5% / 2.0 °

Subregion (LRR): LRR F **Lat.:** N: 5107341.681 **Long.:** E: 508246.4853 **Datum:** NAD 1983

Soil Map Unit Name: Williams- Zahl loams, 6 to 9 percent slopes **NWI classification:** PEMF

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		= Total Cover	
Herb Stratum (Plot size:)					
1. Typha angustifolia	Herb	90	☑	90.0%	OBL
2. Phalaris arundinacea	Herb	10	☐	10.0%	FACW+
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		= Total Cover	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	90	x 1 =	90
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		110 (B)

Prevalence Index = B/A = 1.1

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Southwest (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-113

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ 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): 36

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Isolated wetland w/ USFWS wetland easement- possesses no discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable water of the United States. Therefore, this wetland is not hydrologically connected to a water of the United States.



RR-113 View Southwest 12-5-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 05-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-114-01U**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 36 **T** 131N **R** 66 W

Landform (hillslope, terrace, etc.): Hillside **Local relief (concave, convex, none):** undulating **Slope:** 10.5% / 6.0 °

Subregion (LRR): LRR F **Lat.:** N: 516889.692 **Long.:** E: 507516.8377 **Datum:** NAD 1983

Soil Map Unit Name: Parnell Silty Clay Loam **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ○ No ◉

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ○ No ◉

Is the Sampled Area within a Wetland? Yes ○ No ◉

Remarks:
Based on the data collected, this location does not meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region: R4

		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
		0	= Total Cover	
Herb Stratum (Plot size:)				
1. Stipa comata	#N/A	100	☑ 100.0%	UPL
2.		0	☐ 0.0%	
3.		0	☐ 0.0%	
4.		0	☐ 0.0%	
5.		0	☐ 0.0%	
6.		0	☐ 0.0%	
7.		0	☐ 0.0%	
8.		0	☐ 0.0%	
9.		0	☐ 0.0%	
10.		0	☐ 0.0%	
		100	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.		0	☐	
2.		0	☐	
		0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	100	x 5 =	500
Column Totals:	100 (A)		500 (B)

Prevalence Index = B/A = 5

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.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:
Vegetation dominated by non-hydrophytes. Photos: View Southwest (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-114-01U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils [3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Non-wet data point. No indications of wetland hydrology observed at this site.



RR-114-01U View Southwest 12-5-08

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rough Rider **City/County:** Dickey County **Sampling Date:** 05-Dec-08

Applicant/Owner: FPL **State:** ND **Sampling Point:** **RR-114-01W**

Investigator(s): Ryan Hibbs/ Ryan Sparhawk **Section, Township, Range:** **S** 36 **T** 131N **R** 66 W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** undulating **Slope:** 1.7% / 1.0 °

Subregion (LRR): LRR F **Lat.:** N: 516889.692 **Long.:** E: 507516.8377 **Datum:** NAD 1983

Soil Map Unit Name: Parnell Silty Clay Loam **NWI classification:** PEMF

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:
Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual.

VEGETATION - Use scientific names of plants

FWS Region:

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
		0		= Total Cover	
Sapling/Shrub Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
3.		0	☐		
4.		0	☐		
5.		0	☐		
		0		= Total Cover	
Herb Stratum (Plot size:)					
1. Typha angustifolia	Herb	30	☑	30.0%	OBL
2. Carex aquatilis	Herb	15	☐	15.0%	OBL
3. Carex atherodes	Herb	30	☑	30.0%	OBL
4. Phalaris arundinacea	Herb	25	☑	25.0%	FACW+
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
		100		= Total Cover	
Woody Vine Stratum (Plot size:)					
1.		0	☐		
2.		0	☐		
		0		= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	75	x 1 =	75
FACW species	25	x 2 =	50
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		125 (B)

Prevalence Index = B/A = 1.25

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.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Vegetation dominated by hydrophytes. Photos: View Northeast (Page 1), View East (Page 1), View South (Page 2), View West (Page 2)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: RR-114-01W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type1	Loc²	Texture	Remarks
0-7	10YR 2/2							
7-11	10YR 3/3							
11-18	10YR 4/3							

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)
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- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
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- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
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Indicators for Problematic Hydric Soils[3]:

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- ☐ Dark Surface (S7) (LRR G)
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- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

Soil profile not investigated. Listed as hydric soil by the NRCS.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requ

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☑ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☑ Fac-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photos

Remarks:

Wetland - possesses a discreet or confined surface or shallow subsurface connection to a tributary stream eventually flowing into a navigable wat of the United States.



RR-114-01W View Northeast 12-5-08



RR-114-01W View East 12-5-08



RR-114-01W View South 12-5-08



RR-114-01W View West 12-5-08