

Tyco Fire Products, L.P.

WETLAND AND WATERBODY DELINEATION REPORT

Fire Technology Center
Marinette County, Wisconsin

October 2019



**WETLAND AND
WATERBODY
DELINEATION REPORT**

Fire Technology Center
Marinette County, Wisconsin



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1 INTRODUCTION

This Wetland and Waterbody Delineation Report summarizes the results of a wetland and waterbody delineation survey conducted on August 27, September 4, and September 5, 2019 by Arcadis U.S., Inc. (Arcadis) on behalf of Tyco Fire Products, L.P. (Tyco) for planning and potential permitting associated with potential remedial alternatives at the Tyco Fire Technology Center (Project). The Project is located at approximately 45.078573° Latitude and -87.641788° Longitude in Sections 12 and 13 of Township 30 North and Range 23 East. The purpose of the wetland and waterbody delineation survey is to assess the presence or absence of wetlands and other waters that may be affected by proposed activities, and to assess general ecological conditions within the environmental survey area (ESA). Eight wetlands and one stream were identified within the ESA.

2 STATEMENT OF QUALIFICATION

The wetland and waterbody delineation and report were performed and authored by Ryan Bombeck, Professional Wetland Scientist (PWS), Certified Wildlife Biologist (CWB), and Project Ecologist at Arcadis. Mr. Bombeck was the Lead Wetland Delineator for this project with assistance from Michael Meisenger, Ecologist 1 at Arcadis.

Ryan Bombeck holds a Bachelor of Science degree in Zoology - Fisheries and Wildlife Management (2007) from North Dakota State University in Fargo, North Dakota. Mr. Bombeck has over 11 years of experience as an environmental consultant. He is currently a Project Ecologist and Associate Project Manager with Arcadis based in Milwaukee, Wisconsin. Mr. Bombeck has extensive experience with field work and permitting throughout the Midwest.

Michael Meisenger holds a Bachelor of Arts degree in Environmental Science with a focus in Conservation and Ecology from Carthage College. He is currently an Ecologist with Arcadis based in Milwaukee, Wisconsin. Mr. Meisenger has 1 year of experience as an environmental consultant and has successfully completed the advanced wetland delineation training through the University of Wisconsin La Crosse. Mr. Meisenger has experience with field work throughout the Midwest.

3 BACKGROUND INFORMATION

Prior to conducting the wetland and waterbody delineation survey, Arcadis reviewed the following resources to identify the potential location and extent of wetlands and waterbodies within the ESA:

- U.S. Geological Survey (USGS) topographic maps (Marinette West Quadrangle) (USGS, 2018).
- Marinette County contour data (Marinette County Land Records, 2018).
- Current aerial imagery (Environmental Systems Research Institute [ESRI], 2017) and historic aerial imagery (Google Earth, 2019).
- Wisconsin Department of Natural Resources (WDNR) Hydrography mapped rivers and streams and mapped lakes and open water (WDNR, 2019a).
- WDNR Wisconsin Wetlands Inventory (WWI) dataset (WDNR, 2019b).
- Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Panel 5502610001B (FEMA, 1978).
- U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Web Soil Survey (WSS) of Marinette County, Wisconsin (NRCS, 2018) and WDNR Wetland Indicators (WDNR, 2018).

3.1 USGS Topographic Maps

According to topographic mapping (**Figure 1**), there is one blueline stream mapped along the western edge of the ESA.

3.2 Contour Maps

Two-foot contour data were acquired from the Marinette County Land Records department to evaluate drainage patterns within the ESA.

The maximum and minimum recorded elevations within the ESA (**Figure 2**) are approximately 618 and 608 feet above mean sea level, respectively. In general, the ESA drains from north to south along an unnamed tributary to the Little River.

3.3 Aerial Imagery

The ESA consists of the area surrounding the existing Fire Technology Center. A review of current aerial imagery demonstrates that the ESA is generally surrounded by the Fire Technology Center and forested private lands. Aerial photography for the ESA and its vicinity is depicted in **Figure 2**.

Historic aerial imagery was reviewed for the years of 1999, 2005, 2006, 2008, 2010, and 2013 (**Figure 3**). A review of historic aerial imagery demonstrates that the ESA has been largely unchanged during the time periods available (1999 to 2013). Between 2006 and 2008, trees were cleared at the perimeter of the facility, along the southeastern edge of the ESA.

3.4 WDNR Hydrography

The WDNR hydrography data represent the WDNR's register of waterbodies, including linear features such as streams and rivers and polygons such as lakes and other open water features. According to WDNR hydrography data, there is one unnamed intermittent stream (WBIC 5008898) within the ESA (**Figure 4**).

The ESA lies within the Little River-Frontal Lake Michigan (USGS Hydrologic Unit Code [HUC] 040301050605) subwatershed of the Peshtigo River subbasin (HUC 04030105). The closest designated traditionally navigable waterway (TNW) to the ESA is Lake Michigan, approximately 1.45 miles to the east of the eastern extent of the ESA.

3.5 WDNR WWI

WWI maps are used as a guide, along with other data, to indicate the potential presence of wetlands. The information is not necessarily field-verified. The presence of a WWI feature is not a definitive indicator that a wetland is present. Conversely, the absence of a WWI feature is not a definitive indicator that a wetland is not present.

The WWI data indicate that there are multiple forested, broad-leaved deciduous, wet soil, palustrine (T3K) wetlands located along the perimeter of the ESA, primarily along the eastern and southeastern extent (**Figure 4**).

3.6 FEMA Floodplain Maps

The identification and location of mapped FEMA flood zones within the ESA were determined by reviewing FEMA FIRM Panel 5502610001B. No digital floodplain data are available for Marinette County.

The ESA is located entirely within the area of minimal flood hazard (Zone X).

3.7 USDA NRCS WSS of Marinette County, Wisconsin and WDNR Wetland Indicators

According to the USDA NRCS WSS for Marinette County, the four soil map units listed in **Table 1** are mapped within the ESA. The WDNR Wetland Indicators data show the intersect of hydric soils mapped by the USDA NRCS and topography indicative of a wetland landscape position based on 10 meter USGS topographic data. Hydric soils are typically found within areas designated as wetlands.

Generally, soil units identified as hydric contain soils that indicate through their color and structure texture that they have experienced dominantly reducing (i.e.; oxygen poor) conditions, which are a result of inundation and/or saturation by water. The location and extent of the soil units and wetland indicators identified within the ESA are depicted in **Figure 5**.

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Table 1. Soil Map Units within the Environmental Survey Area

Soil Unit Symbol	Soil Unit Name	WDNR Wetland Indicator?
RsB	Rousseau loamy fine sand, 1 to 6 percent slopes	No
SfB	Shawano loamy fine sand, 2 to 6 percent slopes	No
Ud	Udorthents, loamy, nearly level	No
WaA	Wainola loamy fine sand, 0 to 3 percent slopes	Yes

4 METHODOLOGY

A pedestrian survey was conducted within the ESA to identify wetlands and waterbodies on August 27, September 4, and September 5, 2019. Wetland boundaries were field-delineated according to Section 404 of the Clean Water Act routine onsite methodology described in the Technical Report Y-87-1 *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987) and subsequent guidance documents and the U.S. Army Corps of Engineers (USACE) 2012 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* (Version 2.0). The ESA is within the Northcentral Forests Land Resource Region (USACE, 2012). National wetland indicator status and taxonomic nomenclature is referenced from The National Wetland Plant List (Lichvar, 2016). Indicators of hydric soil are based on the Field Indicators of Hydric Soils in the United States guide Version 8.2 (Vasilas et al., 2018).

Wetland delineation data were recorded on the USACE Northcentral and Northeast Regional Supplement wetland determination data forms. In general, representative data points were recorded for each wetland. Corresponding representative upland data points were recorded to document upland boundaries and conditions surrounding the wetlands within the ESA. Additional data points were recorded within different vegetation types, WWI features, and WDNR Wetland Indicators, as necessary.

Streams were identified as those waters that possessed a defined “bed and bank” or ordinary high water mark (OHWM) indicators and lacked a dominance of upland vegetation in the channel. Channels that parallel roadways were identified as upland drainage features and were not considered to be jurisdictional unless they had an identifiable OHWM, were identified on the USGS topographic map, or represented a presumed relocation of a natural channel.

The outer boundaries of each wetland and waterbody (determined by the OHWM) were delineated and recorded using a handheld Trimble R1 global positioning system receiver paired with ESRI software on a hand-held tablet. As features were collected, they were given a unique feature identification (ID).

Precipitation data from approximately 90 days prior to the wetland and waterbody delineation surveys were obtained from a weather station near the ESA and compared with 30-year average precipitation data obtained from a NRCS WETS Table for Marinette County to determine if antecedent hydrologic conditions at the time of the survey were normal, wetter, or drier than the normal range (Midwestern Regional Climate Center, 2019).

5 SURVEY RESULTS

5.1 Antecedent Precipitation

Prior to conducting the field visit, antecedent precipitation data were analyzed. Data were obtained from a nearby weather station (Marinette: USC00475091) and compared to data from a nearby WETS station (Marinette: USC00475091).

The most recent rainfall event prior to the site visit was 0.59 inches, which occurred on August 17, 2019. Precipitation for the 14 days prior to the site visit was 1.59 inches. There was 1.00 inch of precipitation during the overnight hours of August 26, 2019 and an additional 0.04 inches throughout the day on September 4, 2019. The precipitation data for the 90-day period prior to the field visit (**Appendix A, Table 4**) were entered into a WETS analysis worksheet (**Appendix A, Table 5**) to weight the information from each preceding month to analyze hydrologic conditions. Based on this analysis, the antecedent hydrologic conditions were within the normal range, suggesting that climatic/hydrologic conditions were normal for this time of year.

Using this same methodology, antecedent hydrologic conditions were analyzed for the historic aerial imagery depicted in **Figure 3**. Based on the analyses, climatic/hydrologic conditions were determined to be drier than normal for the years of 1999, 2005, and 2008; within the normal range for the years of 2010 and 2013; and wetter than normal for the year of 2006. Antecedent precipitation data and WETS analysis worksheets for the historic aerial imagery are provided in **Appendix A, Table 6 – Table 17**.

5.2 Vegetative Communities

Vegetative communities observed within the ESA consisted of upland and emergent wetland (PEM). Photographs of the ESA are provided in **Appendix B** and photograph locations are depicted in **Figure 7**.

Dominant plant species in upland areas included black oak (*Quercus velutina*), Canadian goldenrod (*Solidago canadensis*), common yarrow (*Achillea millefolium*), cottongrass bulrush (*Scirpus cyperinus*), European buckthorn (*Rhamnus cathartica*), jack pine (*Pinus banksiana*), Kentucky blue grass (*Poa pratensis*), late goldenrod (*Solidago gigantea*), little false bluestem (*Schizachyrium scoparium*), smooth brome (*Bromus inermis*), and sweet fern (*Comptonia peregrina*).

Dominant plant species in wetland areas included black oak, Canadian goldenrod, cottongrass bulrush, dotted smartweed (*Persicaria punctata*), European buckthorn, lamp rush (*Juncus effusus*), narrow-leaf cat-tail (*Typha angustifolia*), needle spike-rush (*Eleocharis acicularis*), paper birch (*Betula papyrifera*), reed canary grass (*Phalaris arundinacea*), spotted lady's-thumb (*Persicaria maculosa*), and sugar maple (*Acer saccharum*).

5.3 Wetlands

As shown in **Figure 6**, a total of eight wetlands (W01 through W08) were identified as part of the delineation for a total of 2.17 acres. All wetlands appear to be hydrologically connected to surface water systems in the vicinity of the ESA and may be considered jurisdictional by the USACE and WDNR. It should be noted that the USACE and WDNR make the final determination of wetland hydrologic

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connectivity and jurisdiction. USACE Wetland Determination Data Forms are provided in **Appendix C** and wetland characteristics are summarized in **Table 2**.

