Wetland Delineation Report

Industrial Site

Black River Falls, Wisconsin

Prepared for: City of Black River Falls and Cedar Corporation

August 12, 2016

BES Project No. 2016.035

Bopray Environmental
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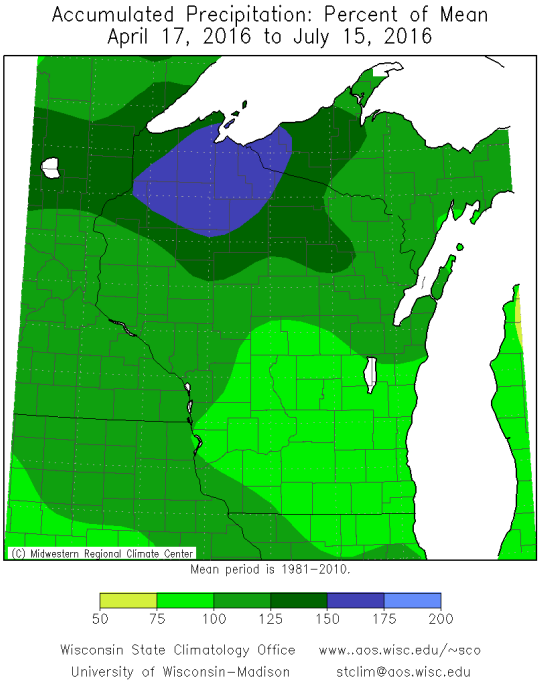
Background

Bopray Environmental Services LLC (BES) has completed a wetland delineation on an approximately 77.6-acre site in City of Black River Falls. The site is located in part of Sec. 18, T21N, R3W and Sec. 13, T21N R4W, Jackson County, Wisconsin (**Figure 1**). The topography of the site is nearly flat according to the U.S.G.S. quadrangle topographic map **(Figure 2**). On July 14, 2016 BES evaluated five potential wetland areas on the site and determined none of them met the wetland criteria. The approximate site and sampling points are shown on an aerial photo in **Figure 3**. The surveyed site and wetland boundaries are provided by Cedar Corporation and are in **Appendix A**. The purpose of this delineation was to identify any wetlands that may have to be considered during site planning and for regulatory purposes.

Methodologies



The site was evaluated for wetlands based on the methods contained in the Level 2, "Routine Determinations" section of the U.S. Army Corps of Engineers "Wetland Delineation Manual" (Technical Report Y87-1, 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region. This is the methodology currently used to determine wetlands by both the U.S. Army Corps of Engineers for implementation of Section 404 of the Clean Water Act and by the Wisconsin DNR. The wetland determinations were also conducted in accordance with the "Basic Guide to Wisconsin Wetlands and Their Boundaries" a publication of the State of Wisconsin. Soil colors described herein follow "Munsell Soil Color Charts". According to the Wisconsin state climatology webpage, the area was at 75-100% of normal precipitation for the

preceding 30 days and 100-125% for the preceding 90 days at the time of the site visit. Using the WETS Table method for the proceeding three months the antecedent precipitation for Jackson County was Normal at the time of the site visit. Although this methodology ranks antecedent precipitation as normal, June did receive almost 200% of average monthly precipitation.

Results

Resource Maps Review

The Wisconsin Wetlands Inventory (WWI) (**Figure 4)** does not identify any wetlands on the site, but does identify an area of indicator soils in a broad swale on the east side of the site. The Jackson County Soil Survey (**Figure 5**) identifies the predominant soil map units on the site as Tarr sand (561B) and Ironrun sand (218A). These soil map units are listed as having 0% and 3% hydric soils inclusions respectively.

Sample point SP-1

Sample point SP-1 is in an opening in the forest, at the head of a broad swale that crosses the site from north to south in the eastern 1/3 of the site. This swale is identified on the WWI as an indicator soil map unit. The vegetation is dominated by little bluestem grass (*Schizachyrium scoparium*), spotted St. Johns-Wort (*Hypericum punctatum*) and witch grass (*Panicum capillare*). The plant community met the dominance test but had a prevalence index of 3.37. Two of the three dominant species were FAC and the vegetation did not meet the FAC-neutral test for hydrology. The SP-1 soil profile consisted of eight inches of 10YR 2/1 sand, over seven inches of 10YR 4/2 sand, over 5YR 3/1 sand. There were no redoximorphic features observed in the soil profile. The water table and saturated soil was not observed within a depth of 25 inches in the soil pit at the time of the site visit. The geomorphic position (D2) hydrology indicator is not considered applicable because the area is not wet long/often enough to develop hydric soils. Because the area did not meet the hydric soils and wetland hydrology criteria BES concluded it was not jurisdictional wetland.

Sample point SP-2

Sample point SP-2 is an opening in the forest, in the same broad swale and just south of SP-1. SP-2 was sampled in the landscape position that appeared to be the wettest part of the opening. The majority of the opening was similar to SP-1. The vegetation at SP-2 is dominated by mossy cup oak (*Quercus macrocarpa*), common buckthorn (*Rhamnus cathartica*), red oak (*Quercus rubra*), white oak (*Quercus alba*), prairie cord grass (*Spartina pectinate*) and dewberry (*Rubus flagellaris*). The plant community did not meet the dominance test but had a prevalence index of 2.79. The soil profile consisted of six inches of 10YR 2/1 sand, over four inches of 10YR 5/1 sand, over seven inches of 5YR 3/3 sand, over 7.5YR 3/4 sand. There were no redoximorphic features observed in the soil profile. The water table and soil saturation was not

observed within a depth of 26 inches in the soil pit at the time of the site visit. There were no other wetland hydrology indicators that were observed in the area. The geomorphic position (D2) hydrology indicator is not considered applicable because the area is not wet long/often enough to develop hydric soils. The plant community also did not meet the FAC Neutral test. Of seven readily available aerial photos (**Appendix B**), only one showed evidence of wetland conditions and that photo was an early spring 1999 photo in a month that received almost 200% of average precipitation. Because the area did not meet hydric soils and wetland hydrology criteria BES concluded it was not a jurisdictional wetland.

Sample point SP-3

Sample point SP-3 is in the forest, in the same broad swale and just south of SP-2. The vegetation at SP-3 is dominated by mossy cup oak, red oak, common buckthorn, and dewberry. Unlike the forest surrounding the swale, there was virtually no herbaceous layer in the plant community. The plant community did not meet the dominance test and had a prevalence index of 3.87. The soil profile consisted of five inches of N 2/0 sand, over four inches of 10YR 2/1 sand, over seven inches of 10YR 3/3 sand, over 7.5YR 3/4 sand. There were no redoximorphic features observed in the soil profile. The water table and soil saturation was not observed within a depth of 28 inches in the soil pit at the time of the site visit. There were no other wetland hydrology indicators that were observed in the area. The geomorphic position (D2) hydrology indicator is not considered applicable because the area is not wet long/often enough to develop hydric soils. The plant community also did not meet the FAC Neutral test. The area is not a sparsely vegetated concave surface because even though there are few herbaceous plants there are a lot of trees and shrubs in the area. Because the area did not meet hydric soils, hydrophytic vegetation and wetland hydrology criteria BES concluded it was not a jurisdictional wetland.