Table 2. Wetlands within the Environmental Survey Area

Feature ID	Cowardin Classification	Approximate Area Delineated within ESA (acres) ¹	Hydrologic Connection ²
W01	PEM	0.17	Connected
W02	PEM	0.08	Connected
W03	PEM	0.21	Connected
W04	PEM	0.38	Connected
W05	PEM	0.48	Connected
W06	PEM	0.02	Connected
W07	PEM	0.41	Connected
W08	PEM	0.42	Connected
Total		2.17	

Notes:

¹The wetland may extend outside of the ESA; this acreage corresponds to the size of the feature located within the ESA.

²The determinations of hydrologic connection is based on the boundary delineations and have not been formally approved by the USACE and/or WDNR.

W01 is a PEM wetland that measures approximately 0.17 acres within the ESA. One wetland data point (DP01) was recorded within W01 and one upland data point (DP02) was recorded in an adjacent upland area to aid in the wetland boundary determination. W01 is comprised of an emergent plant community. Dominant plant species observed at the wetland data point included European buckthorn, cottongrass bulrush, reed canary grass, spotted lady's-thumb, and dotted smartweed. Wetland hydrology indicators observed at the wetland data point included high water table (A2), saturation (A3), geomorphic position (D2), and facultative (FAC)-neutral test (D5). Soil textures were generally mucky sandy loam over loamy sand. Hydric soil indicators observed at the wetland data point included sandy mucky mineral (S1). The wetland boundary was determined by subtle to moderate topographical changes in elevation, in addition to the boundary between the presence or absence of hydrophytic vegetation, wetland hydrology, and hydric soils.

W02 is a PEM wetland that measures approximately 0.08 acres within the ESA. One wetland data point (DP04) was recorded within W02 and one upland data point (DP03) was recorded in an adjacent upland

WETLAND AND WATERBODY DELINEATION REPORT

area to aid in the wetland boundary determination. W02 is comprised of an emergent plant community. Dominant plant species observed at the wetland data point included European buckthorn and cottongrass bulrush. Wetland hydrology indicators observed at the wetland data point included high water table (A2), saturation (A3), geomorphic position (D2), and FAC-neutral test (D5). Soil textures were generally sandy and silt loam over loamy sand. Hydric soil indicators observed at the wetland data point included redox dark surface (F6). The wetland boundary was determined by subtle to moderate topographical changes in elevation, in addition to the boundary between the presence or absence of hydrophytic vegetation, wetland hydrology, and hydric soils.

W03 is a PEM wetland that measures approximately 0.21 acres within the ESA. One wetland data point (DP05) was recorded within W03 and two upland data points (DP06 and DP07) were recorded in an adjacent upland area to aid in the wetland boundary determination. W03 is comprised of an emergent plant community. Dominant plant species observed at the wetland data point included European buckthorn, cottongrass bulrush, and reed canary grass. Wetland hydrology indicators observed at the wetland data point included high water table (A2), saturation (A3), geomorphic position (D2), and FAC-neutral test (D5). Soil textures were generally loamy sand. Hydric soil indicators observed at the wetland data point included sandy redox surface (S5). The wetland boundary was determined by subtle to moderate topographical changes in elevation, in addition to the boundary between the presence or absence of hydrophytic vegetation, wetland hydrology, and hydric soils.

W04 is a PEM wetland that measures approximately 0.38 acres within the ESA. One wetland data point (DP08) was recorded within W04 and one upland data point (DP09) was recorded in an adjacent upland area to aid in the wetland boundary determination. W04 is comprised of an emergent plant community. Dominant plant species observed at the wetland data point included reed canary grass. Wetland hydrology indicators observed at the wetland data point included high water table (A2), saturation (A3), geomorphic position (D2), and FAC-neutral test (D5). Soil textures were generally mucky loamy sand over loamy sand. Hydric soil indicators observed at the wetland data point included sandy mucky mineral (S1). The wetland boundary was determined by subtle to moderate topographical changes in elevation, in addition to the boundary between the presence or absence of hydrophytic vegetation, wetland hydrology, and hydric soils.

W05 is a PEM wetland that measures approximately 0.48 acres within the ESA. One wetland data point (DP11) was recorded within W05 and one upland data point (DP10) was recorded in an adjacent upland area to aid in the wetland boundary determination. W05 is comprised of an emergent plant community. Dominant plant species observed at the wetland data point included European buckthorn, cottongrass bulrush, and reed canary grass. Wetland hydrology indicators observed at the wetland data point included surface water (A1), high water table (A2), saturation (A3), geomorphic position (D2), and FAC-neutral test (D5). Soil textures were generally mucky loamy sand over loamy sand. Hydric soil indicators observed at the wetland data point included sandy mucky mineral (S1). The wetland boundary was determined by subtle to moderate topographical changes in elevation, in addition to the boundary between the presence or absence of hydrophytic vegetation, wetland hydrology, and hydric soils.

W06 is a PEM wetland that measures approximately 0.02 acres within the ESA. One wetland data point (DP12) was recorded within W06 and one upland data point (DP13) was recorded in an adjacent upland area to aid in the wetland boundary determination. W06 is comprised of an emergent plant community. Dominant plant species observed at the wetland data point included European buckthorn and reed canary

WETLAND AND WATERBODY DELINEATION REPORT

grass. Wetland hydrology indicators observed at the wetland data point included high water table (A2), saturation (A3), geomorphic position (D2), and FAC-neutral test (D5). Soil textures were generally loamy sand over sandy loam. Hydric soil indicators observed at the wetland data point included redox dark surface (F6). The wetland boundary was determined by subtle to moderate topographical changes in elevation, in addition to the boundary between the presence or absence of hydrophytic vegetation, wetland hydrology, and hydric soils.

W07 is a PEM wetland that measures approximately 0.41 acres within the ESA. Five wetland data points (DP15, DP17, DP19, DP20, and DP21) were recorded within W07 and three upland data points (DP16, DP18, and DP22) were recorded in adjacent upland areas to aid in the wetland boundary determination. W07 is comprised of an emergent plant community. Dominant plant species observed at the wetland data points included paper birch, black oak, sugar maple, cottongrass bulrush, reed canary grass, and Canadian goldenrod. Wetland hydrology indicators observed at the wetland data point included surface water (A1), high water table (A2), saturation (A3), geomorphic position (D2), and FAC-neutral test (D5). A greater number of data points were recorded in this general area because hydrology was considered significantly disturbed at multiple data points due to nearby testing of firefighting equipment. The equipment testing significantly increased the water input to the area, causing potentially artificially elevated surface water, water table, and saturation. Soil textures were generally combinations of mucky sandy loam, sandy loam, and loamy sand. Hydric soil indicators observed at the wetland data point included depleted below dark surface (A11), sandy mucky mineral (S1), sandy redox (S5), and redox dark surface (F6). The wetland boundary was determined by subtle to moderate topographical changes in elevation, in addition to the boundary between the presence or absence of hydrophytic vegetation, wetland hydrology, and hydric soils.

W08 is a PEM wetland that measures approximately 0.42 acres within the ESA and contains an intermittent stream within its boundaries. One wetland data point (DP23) was recorded within W08 and one upland data point (DP24) was recorded in an adjacent upland area to aid in the wetland boundary determination. W08 is comprised of an emergent plant community. Dominant plant species observed at the wetland data point included needle spike-rush and narrow-leaf cat-tail. Wetland hydrology indicators observed at the wetland data point included high water table (A2), saturation (A3), geomorphic position (D2), and FAC-neutral test (D5). Soil textures were generally loamy sand. Hydric soil indicators observed at the wetland data point included sandy redox (S5). The wetland boundary was determined by subtle to moderate topographical changes in elevation, in addition to the boundary between the presence or absence of hydrophytic vegetation, wetland hydrology, and hydric soils.

5.4 Waterbodies

As shown in **Figure 6**, one intermittent unnamed tributary to the Little River (S01) was identified within the ESA for a total of approximately 741 linear feet. S01 flows generally north to south within the ESA. Due to the assumed hydrologic connection between this stream and Lake Michigan, a TNW, it may be considered jurisdictional by the USACE and WDNR. It should be noted that the USACE and WDNR make the final determination of significant nexus with a TNW. Stream characteristics are summarized in **Table 3**.

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Table 3. Waterbodies within the Environmental Survey Area

Feature ID	Waterbody Name	WDNR WBIC	Flow Regime ¹	Depth (inches)	Substrate	Approximate Length (linear feet)	Approximate OHWM Width (feet)	Approximate Bank Width (feet)	TNW Connection
S01	Unnamed Tributary to Little River	5008898	Intermittent	4	Sandy	741	16	21	Connected
Total						741			

Notes:

¹Flow regime is defined as perennial, intermittent, or ephemeral. This determination was interpreted using field observations, WDNR hydrography, and USGS topographic maps, as appropriate.

6 CONCLUSIONS

A wetland and waterbody delineation survey was conducted by Arcadis for the proposed project on August 27, September 4, and September 5, 2019. Arcadis identified eight wetlands (totaling 2.17 acres) and one stream (totaling 741 linear feet) within the ESA.

All wetland and waterbody features appeared to be hydrologically connected to surface water systems within the vicinity of the ESA and may be considered jurisdictional by the USACE and WDNR. However, the USACE and WDNR make the final determinations regarding jurisdiction of the delineated features.

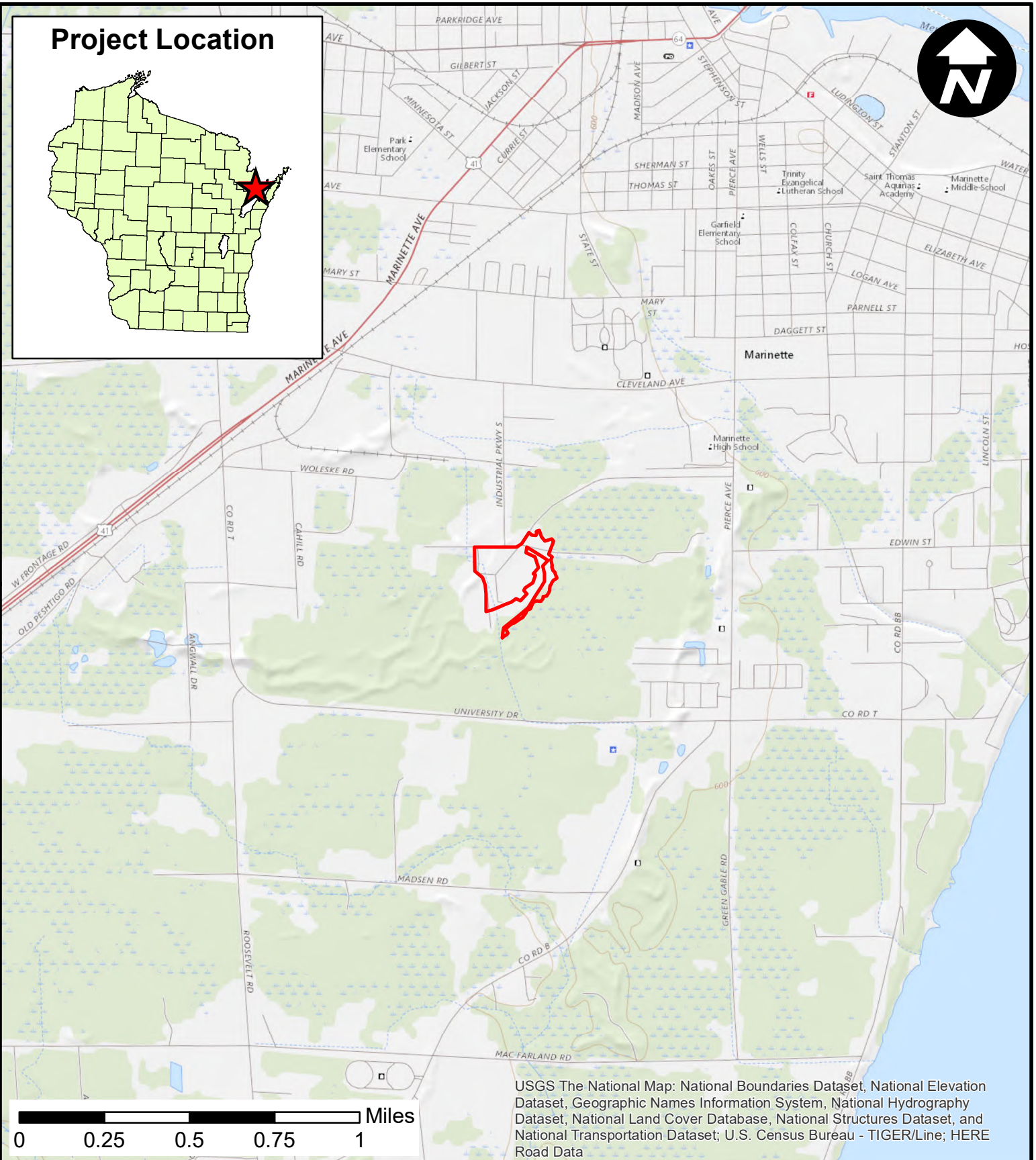
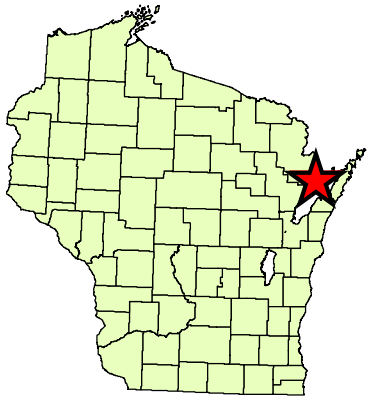
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FIGURES



Project Location



Legend

 Environmental Survey Area

TYCO FIRE PRODUCTS, L.P.
FIRE TECHNOLOGY CENTER

PROJECT LOCATION
MARINETTE COUNTY, WISCONSIN



FIGURE
1



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

- Contours (2')
- ▭ Environmental Survey Area


TYCO FIRE PRODUCTS, L.P.
FIRE TECHNOLOGY CENTER

CONTOURS
MARINETTE COUNTY, WISCONSIN

 **ARCADIS** **FIGURE 2**



Legend

 Environmental Survey Area

TYCO FIRE PRODUCTS, L.P.
FIRE TECHNOLOGY CENTER

HISTORIC AERIAL IMAGERY
MARINETTE COUNTY, WISCONSIN



FIGURE
3



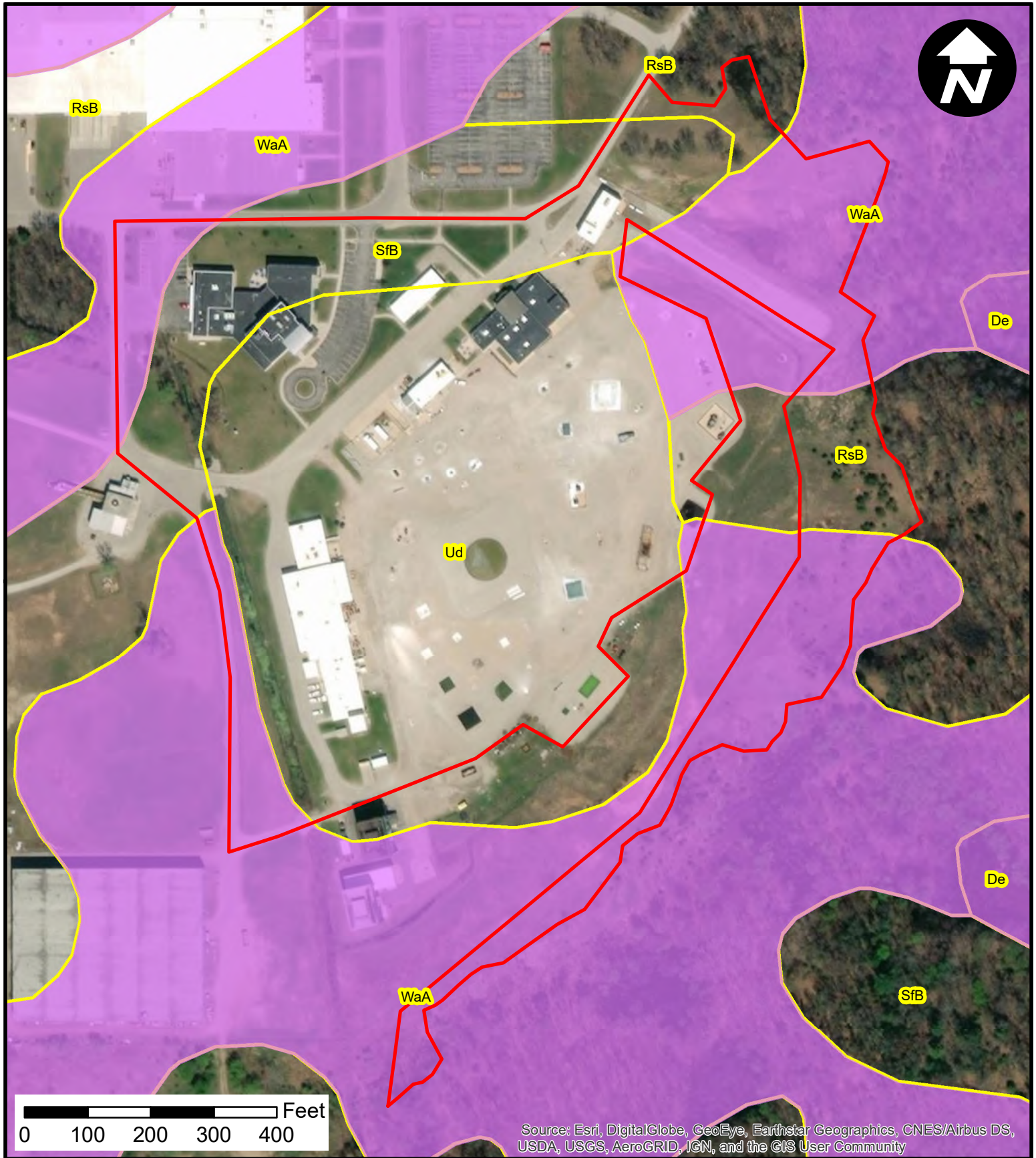
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