Sample point SP-4

Sample point SP-4 is in the forest, in the same broad swale and just south of SP-3. The area was evaluated because the overstory was different from SP-3. The vegetation at SP-4 is dominated by jack pine (*Pinus banksiana*), mossy cup oak and common buckthorn. Unlike the forest surrounding the swale, there was virtually no herbaceous layer in the plant community. The plant community did not meet the dominance test and had a prevalence index of 3.48. The soil profile consisted of five inches of 10YR 2/1 sand, over seven inches of 10YR 5/1 sand, over ten inches of 7.5YR 3/3 sand, over 10YR 4/2 sand. There were no redoximorphic features observed in the soil profile. The water table and soil saturation was not observed within a depth of 30 inches in the soil pit at the time of the site visit. There were no other wetland hydrology indicators that were observed in the area. The geomorphic position (D2) hydrology indicator is not considered applicable because the area is not wet long/often enough to develop hydric soils. The plant community also did not meet the FAC Neutral test. The area is not a sparsely vegetated concave surface because even though there are few herbaceous plants there are a

lot of trees and shrubs in the area. Because the area did not meet hydric soils, hydrophytic vegetation and wetland hydrology criteria BES concluded it was not a jurisdictional wetland.

Sample point SP-5

Sample point SP-5 is in the forest, in the same broad swale and at the south boundary of the site. The area was evaluated to document if potential wetlands encroached on to the site. The vegetation at SP-5 is dominated by red oak, swamp white oak (*Quercus bicolor*) and common buckthorn. Unlike the forest surrounding the swale, there was virtually no herbaceous layer in the plant community. The plant community did meet the dominance test but had a prevalence index of 3.23. The soil profile consisted of five inches of 10YR 2/1 sand, over nine inches of 5YR 5/1 sand, over 10YR 7/2 sand. The soil did not have a splotchy soil matrix but both of the lower horizons met the depleted matrix criteria. The water table and soil saturation was not observed within a depth of 30 inches in the soil pit at the time of the site visit. The geomorphic position (D2) hydrology indicator is applicable because the area is in a concave position and has a hydric soil. The plant community did not meet the FAC Neutral test. The area is not a sparsely vegetated concave surface because even though there are few herbaceous plants there are a lot of trees and shrubs in the area. Because the area only had one wetland hydrology indicator BES concluded it was not a jurisdictional wetland.

Wetland Classification

BES' classification of the wetlands is based on observations of the site and is include in Table 1 below.

Table 1. Summary of Wetland Characteristics

Basin	Class	Circ. 39 Type	Isolated Y/N	Comments
SP-1	Non-wetland	N/A	N/A	This area met the vegetation criteria but did not meet the hydric soils and wetland hydrology criteria.
SP-2	Non-wetland	N/A	N/A	This area met the vegetation criteria but did not meet the hydric soils and wetland hydrology criteria.
SP-3	Non-wetland	N/A	N/A	This area failed to meet any of the wetland criteria.
SP-4	Non-wetland	N/A	N/A	This area failed to meet any of the wetland criteria.
SP-5	Non-wetland	N/A	N/A	This area met the vegetation and soils criteria, but failed to meet the hydrology criteria.

Jurisdiction

Table 1 indicates whether the wetlands are isolated or not for purposes of U.S. Army Corps of Engineers (COE) jurisdiction under Section 404 of the Clean Water Act. This determination is made by BES in the field at the time of the delineation and is essentially our best professional opinion based on the portion of the particular wetland we observed. In some cases, only a small portion of the wetland edge that is present on the property being delineated is evaluated. If no inlets or outlets are observed in the evaluated area, and none are evident on topographic maps or aerial photos, we are inclined to determine the wetland is isolated. However, since the entire wetland is sometimes not assessed, it is possible that inlets and/or outlets do exist and that the wetland has a surface connection to a federal "navigable" water and, thus, falls within the jurisdiction of Section 404. Therefore, a determination by BES of whether a particular wetland is isolated or not should not be considered a final determination with regard to COE jurisdiction until the COE concurs with the determination. The COE is not likely to take jurisdiction the site because there are no wetlands or waters of the US present.

A copy of this report should be submitted to the Corps of Engineers and the DNR when site plans are prepared for the proposed project. Supplying these agencies with reports will serve the dual purpose of determining which agencies have jurisdiction and beginning the process of obtaining concurrence with the delineated wetland boundaries. If the on-site wetlands may be affected during site construction, all necessary permits should be obtained prior to construction.

Additional information regarding the wetlands' vegetation, soils and hydrology is included in **Appendix C**. Ground level photos of the wetlands are included in **Figure 6, 7, 8, 9, 10 and 11.**

The information contained herein represents the findings of BES during wetland delineation conducted on July 14, 2016 at the referenced site.