- Environmental Survey Area
- WDNR Hydrography - Intermittent Streams
- WWI

TYCO FIRE PRODUCTS, L.P.
FIRE TECHNOLOGY CENTER

**WDNR HYDROGRAPHY
AND WWI**
MARINETTE COUNTY, WISCONSIN



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

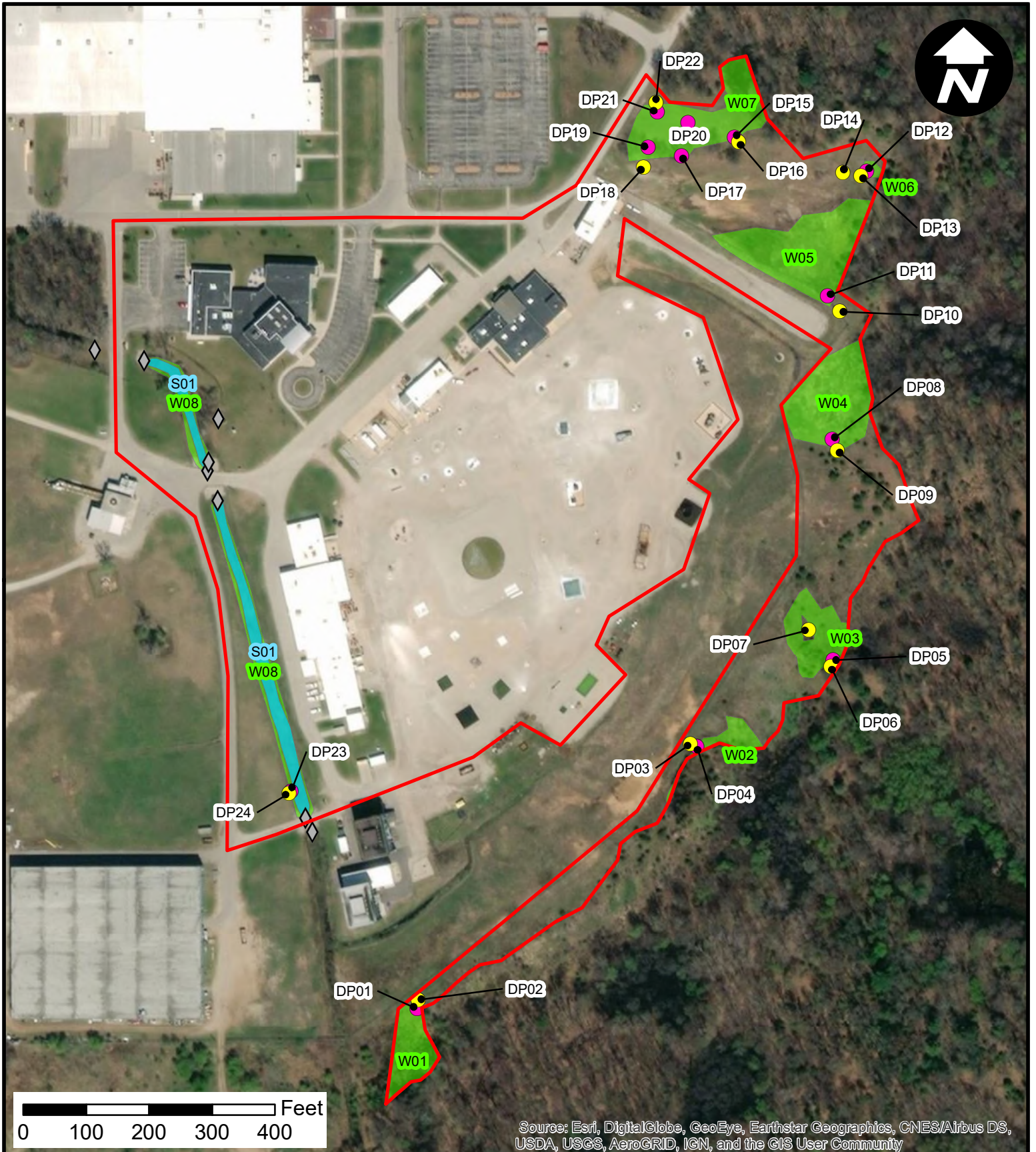
Legend

- Environmental Survey Area
- WDNr Wetland Indicators
- NRCS Soil Map Units

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FIRE TECHNOLOGY CENTER

NRCS SOILS AND
WDNR WETLAND INDICATORS
 MARINETTE COUNTY, WISCONSIN

ARCADIS **FIGURE 5**



Legend

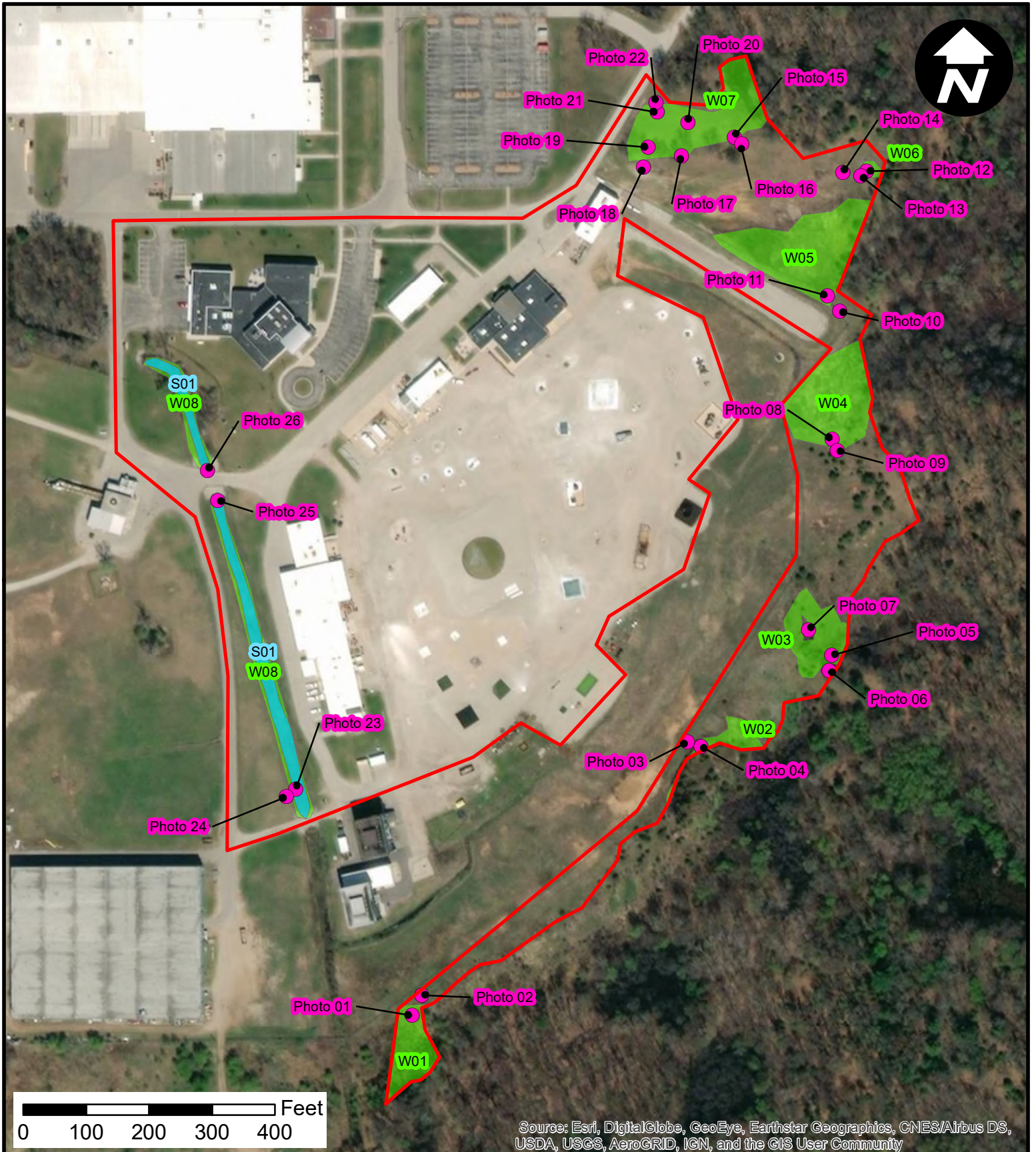
- Environmental Survey Area
- ◇ Existing Culverts
- Delineated Streams
- Delineated Wetlands
- Upland Data Point
- Wetland Data Point

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FIRE TECHNOLOGY CENTER

**DELINEATED WETLANDS
AND WATERBODIES**
MARINETTE COUNTY, WISCONSIN



FIGURE
6



Legend

- Environmental Survey Area
- Delineated Streams
- Delineated Wetlands
- Photograph Locations

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FIRE TECHNOLOGY CENTER

PHOTOGRAPH LOCATIONS
MARINETTE COUNTY, WISCONSIN

ARCADIS FIGURE
7

APPENDIX A

Antecedent Precipitation



Table 4. Antecedent Precipitation Data

3rd Month Prior		2nd Month Prior		1st Month Prior	
Date	Precipitation (in.)	Date	Precipitation (in.)	Date	Precipitation (in.)
6/1/2019	0.00	7/1/2019	0.00	8/1/2019	0.00
6/2/2019	0.04	7/2/2019	0.38	8/2/2019	0.07
6/3/2019	0.00	7/3/2019	0.18	8/3/2019	T
6/4/2019	0.00	7/4/2019	0.00	8/4/2019	0.00
6/5/2019	0.01	7/5/2019	0.02	8/5/2019	0.02
6/6/2019	0.00	7/6/2019	0.03	8/6/2019	0.01
6/7/2019	0.00	7/7/2019	0.03	8/7/2019	0.02
6/8/2019	0.00	7/8/2019	0.00	8/8/2019	0.22
6/9/2019	0.00	7/9/2019	0.00	8/9/2019	0.15
6/10/2019	0.05	7/10/2019	0.05	8/10/2019	0.00
6/11/2019	0.00	7/11/2019	0.00	8/11/2019	0.48
6/12/2019	0.27	7/12/2019	0.00	8/12/2019	0.42
6/13/2019	0.82	7/13/2019	0.20	8/13/2019	T
6/14/2019	0.00	7/14/2019	0.00	8/14/2019	0.00
6/15/2019	0.95	7/15/2019	1.96	8/15/2019	0.00
6/16/2019	0.00	7/16/2019	0.46	8/16/2019	0.11
6/17/2019	0.00	7/17/2019	0.00	8/17/2019	T
6/18/2019	0.09	7/18/2019	0.04	8/18/2019	0.62
6/19/2019	0.00	7/19/2019	0.07	8/19/2019	0.03
6/20/2019	0.00	7/20/2019	1.67	8/20/2019	0.00
6/21/2019	0.00	7/21/2019	0.17	8/21/2019	0.00
6/22/2019	0.00	7/22/2019	0.00	8/22/2019	0.00
6/23/2019	0.00	7/23/2019	0.00	8/23/2019	0.00
6/24/2019	0.03	7/24/2019	0.00	8/24/2019	0.00
6/25/2019	0.00	7/25/2019	0.56	8/25/2019	0.00
6/26/2019	0.00	7/26/2019	0.00	8/26/2019	0.00
6/27/2019	0.00	7/27/2019	0.06	8/27/2019	1.00
6/28/2019	0.39	7/28/2019	0.00	8/28/2019	0.10
6/29/2019	T	7/29/2019	0.41	8/29/2019	0.00
6/30/2019	0.00	7/30/2019	0.00	8/30/2019	0.00
		7/31/2019	0.00	8/31/2019	0.00
Total =	2.65	Total =	6.29	Total =	3.25

Notes:

Station Name: Marinette, Wisconsin (USC00475091)

Date Range = June 1, 2019 - August 31, 2019

M = Missing

T = Trace

Table 5. WETS Analysis

Month	Long-Term Rainfall Records (from WETS Table)				Site Determination			
	Normal	3 Years in 10 Less Than	3 Years in 10 Greater Than	Site Rainfall (in.)	Condition (Dry, Normal*, or Wet)	Condition Value**	Month Weight	Product
June	3.65	2.28	4.41	2.65	Normal	2	1	2
July	3.39	2.37	4.03	6.29	Wet	3	2	6
August	3.41	2.57	3.98	3.25	Normal	2	3	6
Sum =	10.45		Sum =	12.19			Sum*** =	14

Determination:

Dry	_____
Normal	_____X_____
Wet	_____

Notes:

*Normal precipitation with 30% to 70% probability of occurrence.

**Condition value: Dry = 1, Normal = 2, Wet = 3.

***If sum is: 6 to 9 = Dry, 10 to 14 = Normal, 15 to 18 = Wet.

Reference: Donald E. Woodward, ed. 1997. Hydrology Tools for Wetland Determination, Chapter 19. Engineering Field Handbook. U.S. Department of Agriculture, Natural Resources Conservation Service, Fort Worth, TX.

Table 6. Antecedent Precipitation Data

3rd Month Prior		2nd Month Prior		1st Month Prior	
Date	Precipitation (in.)	Date	Precipitation (in.)	Date	Precipitation (in.)
2/1/1999	T	3/1/1999	0.00	4/1/1999	0.00
2/2/1999	0.13	3/2/1999	0.00	4/2/1999	0.07
2/3/1999	0.00	3/3/1999	0.00	4/3/1999	T
2/4/1999	0.22	3/4/1999	0.00	4/4/1999	0.69
2/5/1999	0.00	3/5/1999	0.03	4/5/1999	T
2/6/1999	0.02	3/6/1999	0.00	4/6/1999	0.35
2/7/1999	0.00	3/7/1999	0.00	4/7/1999	0.30
2/8/1999	0.00	3/8/1999	0.00	4/8/1999	0.00
2/9/1999	0.00	3/9/1999	1.60	4/9/1999	0.20
2/10/1999	0.00	3/10/1999	0.04	4/10/1999	0.00
2/11/1999	T	3/11/1999	0.00	4/11/1999	0.12
2/12/1999	0.57	3/12/1999	0.00	4/12/1999	T
2/13/1999	0.00	3/13/1999	0.00	4/13/1999	0.00
2/14/1999	0.00	3/14/1999	0.00	4/14/1999	0.00
2/15/1999	0.00	3/15/1999	0.00	4/15/1999	0.00
2/16/1999	0.00	3/16/1999	0.00	4/16/1999	0.00
2/17/1999	0.17	3/17/1999	0.00	4/17/1999	0.00
2/18/1999	0.00	3/18/1999	0.00	4/18/1999	0.00
2/19/1999	0.00	3/19/1999	0.00	4/19/1999	0.00
2/20/1999	0.00	3/20/1999	0.00	4/20/1999	0.00
2/21/1999	0.00	3/21/1999	0.00	4/21/1999	0.00
2/22/1999	0.00	3/22/1999	0.00	4/22/1999	0.10
2/23/1999	0.00	3/23/1999	0.00	4/23/1999	T
2/24/1999	M	3/24/1999	0.00	4/24/1999	0.00
2/25/1999	0.13	3/25/1999	0.00	4/25/1999	0.00
2/26/1999	0.00	3/26/1999	0.00	4/26/1999	0.00
2/27/1999	T	3/27/1999	0.00	4/27/1999	0.00
2/28/1999	0.26	3/28/1999	0.00	4/28/1999	0.00
		3/29/1999	T	4/29/1999	0.00
		3/30/1999	0.00	4/30/1999	0.00
		3/31/1999	0.00		
Total =	1.50	Total =	1.67	Total =	1.83

Notes:

Station Name: Marinette, Wisconsin (USC00475091)

Date Range = February 1, 1999 - April 30, 1999

M = Missing

T = Trace

Table 7. WETS Analysis

Month	Long-Term Rainfall Records (from WETS Table)				Site Determination			
	Normal	3 Years in 10 Less Than	3 Years in 10 Greater Than	Site Rainfall (in.)	Condition (Dry, Normal*, or Wet)	Condition Value**	Month Weight	Product
February	1.30	0.73	1.58	1.50	Normal	2	1	2
March	2.22	1.37	2.68	1.67	Normal	2	2	4
April	2.83	2.04	3.35	1.83	Dry	1	3	3
Sum =	6.35		Sum =	5.00			Sum*** =	9

Determination:

Dry	<u> </u>
Normal	<u> </u>
Wet	<u> </u>

X

Notes:

*Normal precipitation with 30% to 70% probability of occurrence.

**Condition value: Dry = 1, Normal = 2, Wet = 3.

***If sum is: 6 to 9 = Dry, 10 to 14 = Normal, 15 to 18 = Wet.

Reference: Donald E. Woodward, ed. 1997. Hydrology Tools for Wetland Determination, Chapter 19. Engineering Field Handbook. U.S. Department of Agriculture, Natural Resources Conservation Service, Fort Worth, TX.