Respectfully,
Bopray Environmental Services LLC

_____ _____

Kelly J. Bopray
Professional Soil Scientist

Date

Enclosures

N

Not to Scale

Bopray Environmental

Figure 1. Location Map
Industrial Site
Black River Falls, Wisconsin

Project No. 2016.035

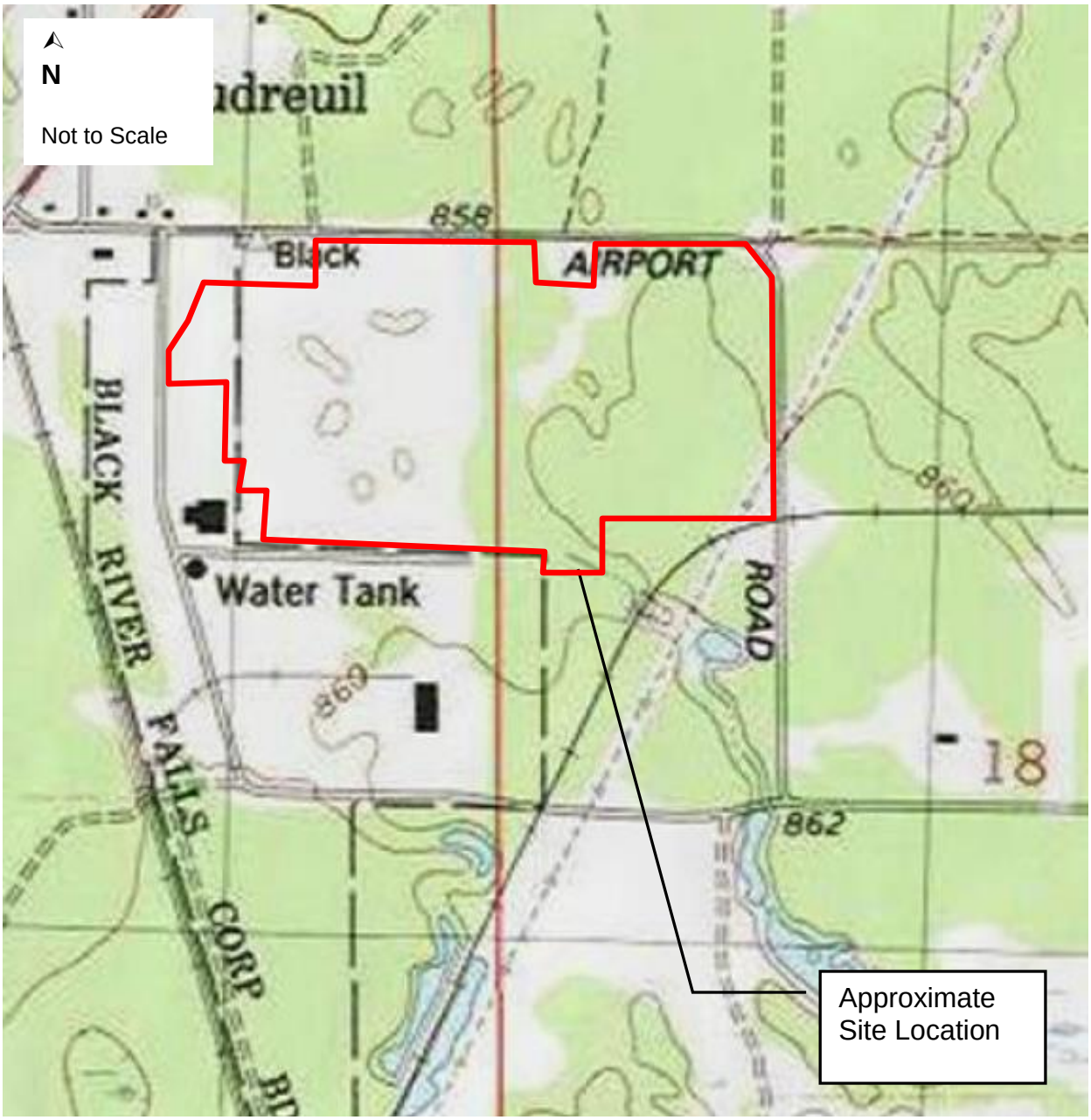


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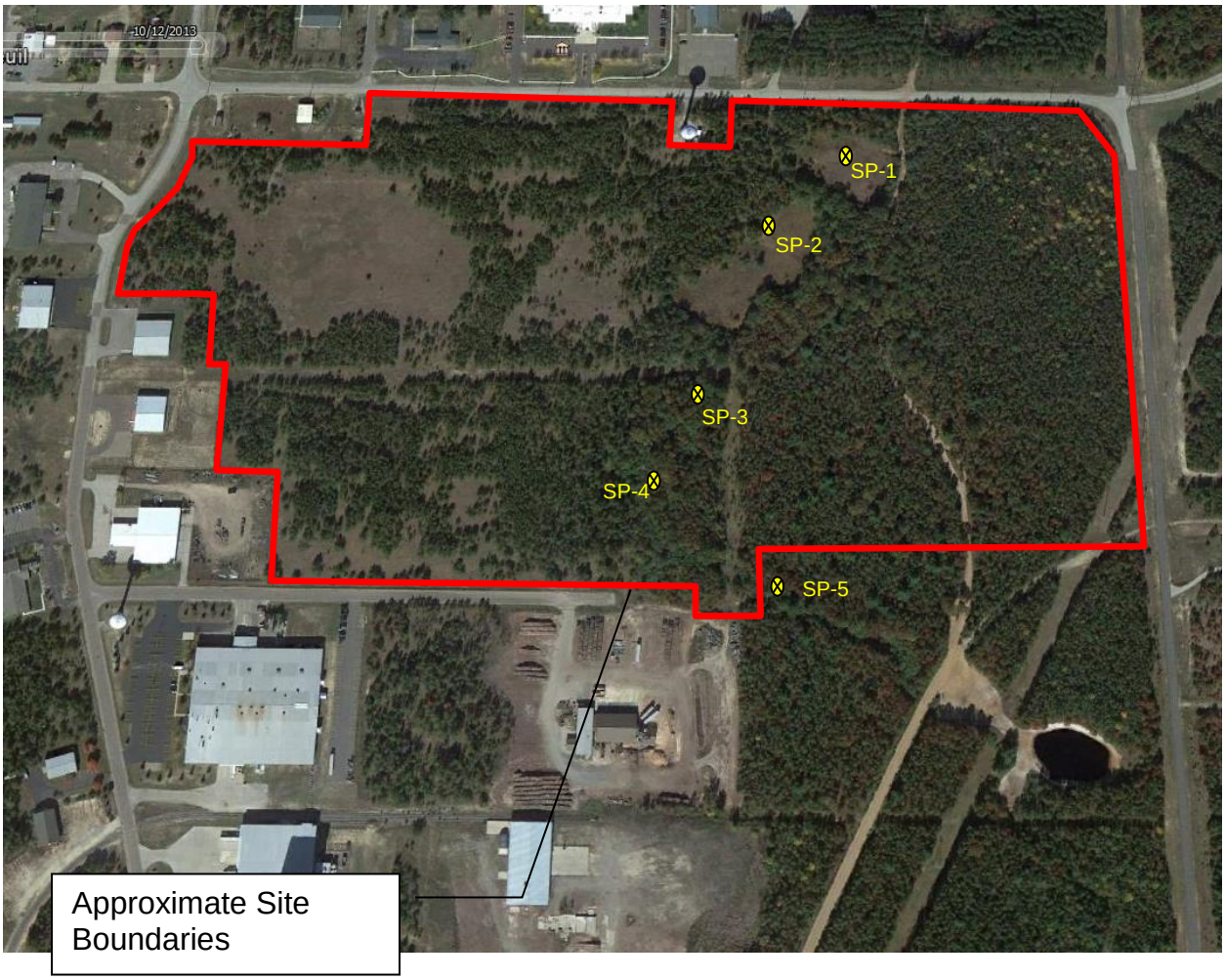
Figure 2. U.S.G.S. Quadrangle Map
Industrial Site
Black River Falls, Wisconsin

Project No. 2016.035



N

Not to Scale

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Figure 3. Aerial Photo With Approximate Wetland Boundaries

Industrial Site
Black River Falls, Wisconsin

Project No. 2016.035

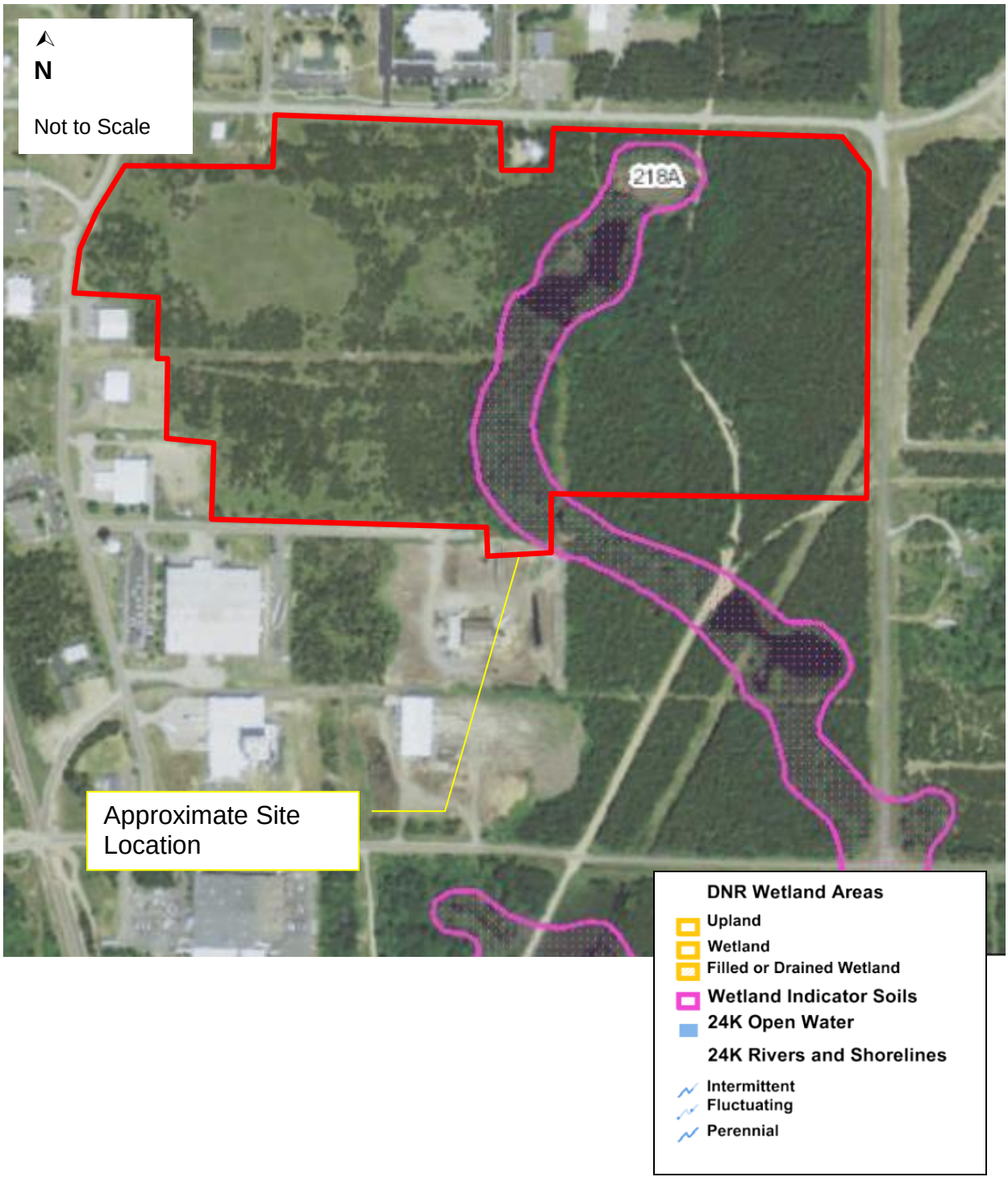

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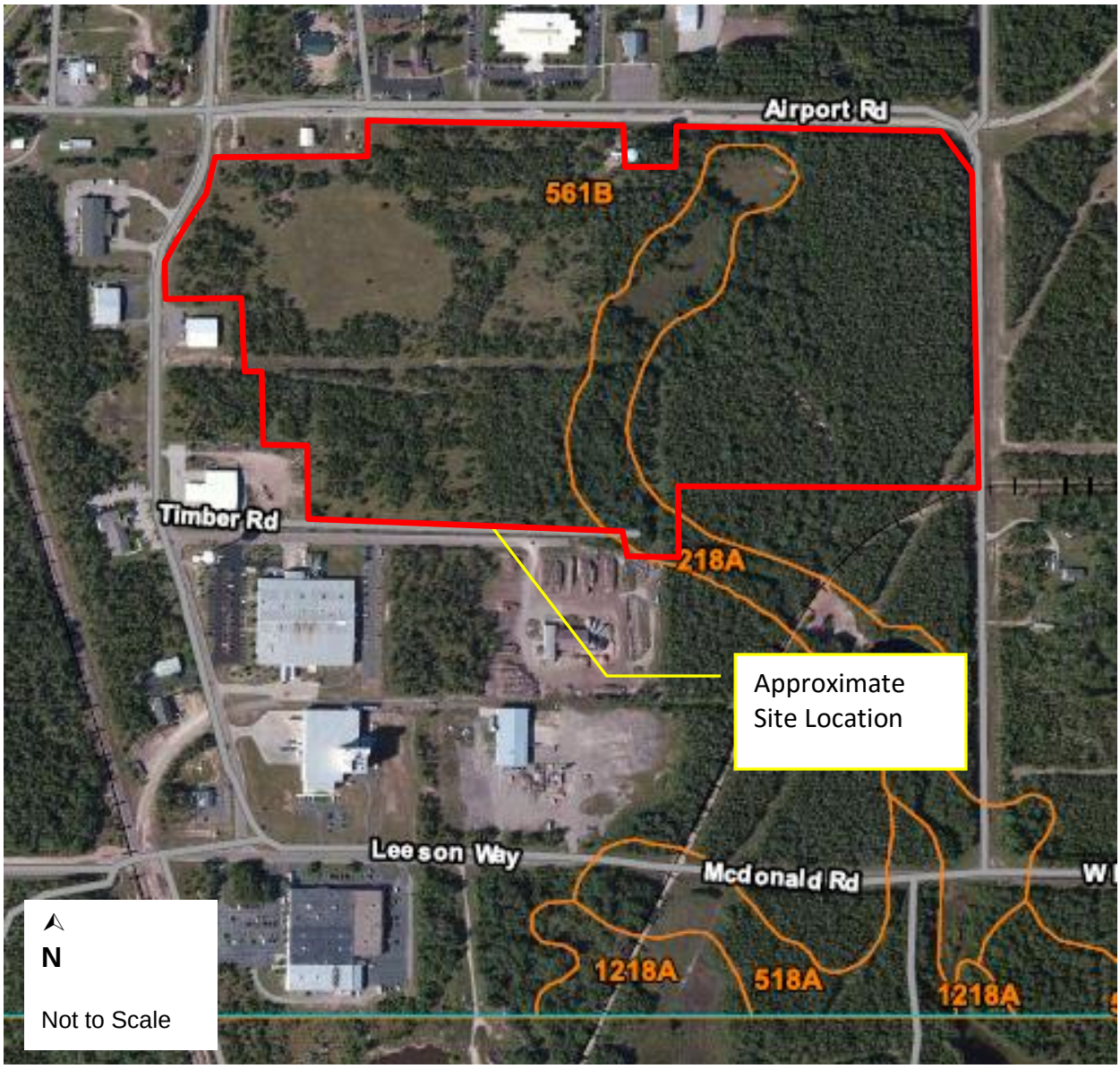
Figure 4. Wisconsin Wetland Inventory Map

industrial Site
Black River Falls, Wisconsin

Project No. 2016.035



Soil Map Unit Legend

218A Ironrun sand, 0-3% slopes, 3% Hydric soils
561B Tarr sand, 1-6%% slopes, 0% Hydric soils

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Figure 6. Jackson County Soil Survey Map

Industrial Site
Black River Falls, Wisconsin

Project No. 2016.035

Typical view of the prairie openings in the Jack pine forest on the western 2/3rd of the site.

Typical view of the white pine and red oak forest on the eastern 1/3rd of the site.

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Figure 6. Ground Photos
Industrial Site
Black River Falls, Wisconsin

Project No. 2016.035

Sample Point SP-1 looking south. This is a grassy opening in the forest at the north end of a broad swale that crosses the eastern 1/3rd of the site.

SP-1 soil profile is a spodisol that lacks redoximorphic features.

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Figure 7. Ground Photos
Industrial Site
Black River Falls, Wisconsin

Project No. 2016.035

Sample Point SP-2 looking east across the grassy opening in the forest. This basin is in the same broad swale and just south of SP-1.

SP-2 soil profile. The soil is a spodisol with no redoximorphic features.