Table 8. Antecedent Precipitation Data

3rd Month Prior		2nd Month Prior		1st Month Prior	
Date	Precipitation (in.)	Date	Precipitation (in.)	Date	Precipitation (in.)
6/1/2005	M	7/1/2005	T	8/1/2005	0.00
6/2/2005	M	7/2/2005	0.00	8/2/2005	0.00
6/3/2005	M	7/3/2005	0.00	8/3/2005	T
6/4/2005	M	7/4/2005	0.03	8/4/2005	T
6/5/2005	M	7/5/2005	0.30	8/5/2005	0.00
6/6/2005	0.38	7/6/2005	0.00	8/6/2005	0.00
6/7/2005	0.00	7/7/2005	0.00	8/7/2005	0.00
6/8/2005	0.43	7/8/2005	0.00	8/8/2005	0.00
6/9/2005	0.00	7/9/2005	0.00	8/9/2005	0.00
6/10/2005	0.00	7/10/2005	0.00	8/10/2005	0.56
6/11/2005	0.39	7/11/2005	0.00	8/11/2005	0.00
6/12/2005	T	7/12/2005	0.00	8/12/2005	0.37
6/13/2005	0.00	7/13/2005	0.00	8/13/2005	0.00
6/14/2005	0.51	7/14/2005	0.00	8/14/2005	0.00
6/15/2005	0.11	7/15/2005	0.00	8/15/2005	0.00
6/16/2005	0.00	7/16/2005	0.00	8/16/2005	0.00
6/17/2005	0.00	7/17/2005	0.00	8/17/2005	0.00
6/18/2005	0.00	7/18/2005	0.00	8/18/2005	0.00
6/19/2005	0.00	7/19/2005	0.00	8/19/2005	0.87
6/20/2005	0.00	7/20/2005	0.00	8/20/2005	0.60
6/21/2005	T	7/21/2005	0.22	8/21/2005	0.00
6/22/2005	0.00	7/22/2005	0.00	8/22/2005	0.00
6/23/2005	0.00	7/23/2005	0.00	8/23/2005	0.00
6/24/2005	0.00	7/24/2005	0.60	8/24/2005	0.00
6/25/2005	0.00	7/25/2005	0.00	8/25/2005	0.00
6/26/2005	0.00	7/26/2005	0.58	8/26/2005	0.01
6/27/2005	T	7/27/2005	0.00	8/27/2005	0.48
6/28/2005	0.00	7/28/2005	0.00	8/28/2005	0.00
6/29/2005	0.08	7/29/2005	0.40	8/29/2005	0.12
6/30/2005	0.06	7/30/2005	0.00	8/30/2005	0.00
		7/31/2005	0.00	8/31/2005	0.00
Total =	1.96	Total =	2.13	Total =	3.01

Notes:

Station Name: Marinette, Wisconsin (USC00475091)

Date Range = June 1, 2005 - August 31, 2005

M = Missing

T = Trace

Table 9. WETS Analysis

Month	Long-Term Rainfall Records (from WETS Table)				Site Determination			
	Normal	3 Years in 10 Less Than	3 Years in 10 Greater Than	Site Rainfall (in.)	Condition (Dry, Normal*, or Wet)	Condition Value**	Month Weight	Product
June	3.65	2.28	4.41	1.96	Dry	1	1	1
July	3.39	2.37	4.03	2.13	Dry	1	2	2
August	3.41	2.57	3.98	3.01	Normal	2	3	6
Sum =	10.45		Sum =	7.10			Sum*** =	9

Determination:

Dry	<u> </u> X
Normal	<u> </u>
Wet	<u> </u>

Notes:

*Normal precipitation with 30% to 70% probability of occurrence.

**Condition value: Dry = 1, Normal = 2, Wet = 3.

***If sum is: 6 to 9 = Dry, 10 to 14 = Normal, 15 to 18 = Wet.

Reference: Donald E. Woodward, ed. 1997. Hydrology Tools for Wetland Determination, Chapter 19. Engineering Field Handbook. U.S. Department of Agriculture, Natural Resources Conservation Service, Fort Worth, TX.

Table 10. Antecedent Precipitation Data

3rd Month Prior		2nd Month Prior		1st Month Prior	
Date	Precipitation (in.)	Date	Precipitation (in.)	Date	Precipitation (in.)
6/1/2006	0.00	7/1/2006	0.00	8/1/2006	0.00
6/2/2006	0.11	7/2/2006	0.01	8/2/2006	2.22
6/3/2006	T	7/3/2006	0.00	8/3/2006	0.27
6/4/2006	0.00	7/4/2006	0.33	8/4/2006	0.00
6/5/2006	0.00	7/5/2006	M	8/5/2006	0.00
6/6/2006	0.00	7/6/2006	M	8/6/2006	0.00
6/7/2006	0.17	7/7/2006	M	8/7/2006	0.00
6/8/2006	0.00	7/8/2006	M	8/8/2006	0.00
6/9/2006	0.00	7/9/2006	M	8/9/2006	0.00
6/10/2006	0.00	7/10/2006	T	8/10/2006	0.02
6/11/2006	0.00	7/11/2006	0.00	8/11/2006	0.00
6/12/2006	0.00	7/12/2006	0.00	8/12/2006	0.00
6/13/2006	0.00	7/13/2006	0.00	8/13/2006	0.00
6/14/2006	0.18	7/14/2006	0.00	8/14/2006	0.54
6/15/2006	0.00	7/15/2006	0.16	8/15/2006	0.00
6/16/2006	T	7/16/2006	0.00	8/16/2006	0.00
6/17/2006	0.00	7/17/2006	0.04	8/17/2006	0.00
6/18/2006	0.05	7/18/2006	T	8/18/2006	0.00
6/19/2006	T	7/19/2006	0.00	8/19/2006	0.00
6/20/2006	0.00	7/20/2006	0.00	8/20/2006	0.01
6/21/2006	0.05	7/21/2006	0.00	8/21/2006	0.00
6/22/2006	0.00	7/22/2006	0.00	8/22/2006	T
6/23/2006	0.00	7/23/2006	0.41	8/23/2006	T
6/24/2006	0.00	7/24/2006	0.31	8/24/2006	0.27
6/25/2006	0.20	7/25/2006	1.20	8/25/2006	0.90
6/26/2006	0.15	7/26/2006	1.92	8/26/2006	T
6/27/2006	T	7/27/2006	T	8/27/2006	T
6/28/2006	0.40	7/28/2006	0.00	8/28/2006	0.00
6/29/2006	0.28	7/29/2006	0.02	8/29/2006	T
6/30/2006	0.00	7/30/2006	0.05	8/30/2006	0.00
		7/31/2006	T	8/31/2006	0.00
Total =	1.59	Total =	4.45	Total =	4.23

Notes:

Station Name: Marinette, Wisconsin (USC00475091)

Date Range = June 1, 2006 - August 31, 2006

M = Missing

T = Trace

Table 11. WETS Analysis

Month	Long-Term Rainfall Records (from WETS Table)				Site Determination			
	Normal	3 Years in 10 Less Than	3 Years in 10 Greater Than	Site Rainfall (in.)	Condition (Dry, Normal*, or Wet)	Condition Value**	Month Weight	Product
June	3.65	2.28	4.41	1.59	Dry	1	1	1
July	3.39	2.37	4.03	4.45	Wet	3	2	6
August	3.41	2.57	3.98	4.23	Wet	3	3	9
Sum =	10.45		Sum =	10.27			Sum*** =	16

Determination:	Dry	_____
	Normal	_____
	Wet	_____ X _____

Notes:

*Normal precipitation with 30% to 70% probability of occurrence.

**Condition value: Dry = 1, Normal = 2, Wet = 3.

***If sum is: 6 to 9 = Dry, 10 to 14 = Normal, 15 to 18 = Wet.

Reference: Donald E. Woodward, ed. 1997. Hydrology Tools for Wetland Determination, Chapter 19. Engineering Field Handbook. U.S. Department of Agriculture, Natural Resources Conservation Service, Fort Worth, TX.

Table 12. Antecedent Precipitation Data

3rd Month Prior		2nd Month Prior		1st Month Prior	
Date	Precipitation (in.)	Date	Precipitation (in.)	Date	Precipitation (in.)
7/1/2008	0.00	8/1/2008	0.00	9/1/2008	0.00
7/2/2008	0.45	8/2/2008	0.00	9/2/2008	0.00
7/3/2008	0.27	8/3/2008	0.00	9/3/2008	0.03
7/4/2008	0.00	8/4/2008	0.02	9/4/2008	0.00
7/5/2008	0.00	8/5/2008	T	9/5/2008	0.34
7/6/2008	0.00	8/6/2008	0.00	9/6/2008	0.03
7/7/2008	0.00	8/7/2008	0.00	9/7/2008	0.00
7/8/2008	0.54	8/8/2008	0.12	9/8/2008	0.03
7/9/2008	0.00	8/9/2008	T	9/9/2008	T
7/10/2008	0.00	8/10/2008	0.02	9/10/2008	0.00
7/11/2008	0.00	8/11/2008	0.00	9/11/2008	0.00
7/12/2008	0.38	8/12/2008	0.00	9/12/2008	0.36
7/13/2008	0.00	8/13/2008	0.00	9/13/2008	T
7/14/2008	0.00	8/14/2008	0.00	9/14/2008	0.18
7/15/2008	0.13	8/15/2008	0.00	9/15/2008	T
7/16/2008	0.05	8/16/2008	0.00	9/16/2008	0.00
7/17/2008	0.12	8/17/2008	0.07	9/17/2008	0.00
7/18/2008	2.95	8/18/2008	0.00	9/18/2008	0.00
7/19/2008	0.01	8/19/2008	0.18	9/19/2008	0.00
7/20/2008	T	8/20/2008	T	9/20/2008	0.00
7/21/2008	0.26	8/21/2008	0.00	9/21/2008	0.00
7/22/2008	T	8/22/2008	0.05	9/22/2008	0.00
7/23/2008	0.00	8/23/2008	0.02	9/23/2008	0.00
7/24/2008	0.00	8/24/2008	0.00	9/24/2008	0.00
7/25/2008	0.00	8/25/2008	0.00	9/25/2008	0.00
7/26/2008	0.01	8/26/2008	0.00	9/26/2008	T
7/27/2008	0.00	8/27/2008	0.00	9/27/2008	0.00
7/28/2008	0.00	8/28/2008	0.00	9/28/2008	0.00
7/29/2008	0.00	8/29/2008	0.01	9/29/2008	T
7/30/2008	1.18	8/30/2008	0.00	9/30/2008	0.31
7/31/2008	0.00	8/31/2008	0.00		
Total =	6.35	Total =	0.49	Total =	1.28

Notes:

Station Name: Marinette, Wisconsin (USC00475091)

Date Range = July 1, 2008 - September 30, 2008

M = Missing

T = Trace

Table 13. WETS Analysis

Month	Long-Term Rainfall Records (from WETS Table)				Site Determination			
	Normal	3 Years in 10 Less Than	3 Years in 10 Greater Than	Site Rainfall (in.)	Condition (Dry, Normal*, or Wet)	Condition Value**	Month Weight	Product
July	3.39	2.37	4.03	6.35	Wet	3	1	3
August	3.41	2.57	3.98	0.49	Dry	1	2	2
September	3.28	2.37	3.87	1.28	Dry	1	3	3
Sum =	10.08		Sum =	8.12			Sum*** =	8

Determination:

Dry	<u> </u>
Normal	<u> </u>
Wet	<u> </u>

X

Notes:

*Normal precipitation with 30% to 70% probability of occurrence.

**Condition value: Dry = 1, Normal = 2, Wet = 3.

***If sum is: 6 to 9 = Dry, 10 to 14 = Normal, 15 to 18 = Wet.

Reference: Donald E. Woodward, ed. 1997. Hydrology Tools for Wetland Determination, Chapter 19. Engineering Field Handbook. U.S. Department of Agriculture, Natural Resources Conservation Service, Fort Worth, TX.

Table 14. Antecedent Precipitation Data

3rd Month Prior		2nd Month Prior		1st Month Prior	
Date	Precipitation (in.)	Date	Precipitation (in.)	Date	Precipitation (in.)
8/1/2010	0.08	9/1/2010	0.38	10/1/2010	0.00
8/2/2010	0.44	9/2/2010	0.00	10/2/2010	0.33
8/3/2010	0.06	9/3/2010	0.61	10/3/2010	0.01
8/4/2010	0.00	9/4/2010	0.03	10/4/2010	0.00
8/5/2010	0.00	9/5/2010	0.00	10/5/2010	0.00
8/6/2010	0.00	9/6/2010	0.00	10/6/2010	0.00
8/7/2010	0.00	9/7/2010	0.18	10/7/2010	0.00
8/8/2010	1.43	9/8/2010	0.01	10/8/2010	0.00
8/9/2010	0.00	9/9/2010	0.00	10/9/2010	0.00
8/10/2010	0.02	9/10/2010	0.00	10/10/2010	0.00
8/11/2010	0.00	9/11/2010	0.04	10/11/2010	0.00
8/12/2010	0.08	9/12/2010	0.40	10/12/2010	0.00
8/13/2010	0.00	9/13/2010	T	10/13/2010	0.00
8/14/2010	0.00	9/14/2010	0.00	10/14/2010	0.00
8/15/2010	0.01	9/15/2010	T	10/15/2010	0.04
8/16/2010	0.00	9/16/2010	0.81	10/16/2010	0.00
8/17/2010	0.00	9/17/2010	0.07	10/17/2010	0.00
8/18/2010	0.00	9/18/2010	0.00	10/18/2010	T
8/19/2010	0.02	9/19/2010	0.00	10/19/2010	0.00
8/20/2010	0.04	9/20/2010	0.00	10/20/2010	0.00
8/21/2010	0.08	9/21/2010	T	10/21/2010	0.00
8/22/2010	0.00	9/22/2010	0.02	10/22/2010	0.00
8/23/2010	0.00	9/23/2010	1.57	10/23/2010	0.00
8/24/2010	0.00	9/24/2010	1.15	10/24/2010	0.48
8/25/2010	0.05	9/25/2010	0.01	10/25/2010	0.65
8/26/2010	0.00	9/26/2010	0.00	10/26/2010	0.23
8/27/2010	0.00	9/27/2010	0.00	10/27/2010	0.15
8/28/2010	0.00	9/28/2010	0.00	10/28/2010	T
8/29/2010	0.00	9/29/2010	0.00	10/29/2010	0.00
8/30/2010	0.00	9/30/2010	0.00	10/30/2010	0.00
8/31/2010	0.00		0.00	10/31/2010	0.00
Total =	2.31	Total =	5.28	Total =	1.89

Notes:

Station Name: Marinette, Wisconsin (USC00475091)

Date Range = August 1, 2010 - October 31, 2010

M = Missing

T = Trace

Table 15. WETS Analysis

Month	Long-Term Rainfall Records (from WETS Table)				Site Determination			
	Normal	3 Years in 10 Less Than	3 Years in 10 Greater Than	Site Rainfall (in.)	Condition (Dry, Normal*, or Wet)	Condition Value**	Month Weight	Product
August	3.41	2.57	3.98	2.31	Dry	1	1	1
September	3.28	2.37	3.87	5.28	Wet	3	2	6
October	2.81	1.83	3.38	1.89	Normal	2	3	6
Sum =	9.50		Sum =	9.48			Sum*** =	13

Determination:

Dry	_____
Normal	_____ X _____
Wet	_____

Notes:

*Normal precipitation with 30% to 70% probability of occurrence.

**Condition value: Dry = 1, Normal = 2, Wet = 3.

***If sum is: 6 to 9 = Dry, 10 to 14 = Normal, 15 to 18 = Wet.

Reference: Donald E. Woodward, ed. 1997. Hydrology Tools for Wetland Determination, Chapter 19. Engineering Field Handbook. U.S. Department of Agriculture, Natural Resources Conservation Service, Fort Worth, TX.

Table 16. Antecedent Precipitation Data

3rd Month Prior		2nd Month Prior		1st Month Prior	
Date	Precipitation (in.)	Date	Precipitation (in.)	Date	Precipitation (in.)
3/1/2013	0.00	4/1/2013	T	5/1/2013	T
3/2/2013	0.00	4/2/2013	0.00	5/2/2013	0.00
3/3/2013	0.00	4/3/2013	0.00	5/3/2013	0.18
3/4/2013	0.00	4/4/2013	0.00	5/4/2013	0.06
3/5/2013	0.00	4/5/2013	0.01	5/5/2013	0.00
3/6/2013	0.00	4/6/2013	0.04	5/6/2013	0.00
3/7/2013	T	4/7/2013	0.30	5/7/2013	0.00
3/8/2013	0.00	4/8/2013	0.00	5/8/2013	0.00
3/9/2013	0.00	4/9/2013	0.07	5/9/2013	0.00
3/10/2013	0.52	4/10/2013	0.71	5/10/2013	0.33
3/11/2013	0.71	4/11/2013	0.00	5/11/2013	T
3/12/2013	0.00	4/12/2013	0.36	5/12/2013	0.20
3/13/2013	T	4/13/2013	0.05	5/13/2013	0.00
3/14/2013	0.00	4/14/2013	0.02	5/14/2013	0.02
3/15/2013	0.00	4/15/2013	0.37	5/15/2013	T
3/16/2013	0.08	4/16/2013	0.00	5/16/2013	0.00
3/17/2013	0.00	4/17/2013	0.00	5/17/2013	0.00
3/18/2013	0.00	4/18/2013	0.11	5/18/2013	T
3/19/2013	0.30	4/19/2013	0.20	5/19/2013	0.00
3/20/2013	0.00	4/20/2013	0.00	5/20/2013	0.05
3/21/2013	0.00	4/21/2013	0.00	5/21/2013	0.46
3/22/2013	0.00	4/22/2013	T	5/22/2013	0.33
3/23/2013	0.00	4/23/2013	0.17	5/23/2013	0.26
3/24/2013	0.00	4/24/2013	T	5/24/2013	0.00
3/25/2013	0.00	4/25/2013	0.00	5/25/2013	0.00
3/26/2013	0.00	4/26/2013	T	5/26/2013	0.00
3/27/2013	T	4/27/2013	0.07	5/27/2013	0.00
3/28/2013	0.00	4/28/2013	0.00	5/28/2013	0.03
3/29/2013	0.00	4/29/2013	0.07	5/29/2013	0.05
3/30/2013	0.00	4/30/2013	0.44	5/30/2013	T
3/31/2013	0.22			5/31/2013	0.60
Total =	1.83	Total =	2.99	Total =	2.57

Notes:

Station Name: Marinette, Wisconsin (USC00475091)

Date Range = March 1, 2013 - May 31, 2013

M = Missing

T = Trace

Table 17. WETS Analysis

Month	Long-Term Rainfall Records (from WETS Table)				Site Determination			
	Normal	3 Years in 10 Less Than	3 Years in 10 Greater Than	Site Rainfall (in.)	Condition (Dry, Normal*, or Wet)	Condition Value**	Month Weight	Product
March	2.22	1.37	2.68	1.83	Normal	2	1	2
April	2.83	2.04	3.35	2.99	Normal	2	2	4
May	3.20	2.31	3.78	2.57	Normal	2	3	6
Sum =	8.25		Sum =	7.39			Sum*** =	12

Determination:

Dry	_____
Normal	_____X_____
Wet	_____

Notes:

*Normal precipitation with 30% to 70% probability of occurrence.

**Condition value: Dry = 1, Normal = 2, Wet = 3.

***If sum is: 6 to 9 = Dry, 10 to 14 = Normal, 15 to 18 = Wet.

Reference: Donald E. Woodward, ed. 1997. Hydrology Tools for Wetland Determination, Chapter 19. Engineering Field Handbook. U.S. Department of Agriculture, Natural Resources Conservation Service, Fort Worth, TX.

APPENDIX B

Photographic Log



Photographic Log

Fire Technology Center
Marinette County, Wisconsin



Photo: 01

Date:
8/27/2019

Description:
Wetland data point DP01 in
W01.

Direction:
South



Photo: 02

Date:
8/27/2019

Description:
Upland data point DP02
near the boundary of W01.

Direction:
North

Photographic Log

Fire Technology Center
Marinette County, Wisconsin



Photo: 03

Date:
8/27/2019

Description:
Upland data point DP03
near the boundary of W02.

Direction:
North



Photo: 04

Date:
8/27/2019

Description:
Wetland data point DP04 in
W02.

Direction:
South

Photographic Log

Fire Technology Center
Marinette County, Wisconsin



Photo: 05

Date:
8/27/2019

Description:
Wetland data point DP05 in
W03.

Direction:
North



Photo: 06

Date:
8/27/2019

Description:
Upland data point DP06
near the boundary of W03.

Direction:
South

Photographic Log

Fire Technology Center
Marinette County, Wisconsin



Photo: 07

Date:
8/27/2019

Description:
Upland data point DP07 in
upland island in W03.

Direction:
West



Photo: 08

Date:
8/27/2019

Description:
Wetland data point DP08 in
W04.

Direction:
North

Photographic Log

Fire Technology Center
Marinette County, Wisconsin



Photo: 09

Date:
8/27/2019

Description:
Upland data point DP09
near the boundary of W04.

Direction:
South



Photo: 10

Date:
8/27/2019

Description:
Upland data point DP10
near the boundary of W05.

Direction:
South

Photographic Log

Fire Technology Center
Marinette County, Wisconsin



Photo: 11

Date:
8/27/2019

Description:
Wetland data point DP11 in
W05.

Direction:
North



Photo: 12

Date:
9/4/2019

Description:
Wetland data point DP12 in
W06.

Direction:
North

Photographic Log

Fire Technology Center
Marinette County, Wisconsin



Photo: 13

Date:
9/4/2019

Description:
Upland data point DP13
near the boundary of W06.

Direction:
West



Photo: 14

Date:
9/4/2019

Description:
Upland data point DP14
recorded in small area with
hydrophytic vegetation.

Direction:
East

Photographic Log

Fire Technology Center
Marinette County, Wisconsin



Photo: 15

Date:
9/5/2019

Description:
Wetland data point DP15 in
W07.

Direction:
North



Photo: 16

Date:
9/5/2019

Description:
Upland data point DP16
near the boundary of W07.

Direction:
South

Photographic Log

Fire Technology Center
Marinette County, Wisconsin



Photo: 17

Date:
9/5/2019

Description:
Wetland data point DP17 in
W07.

Direction:
West



Photo: 18

Date:
9/5/2019

Description:
Upland data point DP18
near the boundary of W07.

Direction:
West

Photographic Log

Fire Technology Center
Marinette County, Wisconsin



Photo: 19

Date:
9/5/2019

Description:
Wetland data point DP19 in
W07.

Direction:
East



Photo: 20

Date:
9/5/2019

Description:
Wetland data point DP20 in
W07.

Direction:
East

Photographic Log

Fire Technology Center
Marinette County, Wisconsin



Photo: 21

Date:
9/5/2019

Description:
Wetland data point DP21 in
W07.

Direction:
South



Photo: 22

Date:
9/5/2019

Description:
Upland data point DP22
near the boundary of W07.

Direction:
North

Photographic Log

Fire Technology Center
Marinette County, Wisconsin



Photo: 23

Date:
8/27/2019

Description:
Wetland data point DP23 in
W08.

Direction:
North



Photo: 24

Date:
8/27/2019

Description:
Upland data point DP24
near the boundary of W08.

Direction:
West

Photographic Log

Fire Technology Center
Marinette County, Wisconsin



Photo: 25

Date:
8/27/2019

Description:
View of S01.

Direction:
South



Photo: 26

Date:
8/27/2019

Description:
View of S01.

Direction:
North

APPENDIX C

Wetland Determination Data Forms



WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

Site: Fire Technology Center City/County: Marinette County Sampling Date: 8/27/2019
 Applicant/Owner: Tyco Fire Products, L.P. State: WI Sampling Point: DP01
 Investigator(s): Ryan Bombeck, Michael Meisenger Section, Township, Range: Section 13, Township 30N, Range 23E
 Landform (hillslope,terrace,etc.): Toe Slope Local relief (concave, convex, none): Concave Slope (%): 0%
 Subregion(LRR or MLRA): LRR K - Northcentral Forests Lat. 45.074662° N Long. 87.643127° W Datum: WGS 84
 Soil Map Unit Name: Wainola loamy fine sand, 0 to 3 percent slopes WWI Classification: None
 Are climatic/hydrologic conditions on the site typical for time of year? Yes X No (If no, explain in the Remarks)
 Are Vegetation Soil or Hydrology significantly disturbed?
 Are Vegetation Soil or Hydrology naturally problematic?
 Are Normal Circumstances Present? Yes X No (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes X No **Is the Sampled Area within a Wetland?**
 Hydric Soil Present? Yes X No **Yes X No**
 Wetland Hydrology Present? Yes X No If yes, optional Wetland Site ID: W01

Remarks:
 Photo 01 in Appendix B. Wetland data point recorded at the boundary of W01. Based on the presence of all three parameters, this area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
<input type="checkbox"/>	Surface Water (A1)	<input type="checkbox"/>	Water Stained Leaves (B9)
<input checked="" type="checkbox"/>	High Water Table (A2)	<input type="checkbox"/>	Aquatic Fauna (B13)
<input checked="" type="checkbox"/>	Saturation (A3)	<input type="checkbox"/>	Marl Deposits (B15)
<input type="checkbox"/>	Water Marks (B1)	<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)
<input type="checkbox"/>	Sediment Deposits (B2)	<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)
<input type="checkbox"/>	Drift Deposits (B3)	<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/>	Algal Mat or Crust (B4)	<input type="checkbox"/>	Presence of Reduced Iron (C4)
<input type="checkbox"/>	Iron Deposits (B5)	<input type="checkbox"/>	Recent Iron Reduction in Tilled Soil (C6)
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/>	Thin Muck Surface (C7)
<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/>	Other (Explain in Remarks)
		<input checked="" type="checkbox"/>	Surface Soil Cracks (B6)
		<input type="checkbox"/>	Drainage Patterns (B10)
		<input type="checkbox"/>	Moss Tim Lines (B6)
		<input type="checkbox"/>	Dry-Season Water Table (C2)
		<input type="checkbox"/>	Crayfish Burrows (C8)
		<input type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)
		<input type="checkbox"/>	Stunted or Stressed Plants (D1)
		<input checked="" type="checkbox"/>	Geomorphic Position (D2)
		<input type="checkbox"/>	Shallow Aquitard (D3)
		<input type="checkbox"/>	Microtopographic Relief (D4)
		<input checked="" type="checkbox"/>	FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No X Depth (inches) **Wetland Hydrology Present?**
 Water Table Present? Yes X No Depth (inches) 11 **Yes X No**
 Saturation Present? Yes X No Depth (inches) 0

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
 Topographic maps, aerial imagery, WWI data, WDNR Wetland Indicators data.