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Figure 8. Ground Photos
Industrial Site
Black River Falls, Wisconsin

Project No. 2016.035

Sample point SP-3 looking north. This sample point is in the same broad swale and just south of the opening with SP-2. The swale generally has sparse understory vegetation as compared to the adjacent forested areas of the site.

SP-3 soil profile. The soil is still a Spodisol. The surface is getting darker, but there still are no redoximorphic features in the soil profile.

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Figure 9. Ground Photos
Industrial Site
Black River Falls, Wisconsin

Project No. 2016.035

Sample point SP-4 looking west. This sample point is similar to SP-3 but further south in the broad swale.

The SP-4 soil profile is an Inceptisol. The soil did not meet the depleted matrix criteria and did not have a mucky/peaty surface, a splotchy pattern or organic coating on the sand grains.

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Figure 10. Ground Photos
Industrial Site
Black River Falls, Wisconsin

Project No. 2016.035

Sample point SP-5 is further south in the broad swale and just outside the site boundary. Further off-site there is an excavated, open water basin in the broad swale but it doesn't extend north to the site.

SP-5 soil profile is an Inceptisol. The soil did meet the depleted matrix criteria (A11) but did not have a mucky/peaty surface, a splotchy pattern or organic coating on the sand grains.

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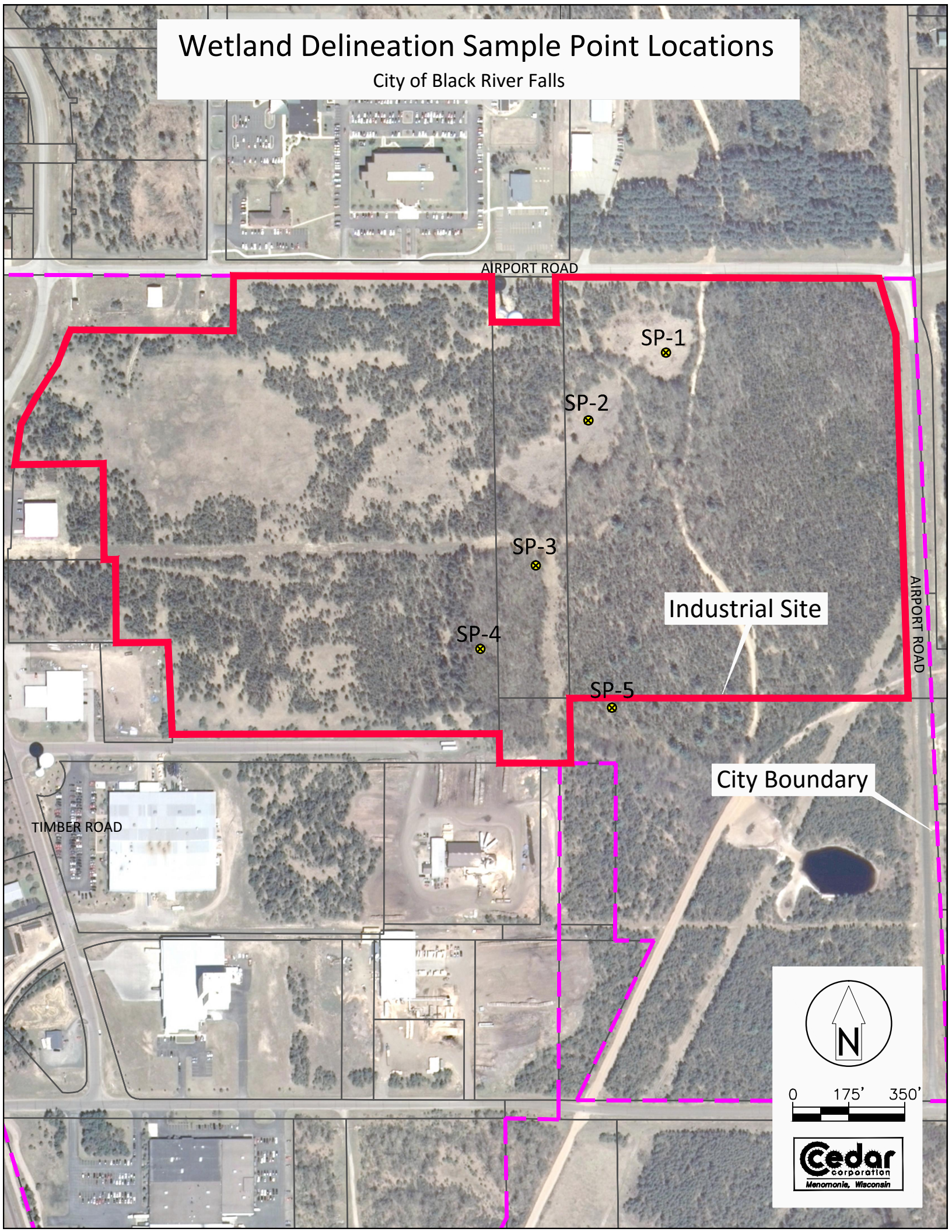
Figure 11. Ground Photos
Industrial Site
Black River Falls, Wisconsin

Project No. 2016.035

Appendix A


Wetland Delineation Sample Point Locations
City of Black River Falls
AIRPORT ROAD
SP-1
SP-2
SP-3
SP-4
SP-5
Industrial Site
AIRPORT ROAD
City Boundary
TIMBER ROAD
N
0
175'
350'
Cedar corporation
Menomonie, Wisconsin

Appendix B


4/23/1999
Vaudreuil
Image U.S. Geological Survey
Google earth
Imagery Date: 4/23/1999 44°18'08.33" N 90°48'02.37" W elev 881 ft eye alt 4844 ft

1999. April.


Vaudreuil
8/22/2004
Image © 2015 DigitalGlobe
Google earth
Imagery Date: 8/22/2004 44°18'08.33" N 90°48'02.37" W elev 881 ft eye alt 4844 ft

2004

2005

2006

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Appendix B. Historical Aerial Photos

Industrial Site
Black River Falls, Wisconsin

Project No. 2016.035

2008

Appendix B. Historical Aerial Photos

Industrial Site
Black River Falls, Wisconsin

Project No. 2016.035

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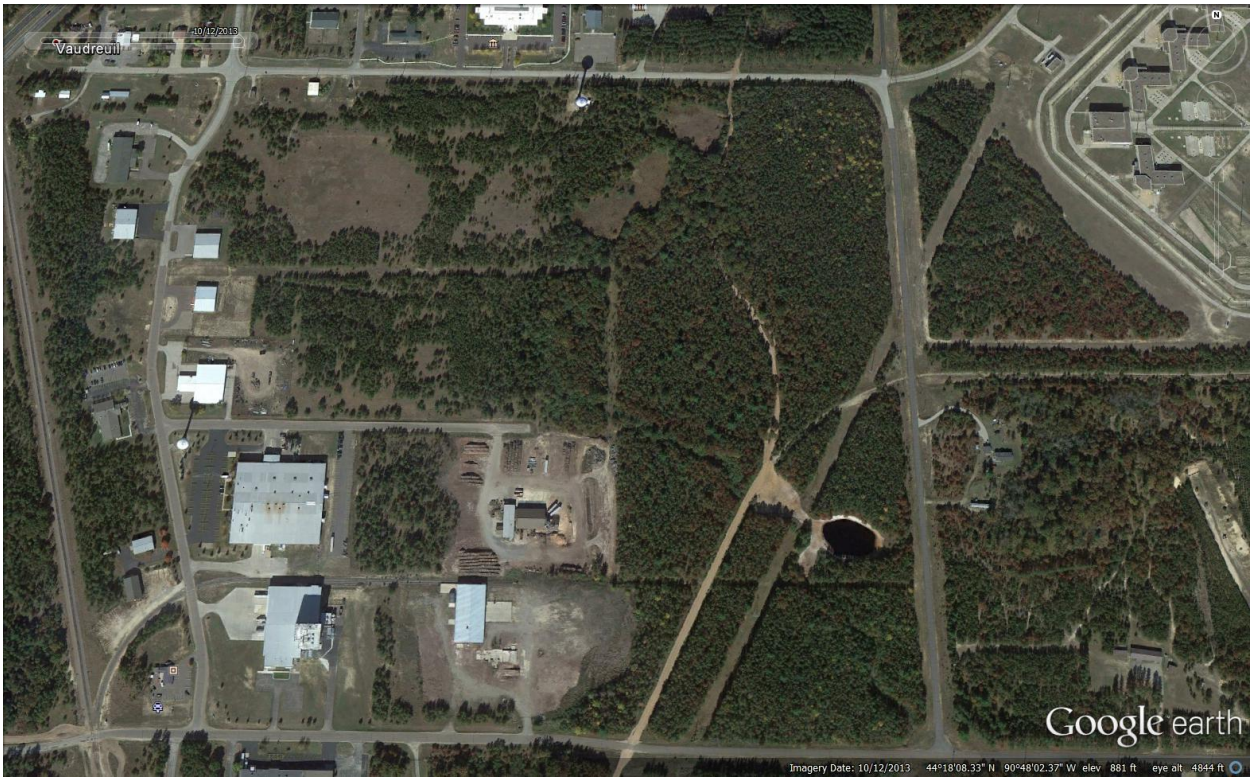
Vaudreuil
Image USDA Farm Service Agency
Google earth
Imagery Date: 6/27/2010 44°18'08.33" N 90°48'02.37" W elev 881 ft eye alt 4844 ft

2010


Vaudreuil
10/12/2013
Google earth
Imagery Date: 10/12/2013 44°18'08.33" N 90°48'02.37" W elev 881 ft eye alt 4844 ft

2015

Appendix C

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Black River Falls Industrial Site City/County: Blk R Falls/Jackson Sampling Date: 7/14/2016
Applicant/Owner: City of Black River Falls, Cedar Corp State: WI Sampling Point: SP-1
Investigator(s): Kelly Bopray PSS Section, Township, Range: S18,T21N,R3W & S13,T21,
Landform (hillslope, terrace, etc.): broad swale/depression Local relief (concave, convex, none): concave
Slope (%): 1-2% Lat.: Long.: Datum:
Soil Map Unit Name 218A Ironrun sand NWI Classification: Not id'ed
Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal
Are vegetation ____, soil ____, or hydrology ____ naturally problematic? circumstances" present? Yes
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present?	Y	**Is the sampled area within a wetland?**	N
Hydric soil present?	N		
Indicators of wetland hydrology present?	N	If yes, optional wetland site ID:	non-wetland

Remarks: (Explain alternative procedures here or in a separate report.)

Preceeding 30 day precip was 75-100% of average and preceeding 90 day was 100-125%. Per WETS table method anticedent precipitation was Normal.

HYDROLOGY

Primary Indicators (minimum of one is 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)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Microtopographic Relief (D4)

Field Observations:

Surface water present?	Yes	____	No	X	Depth (inches): ____
Water table present?	Yes	____	No	X	Depth (inches): >25
Saturation present? (includes capillary fringe)	Yes	____	No	X	Depth (inches): >25

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

D2 is not applicable because soil is not hydric. Does not meet FAC Neutral test.

VEGETATION - Use scientific names of plants

Sampling Point: SP-1

Tree Stratum	Plot Size (30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		0	= Total Cover	

Sapling/Shrub Stratum	Plot Size (15 ft)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		0	= Total Cover	

Herb Stratum	Plot Size (5 ft)	Absolute % Cover	Dominant Species	Indicator Status
1	*Schizachyrium scoparium*	30	Y	FACU
2	*Hypericum punctatum*	30	Y	FAC
3	*Panicum capillare*	30	Y	FAC
4	*Poa pratensis*	5	N	FACU
5	*Agrostis hyemalis*	5	N	FAC
6	*Asclepias verticillata*	1	N	UPL
7				
8				
9				
10				
11				
12				
13				
14				
15				
		101	= Total Cover	

Woody Vine Stratum	Plot Size (30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	20	51
Woody Vine Stratum	0	0

Dominance Test Worksheet

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

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

Percent of Dominant Species that are OBL, FACW, or FAC: 66.67% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	65	x 3 =	195
FACU species	35	x 4 =	140
UPL species	1	x 5 =	5
Column totals	101 (A)		340 (B)

Prevalence Index = B/A = 3.37

Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- ___ Prevalence index is ≤3.0*
- ___ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ___ Problematic hydrophytic vegetation* (explain)

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

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)

SOIL **Sampling Point:** SP-1

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)	%	Type*	Loc**	Texture	Remarks
0-8	10YR 2/1						sand	
8-15	10YR 4/2						sand	
15-25+	5YR 3/1						sand	

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

Hydric Soil Indicators:

___ Histisol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Suface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) (**LRR R, MLRA 149B**)
___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**
___ Loamy Mucky Mineral (F1) (**LRR K, L**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**
___ Coast Prairie Redox (A16) (**LRR K, L, R**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Dark Surface (S7) (**LRR K, L**
___ Polyvalue Below Surface (S8) (**LRR K, L**)
___ Thin Dark Surface (S9) (**LRR K, L**)
___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
Type: _____
Depth (inches): _____

Hydric soil present? ___N___

Remarks:
soil is a spodisol. No redox features observed.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Black River Falls Industrial Site City/County: Blk R Falls/Jackson Sampling Date: 7/14/2016
Applicant/Owner: City of Black River Falls, Cedar Corp State: WI Sampling Point: SP-2
Investigator(s): Kelly Bopray PSS Section, Township, Range: S18,T21N,R3W & S13,T21,
Landform (hillslope, terrace, etc.): broad swale/depression Local relief (concave, convex, none): concave
Slope (%): 0-1% Lat.: Long.: Datum:
Soil Map Unit Name 218A Ironrun sand NWI Classification: Not id'ed
Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal
Are vegetation ____, soil ____, or hydrology ____ naturally problematic? circumstances" present? Yes
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present?	Y	**Is the sampled area within a wetland?**	N
Hydric soil present?	N		
Indicators of wetland hydrology present?	N	If yes, optional wetland site ID:	non-wetland

Remarks: (Explain alternative procedures here or in a separate report.)

Preceeding 30 day precip was 75-100% of average and preceeding 90 day was 100-125%. Per WETS table method anticedent precipitation was Normal.

HYDROLOGY

Primary Indicators (minimum of one is 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)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Microtopographic Relief (D4)

Field Observations:

Surface water present?	Yes ____	No	X	Depth (inches):	
Water table present?	Yes ____	No	X	Depth (inches):	>26
Saturation present? (includes capillary fringe)	Yes ____	No	X	Depth (inches):	>26

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
1 of 8 aerial photos on google earth showed water in the basin. It was an early spring 1999 photo when per WETS table method anticedent precip was normal, but the area receive 6.34 inches of precip (almost 200%) in the month of the photo.