Remarks:
 The criterion for wetland hydrology is met. Based on WETS analysis, antecedent hydrologic conditions are within a normal range.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

VEGETATION					Sampling Point: DP01																																			
<u>Tree Stratum</u> Plot size: 30'		Absolute % Cover	Dominant Species	Indicator Status	<p align="center">Dominance Test Worksheet</p> <p>Number of dominant species that are OBL, FACW, or FAC: <u>5</u> (A)</p> <p>Total number of dominant species across all strata: <u>5</u> (B)</p> <p>Percent of dominant species that are OBL, FACW, or FAC: <u>100%</u> (A/B)</p> <p>Prevalence Index Worksheet:</p> <p>Total % cover of:</p> <table style="width:100%; border:none;"> <tr> <td>OBL species</td> <td align="right"><u>60</u></td> <td>x</td> <td><u>1</u></td> <td align="right"><u>60</u></td> </tr> <tr> <td>FACW species</td> <td align="right"><u>20</u></td> <td>x</td> <td><u>2</u></td> <td align="right"><u>40</u></td> </tr> <tr> <td>FAC species</td> <td align="right"><u>30</u></td> <td>x</td> <td><u>3</u></td> <td align="right"><u>90</u></td> </tr> <tr> <td>FACU species</td> <td align="right"><u>0</u></td> <td>x</td> <td><u>4</u></td> <td align="right"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td align="right"><u>0</u></td> <td>x</td> <td><u>5</u></td> <td align="right"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="right"><u>110</u></td> <td></td> <td></td> <td align="right"><u>190</u> (B)</td> </tr> <tr> <td colspan="4"></td> <td align="right">Prevalence Index: <u>1.7</u> (B/A)</td> </tr> </table>	OBL species	<u>60</u>	x	<u>1</u>	<u>60</u>	FACW species	<u>20</u>	x	<u>2</u>	<u>40</u>	FAC species	<u>30</u>	x	<u>3</u>	<u>90</u>	FACU species	<u>0</u>	x	<u>4</u>	<u>0</u>	UPL species	<u>0</u>	x	<u>5</u>	<u>0</u>	Column Totals:	<u>110</u>			<u>190</u> (B)					Prevalence Index: <u>1.7</u> (B/A)
OBL species	<u>60</u>	x	<u>1</u>	<u>60</u>																																				
FACW species	<u>20</u>	x	<u>2</u>	<u>40</u>																																				
FAC species	<u>30</u>	x	<u>3</u>	<u>90</u>																																				
FACU species	<u>0</u>	x	<u>4</u>	<u>0</u>																																				
UPL species	<u>0</u>	x	<u>5</u>	<u>0</u>																																				
Column Totals:	<u>110</u>			<u>190</u> (B)																																				
				Prevalence Index: <u>1.7</u> (B/A)																																				
50%= 0.0% 20%= 0.0%		<u>0</u>	Total Cover																																					
<u>Shrub Stratum</u> Plot size: 15'																																								
1.	<u>Rhamnus cathartica</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>																																				
2.																																								
3.																																								
4.																																								
5.																																								
6.																																								
7.																																								
50%= 5.0% 20%= 2.0%		<u>10</u>	Total Cover																																					
<u>Herb Stratum</u> Plot size: 5'																																								
1.	<u>Scirpus cyperinus</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>																																				
2.	<u>Phalaris arundinacea</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>																																				
3.	<u>Persicaria maculosa</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>																																				
4.	<u>Persicaria punctata</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>																																				
5.	<u>Lycopus americanus</u>	<u>10</u>	<u>N</u>	<u>OBL</u>																																				
6.																																								
7.																																								
8.																																								
9.																																								
10.																																								
11.																																								
12.																																								
50%= 50.0% 20%= 20.0%		<u>100</u>	Total Cover																																					
<u>Woody Vine Stratum</u> Plot size: 30'																																								
1.																																								
2.																																								
3.																																								
4.																																								
50%= 0.0% 20%= 0.0%		<u>0</u>	Total Cover																																					

Hydrophytic Vegetation Indicators:

Rapid Test for Hydrophytic Vegetation

Dominance Test is >50%

Prevalence Index is ≤3.0*

Morphological Adaptations*

Problematic Hydrophytic Vegetation*

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

Definitions of Vegetation Strata:

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

Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1M) 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?

Yes No

Remarks: (Include photo numbers here or on a separate sheet.)
 The criterion for hydrophytic vegetation is met.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

SOIL	Sampling Point: DP01
-------------	--

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

Depth (inches)	Matrix		Redox Features		Type*	Loc**	Texture	Remarks
	Color	%	Color	%				
0-5	10YR 2/1	100					Sandy Loam	Mucky.
5-20	10YR 2/1	100					Sandy Loam	Prominent redox concentrations.
20-24	10YR 4/6	100					Loamy Sand	Distinct redox concentrations.

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

Hydric Soil Indicators:	Indicators for Problematic Soils
Histosol (A1)	Stripped Matrix (S6)
Histic Epipedon (A2)	2 cm Muck (A10) (LRR K, L, MLRA 149B)
Black Histic (A3)	Coast Prairie Redox (A16)
Hydrogen Sulfide (A4)	5 cm Mucky Peat (S3) (LRR K, L, R)
Stratified Layers (A5)	Dark Surface (S7) (LRR K, L, M)
Depleted Below Dark Surface (A11)	Polyvalve Below Surface (S8) (LRR R, MLRA 149B)
Thick Dark Surface (A12)	Thin Dark Surface (S9)
X Sandy Mucky Mineral (S1)	Polyvalve Below Surface (S8) (LRR K, L)
Sandy Gleyed Matrix (S4)	Loamy Mucky Mineral (F1)
Sandy Redox (S5)	Thin Dark Surface (S9) (LRR K, L)
	Loamy Gleyed Matrix (F2)
	Iron-Manganese Masses (F12) (LRR K, L, R)
	Depleted Matrix (F3)
	Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
	Redox Dark Surface (F6)
	Red Parent Material (F21)
	Depleted Dark Surface (F7)
	Very Shallow Dark Surface (TF12)
	Redox Depressions (F8)
	Other (Explain in Remarks)

<p>Restrictive Layer (if observed)</p> <p>Type: None</p> <p>Depth (inches): </p>	<p>Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
---	--

Remarks:
The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

Site: Fire Technology Center City/County: Marinette County Sampling Date: 8/27/2019
 Applicant/Owner: Tyco Fire Products, L.P. State: WI Sampling Point: DP02
 Investigator(s): Ryan Bombeck, Michael Meisenger Section, Township, Range: Section 13, Township 30N, Range 23E
 Landform (hillslope,terrace,etc.): Summit Slope Local relief (concave, convex, none): Convex Slope (%): 2%
 Subregion(LRR or MLRA): LRR K - Northcentral Forests Lat. 45.074700° N Long. 87.643122° W Datum: WGS 84
 Soil Map Unit Name: Wainola loamy fine sand, 0 to 3 percent slopes WWI Classification: None
 Are climatic/hydrologic conditions on the site typical for time of year? Yes X No (If no, explain in the Remarks)
 Are Vegetation Soil or Hydrology significantly disturbed?
 Are Vegetation Soil or Hydrology naturally problematic?
 Are Normal Circumstances Present? Yes X No (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?
Hydric Soil Present? Yes <u> </u> No <u>X</u>	Yes <u> </u> No <u>X</u>
Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	If yes, optional Wetland Site ID: <u> </u>

Remarks:
 Photo 02 in Appendix B. Upland data point recorded at the boundary of W01. Based on the absence of all three parameters, this area is an upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
Surface Water (A1)	Water Stained Leaves (B9)	Surface Soil Cracks (B6)	
High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)	
Saturation (A3)	Marl Deposits (B15)	Moss Tim Lines (B6)	
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Dry-Season Water Table (C2)	
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3)	Crayfish Burrows (C8)	
Drift Deposits (B3)		Saturation Visible on Aerial Imagery (C9)	
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)	
Iron Deposits (B5)	Recent Iron Reduction in Tilled Soil (C6)	Geomorphic Position (D2)	
Inundation Visible on Aerial Imagery (B7)		Shallow Aquitard (D3)	
Sparsely Vegetated Concave Surface (B8)	Thin Muck Surface (C7)	Microtopographic Relief (D4)	
	Other (Explain in Remarks)	FAC-Neutral Test (D5)	

Field Observations:

Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches) <u> </u>	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water Table Present? Yes <u> </u> No <u>X</u> Depth (inches) <u> </u>	
Saturation Present? Yes <u>X</u> No <u> </u> Depth (inches) <u>18</u>	

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
 Topographic maps, aerial imagery, WWI data, WDNR Wetland Indicators data.

Remarks:
 The criterion for wetland hydrology is not met. Based on WETS analysis, antecedent hydrologic conditions are within a normal range.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