Remarks:
D2 is not applicable because soil is not hydric. Does not meet FAC Neutral test.

VEGETATION - Use scientific names of plants

Sampling Point: SP-2

Tree Stratum	Plot Size (30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1	*Quercus macrocarpa*	5	Y	FACU
2				
3				
4				
5				
6				
7				
8				
9				
10				
		5	= Total Cover	

Sapling/Shrub Stratum	Plot Size (15 ft)	Absolute % Cover	Dominant Species	Indicator Status
1	*Rhamnus cathartica*	5	Y	FAC
2	*Quercus rubra*	2	Y	FACU
3	*Quercus alba*	2	Y	FACU
4				
5				
6				
7				
8				
9				
10				
		9	= Total Cover	

Herb Stratum	Plot Size (5 ft)	Absolute % Cover	Dominant Species	Indicator Status
1	*Spartina pectinata*	60	Y	FACW
2	*Rubus flagellaris*	20	Y	FACU
3	*Andropogon gerardii*	5	N	FACU
4	*Schizachyrium scoparium*	5	N	FACU
5	*Eragrostis pectinacea*	5	N	FAC
6	*Carex scoparia*	2	N	FACW
7	*Persicaria pensylvanica*	1	N	FACW
8				
9				
10				
11				
12				
13				
14				
15				
		98	= Total Cover	

Woody Vine Stratum	Plot Size (30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	1	3
Sapling/Shrub Stratum	2	5
Herb Stratum	20	49
Woody Vine Stratum	0	0

Dominance Test Worksheet

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

Total Number of Dominant Species Across all Strata: 6 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 33.33% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	63	x 2 =	126
FAC species	10	x 3 =	30
FACU species	39	x 4 =	156
UPL species	0	x 5 =	0
Column totals	112 (A)		312 (B)

Prevalence Index = B/A = 2.79

Hydrophytic Vegetation Indicators:

___ Rapid test for hydrophytic vegetation

___ Dominance test is >50%

X Prevalence index is ≤3.0*

___ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)

___ Problematic hydrophytic vegetation* (explain)

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

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)

sampled in what appeared to be the wettest area. The rest of the basin was simular to SP-1.

SOIL **Sampling Point:** SP-2

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)	%	Type*	Loc**	Texture	Remarks
0-6	10YR 2/1						sand	
6-10	10YR 5/1						sand	
10-17	5YR 3/3						sand	
17-26+	7.5 YR 3/4						sand	some sandstone residuum

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

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Suface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L**
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
Type: _____
Depth (inches): _____

Hydric soil present? N

Remarks:
soil is a spodisol. No redox features observed.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Black River Falls Industrial Site City/County: Blk R Falls/Jackson Sampling Date: 7/14/2016
Applicant/Owner: City of Black River Falls, Cedar Corp State: WI Sampling Point: SP-3
Investigator(s): Kelly Bopray PSS Section, Township, Range: S18,T21N,R3W & S13,T21,
Landform (hillslope, terrace, etc.): broad swale/depression Local relief (concave, convex, none): concave
Slope (%): 0-1% Lat.: Long.: Datum:
Soil Map Unit Name 218A Ironrun sand NWI Classification: Not id'ed
Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal
Are vegetation ____, soil X, or hydrology ____ naturally problematic? circumstances" present? Yes
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present?	N	**Is the sampled area within a wetland?**	N
Hydric soil present?	N		
Indicators of wetland hydrology present?	N	If yes, optional wetland site ID:	non-wetland

Remarks: (Explain alternative procedures here or in a separate report.)

Preceeding 30 day precip was 75-100% of average and preceeding 90 day was 100-125%. Per WETS table method anticedent precipitation was Normal. Soil is a mollisol.

HYDROLOGY

Primary Indicators (minimum of one is 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)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Microtopographic Relief (D4)

Field Observations:

Surface water present?	Yes ____	No	X	Depth (inches):	
Water table present?	Yes ____	No	X	Depth (inches):	>28
Saturation present? (includes capillary fringe)	Yes ____	No	X	Depth (inches):	>28

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

D2 is not applicable because the soil is not hydric. Sparse herbacious layor but no evidence of previous ponding.

VEGETATION - Use scientific names of plants

Sampling Point: SP-3

Tree Stratum	Plot Size (30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1	*Quercus macrocarpa*	50	Y	FACU
2	*Quercus rubra*	20	Y	FACU
3	*Quercus ellipsoidalis*	10	N	UPL
4				
5				
6				
7				
8				
9				
10				
		80	= Total Cover	

Sapling/Shrub Stratum	Plot Size (15 ft)	Absolute % Cover	Dominant Species	Indicator Status
1	*Rhamnus cathartica*	25	Y	FAC
2	*Quercus rubra*	5	N	FACU
3				
4				
5				
6				
7				
8				
9				
10				
		30	= Total Cover	

Herb Stratum	Plot Size (5 ft)	Absolute % Cover	Dominant Species	Indicator Status
1	*Rubus flagellaris*	5	Y	FACU
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
		5	= Total Cover	

Woody Vine Stratum	Plot Size (30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	16	40
Sapling/Shrub Stratum	6	15
Herb Stratum	1	3
Woody Vine Stratum	0	0

Dominance Test Worksheet

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

Total Number of Dominant Species Across all Strata: 4 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 25.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	25	x 3 =	75
FACU species	80	x 4 =	320
UPL species	10	x 5 =	50
Column totals	115 (A)		445 (B)

Prevalence Index = B/A = 3.87

Hydrophytic Vegetation Indicators:

___ Rapid test for hydrophytic vegetation
___ Dominance test is >50%
___ Prevalence index is ≤3.0*
___ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
___ Problematic hydrophytic vegetation* (explain)

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

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? N

Remarks: (Include photo numbers here or on a separate sheet)

SOIL **Sampling Point:** SP-3

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)	%	Type*	Loc**	Texture	Remarks
0-5	N 2/0						sand	not organic/mucky
5-9	10YR 2/1						sand	
9-16	10YR 3/3						sand	
16-28+	7.5YR 3/4						sand	

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

Hydric Soil Indicators:

___ Histisol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Suface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) (**LRR R, MLRA 149B**)
___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**
___ Loamy Mucky Mineral (F1) (**LRR K, L**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**
___ Coast Prairie Redox (A16) (**LRR K, L, R**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Dark Surface (S7) (**LRR K, L**
___ Polyvalue Below Surface (S8) (**LRR K, L**)
___ Thin Dark Surface (S9) (**LRR K, L**)
___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
Type: _____
Depth (inches): _____

Hydric soil present? N

Remarks:
no redox features. Surface is not dark/deep enough and there is no depleated matrix with depth for A12.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Black River Falls Industrial Site City/County: Blk R Falls/Jackson Sampling Date: 7/14/2016
Applicant/Owner: City of Black River Falls, Cedar Corp State: WI Sampling Point: SP-4
Investigator(s): Kelly Bopray PSS Section, Township, Range: S18,T21N,R3W & S13,T21,
Landform (hillslope, terrace, etc.): broad swale/depression Local relief (concave, convex, none): concave
Slope (%): 0-1% Lat.: Long.: Datum:
Soil Map Unit Name 218A Ironrun sand NWI Classification: Not id'ed
Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal
Are vegetation ____, soil ____, or hydrology ____ naturally problematic? circumstances" present? Yes
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present?	N	**Is the sampled area within a wetland?**	N
Hydric soil present?	N		
Indicators of wetland hydrology present?	N	If yes, optional wetland site ID:	non-wetland

Remarks: (Explain alternative procedures here or in a separate report.)

Preceeding 30 day precip was 75-100% of average and preceeding 90 day was 100-125%. Per WETS table method anticedent precipitation was Normal.

HYDROLOGY

Primary Indicators (minimum of one is 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)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Microtopographic Relief (D4)

Field Observations:

Surface water present?	Yes ____	No	X	Depth (inches):	
Water table present?	Yes ____	No	X	Depth (inches):	>30
Saturation present? (includes capillary fringe)	Yes ____	No	X	Depth (inches):	>30

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

D2 is not applicable because the soil is not hydric. Does not meet FAC Neutral test. Although there is no herbacious layor there is also no evidence of previous ponding.

VEGETATION - Use scientific names of plants

Sampling Point: SP-4

Tree Stratum	Plot Size (30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1	*Pinus banksiana*	30	Y	FACU
2	*Quercus macrocarpa*	20	Y	FACU
3	*Quercus rubra*	5	N	FACU
4				
5				
6				
7				
8				
9				
10				
		55	= Total Cover	

Sapling/Shrub Stratum	Plot Size (15 ft)	Absolute % Cover	Dominant Species	Indicator Status
1	*Rhamnus cathartica*	60	Y	FAC
2				
3				
4				
5				
6				
7				
8				
9				
10				
		60	= Total Cover	

Herb Stratum	Plot Size (5 ft)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
		0	= Total Cover	

Woody Vine Stratum	Plot Size (30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	11	28
Sapling/Shrub Stratum	12	30
Herb Stratum	0	0
Woody Vine Stratum	0	0

Dominance Test Worksheet

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

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

Percent of Dominant Species that are OBL, FACW, or FAC: 33.33% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	60	x 3 =	180
FACU species	55	x 4 =	220
UPL species	0	x 5 =	0
Column totals	115 (A)		400 (B)

Prevalence Index = B/A = 3.48

Hydrophytic Vegetation Indicators:

___ Rapid test for hydrophytic vegetation
___ Dominance test is >50%
___ Prevalence index is ≤3.0*
___ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
___ Problematic hydrophytic vegetation* (explain)

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

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? N

Remarks: (Include photo numbers here or on a separate sheet)

no herbacious layor present.

SOIL **Sampling Point:** SP-4

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)	%	Type*	Loc**	Texture	Remarks
0-5	10YR 2/1						sand	
5-12	10YR 5/1						sand	E horizon not depleated matr
12-23	7.5YR 3/3						sand	spodic horizon
23-30+	10YR 4/2						sand	E' horizon no redox features

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

Hydric Soil Indicators:

___ Histisol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Suface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) (**LRR R, MLRA 149B**)
___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**
___ Loamy Mucky Mineral (F1) (**LRR K, L**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**
___ Coast Prairie Redox (A16) (**LRR K, L, R**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Dark Surface (S7) (**LRR K, L**
___ Polyvalue Below Surface (S8) (**LRR K, L**)
___ Thin Dark Surface (S9) (**LRR K, L**)
___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
Type: _____
Depth (inches): _____

Hydric soil present? N

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Black River Falls Industrial Site City/County: Blk R Falls/Jackson Sampling Date: 7/14/2016
Applicant/Owner: City of Black River Falls, Cedar Corp State: WI Sampling Point: SP-5
Investigator(s): Kelly Bopray PSS Section, Township, Range: S18,T21N,R3W & S13,T21,
Landform (hillslope, terrace, etc.): broad swale/depression Local relief (concave, convex, none): concave
Slope (%): 0-1% Lat.: Long.: Datum:
Soil Map Unit Name 218A Ironrun sand NWI Classification: Not id'ed
Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal
Are vegetation ____, soil ____, or hydrology ____ naturally problematic? circumstances" present? Yes
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present?	Y	**Is the sampled area within a wetland?**	N
Hydric soil present?	Y		
Indicators of wetland hydrology present?	N	If yes, optional wetland site ID:	non-wetland

Remarks: (Explain alternative procedures here or in a separate report.)

Preceeding 30 day precip was 75-100% of average and preceeding 90 day was 100-125%. Per WETS table method anticedent precipitation was Normal.

HYDROLOGY

Primary Indicators (minimum of one is 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)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Microtopographic Relief (D4)

Field Observations:

Surface water present?	Yes	____	No	X	Depth (inches): ____
Water table present?	Yes	____	No	X	Depth (inches): >30
Saturation present? (includes capillary fringe)	Yes	____	No	X	Depth (inches): >30

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

only one secondary indicator observed. Does not meet FAC Neutral test. Although sparse herbacious layor there is no evidence of previous ponding.

VEGETATION - Use scientific names of plants

Sampling Point: SP-5

Tree Stratum	Plot Size (30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1	*Quercus rubra*	20	Y	FACU
2	*Quercus bicolor*	15	Y	FACW
3	*Quercus ellipsoidalis*	10	N	UPL
4	*Quercus macrocarpa*	5	N	FACU
5	*Acer rubrum*	5	N	FAC
6	*Populus tremuloides*	5	N	FAC
7				
8				
9				
10				
		60	= Total Cover	

Sapling/Shrub Stratum	Plot Size (15 ft)	Absolute % Cover	Dominant Species	Indicator Status
1	*Rhamnus cathartica*	70	Y	FAC
2				
3				
4				
5				
6				
7				
8				
9				
10				
		70	= Total Cover	

Herb Stratum	Plot Size (5 ft)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
		0	= Total Cover	

Woody Vine Stratum	Plot Size (30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	12	30
Sapling/Shrub Stratum	14	35
Herb Stratum	0	0
Woody Vine Stratum	0	0

Dominance Test Worksheet

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

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

Percent of Dominant Species that are OBL, FACW, or FAC: 66.67% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	80	x 3 =	240
FACU species	25	x 4 =	100
UPL species	10	x 5 =	50
Column totals	130 (A)		420 (B)

Prevalence Index = B/A = 3.23

Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- ___ Prevalence index is ≤3.0*
- ___ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ___ Problematic hydrophytic vegetation* (explain)

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

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)

no herbacious layor

SOIL **Sampling Point:** SP-5

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)	%	Type*	Loc**	Texture	Remarks
0-5	10YR 2/1						sand	
5-14	5YR 5/1						sand	depleated matrix?
14-30+	10YR 7/2						sand	depleated matrix ?

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

Hydric Soil Indicators:

___ Histisol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
X Depleted Below Dark Suface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) (**LRR R, MLRA 149B**)
___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**
___ Loamy Mucky Mineral (F1) (**LRR K, L**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**
___ Coast Prairie Redox (A16) (**LRR K, L, R**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Dark Surface (S7) (**LRR K, L**
___ Polyvalue Below Surface (S8) (**LRR K, L**)
___ Thin Dark Surface (S9) (**LRR K, L**)
___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
Type: _____
Depth (inches): _____

Hydric soil present? ___Y___

Remarks:
2nd and 3rd horizons are not splochy but meet depleated matrix criteria. Is considered questionalbe.