VEGETATION					Sampling Point: <u>DP02</u>																																			
<u>Tree Stratum</u> Plot size: <u>30'</u>		Absolute % Cover	Dominant Species	Indicator Status	<p align="center">Dominance Test Worksheet</p> <p>Number of dominant species that are OBL, FACW, or FAC: <u>0</u> (A)</p> <p>Total number of dominant species across all strata: <u>1</u> (B)</p> <p>Percent of dominant species that are OBL, FACW, or FAC: <u>0%</u> (A/B)</p> <p>Prevalence Index Worksheet:</p> <p>Total % cover of:</p> <table style="width:100%; border:none;"> <tr> <td>OBL species</td><td align="right"><u>0</u></td><td>x</td><td>1</td><td align="right"><u>0</u></td> </tr> <tr> <td>FACW species</td><td align="right"><u>4</u></td><td>x</td><td>2</td><td align="right"><u>8</u></td> </tr> <tr> <td>FAC species</td><td align="right"><u>2</u></td><td>x</td><td>3</td><td align="right"><u>6</u></td> </tr> <tr> <td>FACU species</td><td align="right"><u>100</u></td><td>x</td><td>4</td><td align="right"><u>400</u></td> </tr> <tr> <td>UPL species</td><td align="right"><u>0</u></td><td>x</td><td>5</td><td align="right"><u>0</u></td> </tr> <tr> <td>Column Totals:</td><td align="right"><u>106</u></td><td></td><td>(A)</td><td align="right"><u>414</u> (B)</td> </tr> <tr> <td colspan="4"></td> <td align="right">Prevalence Index: <u>3.9</u> (B/A)</td> </tr> </table>	OBL species	<u>0</u>	x	1	<u>0</u>	FACW species	<u>4</u>	x	2	<u>8</u>	FAC species	<u>2</u>	x	3	<u>6</u>	FACU species	<u>100</u>	x	4	<u>400</u>	UPL species	<u>0</u>	x	5	<u>0</u>	Column Totals:	<u>106</u>		(A)	<u>414</u> (B)					Prevalence Index: <u>3.9</u> (B/A)
OBL species	<u>0</u>	x	1	<u>0</u>																																				
FACW species	<u>4</u>	x	2	<u>8</u>																																				
FAC species	<u>2</u>	x	3	<u>6</u>																																				
FACU species	<u>100</u>	x	4	<u>400</u>																																				
UPL species	<u>0</u>	x	5	<u>0</u>																																				
Column Totals:	<u>106</u>		(A)	<u>414</u> (B)																																				
				Prevalence Index: <u>3.9</u> (B/A)																																				
1. _____	_____	_____	_____	_____																																				
2. _____	_____	_____	_____	_____																																				
3. _____	_____	_____	_____	_____																																				
4. _____	_____	_____	_____	_____																																				
5. _____	_____	_____	_____	_____																																				
6. _____	_____	_____	_____	_____																																				
7. _____	_____	_____	_____	_____																																				
50%= 0.0%	20%= 0.0%	<u>0</u>	Total Cover																																					
<u>Shrub Stratum</u> Plot size: <u>15'</u>																																								
1. <u>Rhamnus cathartica</u>	<u>2</u>	<u>N</u>	<u>FAC</u>																																					
2. _____	_____	_____	_____																																					
3. _____	_____	_____	_____																																					
4. _____	_____	_____	_____																																					
5. _____	_____	_____	_____																																					
6. _____	_____	_____	_____																																					
7. _____	_____	_____	_____																																					
50%= 1.0%	20%= 0.4%	<u>2</u>	Total Cover																																					
<u>Herb Stratum</u> Plot size: <u>5'</u>																																								
1. <u>Solidago canadensis</u>	<u>95</u>	<u>Y</u>	<u>FACU</u>																																					
2. <u>Achillea millefolium</u>	<u>5</u>	<u>N</u>	<u>FACU</u>																																					
3. <u>Phragmites australis</u>	<u>2</u>	<u>N</u>	<u>FACW</u>																																					
4. <u>Symphytotrichum novae-angliae</u>	<u>2</u>	<u>N</u>	<u>FACW</u>																																					
5. _____	_____	_____	_____																																					
6. _____	_____	_____	_____																																					
7. _____	_____	_____	_____																																					
8. _____	_____	_____	_____																																					
9. _____	_____	_____	_____																																					
10. _____	_____	_____	_____																																					
11. _____	_____	_____	_____																																					
12. _____	_____	_____	_____																																					
50%= 52.0%	20%= 20.8%	<u>104</u>	Total Cover																																					
<u>Woody Vine Stratum</u> Plot size: <u>30'</u>																																								
1. _____	_____	_____	_____																																					
2. _____	_____	_____	_____																																					
3. _____	_____	_____	_____																																					
4. _____	_____	_____	_____																																					
50%= 0.0%	20%= 0.0%	<u>0</u>	Total Cover																																					

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤3.0*

_____ Morphological Adaptations*

_____ Problematic Hydrophytic Vegetation*

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

Definitions of Vegetation Strata:

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

Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1M) 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?

Yes _____ No _____ X _____

Remarks: (Include photo numbers here or on a separate sheet.)
 The criterion for hydrophytic vegetation is not met.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

SOIL	Sampling Point: DP02
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Profile Description: (Describe to depth needed to document the indicator or confirm absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type*	Loc**	Texture	Remarks
	Color	%	Color	%				
0-2	10YR 2/2	100					Sandy Loam	
2-20	10YR 3/1	80					Loamy Sand	Mixed matrix.
	10YR 4/6	20						

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

Hydric Soil Indicators:	Indicators for Problematic Soils
Histosol (A1)	Stripped Matrix (S6)
Histic Epipedon (A2)	2 cm Muck (A10) (LRR K, L, MLRA 149B)
Black Histic (A3)	Coast Prairie Redox (A16)
Hydrogen Sulfide (A4)	5 cm Mucky Peat (S3) (LRR K, L, R)
Stratified Layers (A5)	Dark Surface (S7) (LRR K, L, M)
Depleted Below Dark Surface (A11)	Polyvalve Below Surface (S8) (LRR R, MLRA 149B)
Thick Dark Surface (A12)	Thin Dark Surface (S9)
Sandy Mucky Mineral (S1)	Loamy Mucky Mineral (F1)
Sandy Gleyed Matrix (S4)	Thin Dark Surface (S9) (LRR K, L)
Sandy Redox (S5)	Loamy Gleyed Matrix (F2)
	Iron-Manganese Masses (F12) (LRR K, L, R)
	Depleted Matrix (F3)
	Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
	Redox Dark Surface (F6)
	Red Parent Material (F21)
	Depleted Dark Surface (F7)
	Very Shallow Dark Surface (TF12)
	Redox Depressions (F8)
	Other (Explain in Remarks)

<p>Restrictive Layer (if observed)</p> <p>Type: None</p> <p>Depth (inches): </p>	<p>Hydric Soil Present? Yes No X</p>
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Remarks:
The criterion for hydric soil is not met.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

Site: Fire Technology Center City/County: Marinette County Sampling Date: 8/27/2019
 Applicant/Owner: Tyco Fire Products, L.P. State: WI Sampling Point: DP03
 Investigator(s): Ryan Bombeck, Michael Meisenger Section, Township, Range: Section 13, Township 30N, Range 23E
 Landform (hillslope,terrace,etc.): Summit Slope Local relief (concave, convex, none): Convex Slope (%): 2%
 Subregion(LRR or MLRA): LRR K - Northcentral Forests Lat. 45.075826° N Long. 87.641457° W Datum: WGS 84
 Soil Map Unit Name: Wainola loamy fine sand, 0 to 3 percent slopes WWI Classification: None
 Are climatic/hydrologic conditions on the site typical for time of year? Yes X No (If no, explain in the Remarks)
 Are Vegetation Soil or Hydrology significantly disturbed?
 Are Vegetation Soil or Hydrology naturally problematic?
 Are Normal Circumstances Present? Yes X No (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?
Hydric Soil Present? Yes <u> </u> No <u>X</u>	Yes <u> </u> No <u>X</u>
Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	If yes, optional Wetland Site ID: <u> </u>

Remarks:
 Photo 03 in Appendix B. Upland data point recorded at the boundary of W02. Based on the absence of all three parameters, this area is an upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
Surface Water (A1)	Water Stained Leaves (B9)	Surface Soil Cracks (B6)	
High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)	
Saturation (A3)	Marl Deposits (B15)	Moss Tim Lines (B6)	
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Dry-Season Water Table (C2)	
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3)	Crayfish Burrows (C8)	
Drift Deposits (B3)		Saturation Visible on Aerial Imagery (C9)	
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)	
Iron Deposits (B5)	Recent Iron Reduction in Tilled Soil (C6)	Geomorphic Position (D2)	
Inundation Visible on Aerial Imagery (B7)		Shallow Aquitard (D3)	
Sparsely Vegetated Concave Surface (B8)	Thin Muck Surface (C7)	Microtopographic Relief (D4)	
	Other (Explain in Remarks)	FAC-Neutral Test (D5)	

Field Observations:	Wetland Hydrology Present?
Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches) <u> </u>	Yes <u> </u> No <u>X</u>
Water Table Present? Yes <u> </u> No <u>X</u> Depth (inches) <u> </u>	
Saturation Present? Yes <u> </u> No <u>X</u> Depth (inches) <u> </u>	

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
 Topographic maps, aerial imagery, WWI data, WDNR Wetland Indicators data.

Remarks:
 The criterion for wetland hydrology is not met. Based on WETS analysis, antecedent hydrologic conditions are within a normal range.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

VEGETATION					Sampling Point: DP03
<u>Tree Stratum</u>	Plot size: <u>30'</u>	Absolute % Cover	Dominant Species	Indicator Status	<div style="text-align: right;">Dominance Test Worksheet</div> Number of dominant species that are OBL, FACW, or FAC: <u>0</u> (A) Total number of dominant species across all strata: <u>2</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>0%</u> (A/B) <div style="text-align: right;">Prevalence Index Worksheet:</div> Total % cover of: OBL species <u>0</u> x 1 <u>0</u> FACW species <u>15</u> x 2 <u>30</u> FAC species <u>0</u> x 3 <u>0</u> FACU species <u>65</u> x 4 <u>260</u> UPL species <u>26</u> x 5 <u>130</u> Column Totals: <u>106</u> (A) <u>420</u> (B) Prevalence Index: <u>4.0</u> (B/A)
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
50%= 0.0%	20%= 0.0%	<u>0</u>	Total Cover		
<u>Shrub Stratum</u>	Plot size: <u>15'</u>				
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
50%= 0.0%	20%= 0.0%	<u>0</u>	Total Cover		
<u>Herb Stratum</u>	Plot size: <u>5'</u>				<div style="text-align: right;">Definitions of Vegetation Strata:</div> Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1M) 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.
1. <u>Solidago canadensis</u>		30	Y	FACU	
2. <u>Poa pratensis</u>		30	Y	FACU	
3. <u>Solidago gigantea</u>		15	N	FACW	
4. <u>Asclepias syriaca</u>		10	N	UPL	
5. <u>Comptonia peregrina</u>		10	N	UPL	
6. <u>Achillea millefolium</u>		5	N	FACU	
7. <u>Daucus carota</u>		5	N	UPL	
8. <u>Centaurea stoebe</u>		1	N	UPL	
9. _____					
10. _____					
11. _____					
12. _____					
50%= 53.0%	20%= 21.2%	<u>106</u>	Total Cover		
<u>Woody Vine Stratum</u>	Plot size: <u>30'</u>				<div style="text-align: right;">Hydrophytic Vegetaion Present?</div> Yes _____ No _____ X _____
1. _____					
2. _____					
3. _____					
4. _____					
50%= 0.0%	20%= 0.0%	<u>0</u>	Total Cover		

Remarks: (Include photo numbers here or on a separate sheet.)
 The criterion for hydrophytic vegetation is not met.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

SOIL

Sampling Point: DP03

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

Depth (inches)	Matrix		Redox Features		Type*	Loc**	Texture	Remarks
	Color	%	Color	%				
0-4	10YR 3/3	100					Sandy Loam	
4-7	10YR 4/6	100					Loamy Sand	
7-16	10YR 4/2	50					Loamy Sand	Mixed matrix.
	10YR 4/6	50					Loamy Sand	
16-20	10YR 2/1	70	10YR 4/2	30	D	M	Silt Loam	

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

Hydric Soil Indicators:		Indicators for Problematic Soils	
Histosol (A1)		Stripped Matrix (S6)	2 cm Muck (A10) (LRR K, L, MLRA 149B)
Histic Epipedon (A2)		Dark Surface (S7)(LRR R,MLRA 149B)	Coast Prairie Redox (A16)
Black Histic (A3)		Polyvalve Below Surface (S8) (LRR R, MLRA 149B)	5 cm Mucky Peat (S3) (LRR K, L, R)
Hydrogen Sulfide (A4)			Dark Surface (S7) (LRR K, L, M)
Stratified Layers (A5)		Thin Dark Surface (S9)	Polyvalve Below Surface (S8) (LRR K, L)
Depleted Below Dark Surface (A11)		Loamy Mucky Mineral (F1)	Thin Dark Surface (S9) (LRR K, L)
Thick Dark Surface (A12)		Loamy Gleyed Matrix (F2)	Iron-Manganese Masses (F12) (LRR K, L, R)
Sandy Mucky Mineral (S1)		Depleted Matrix (F3)	Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
Sandy Gleyed Matrix (S4)		Redox Dark Surface (F6)	Red Parent Material (F21)
Sandy Redox (S5)		Depleted Dark Surface (F7)	Very Shallow Dark Surface (TF12)
		Redox Depressions (F8)	Other (Explain in Remarks)

Restrictive Layer (if observed)

Type: None
 Depth (inches):

Hydric Soil Present? Yes **No** **X**

Remarks:
 The criterion for hydric soil is not met.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

Site: Fire Technology Center City/County: Marinette County Sampling Date: 8/27/2019
 Applicant/Owner: Tyco Fire Products, L.P. State: WI Sampling Point: DP04
 Investigator(s): Ryan Bombeck, Michael Meisenger Section, Township, Range: Section 13, Township 30N, Range 23E
 Landform (hillslope,terrace,etc.): Toe Slope Local relief (concave, convex, none): Concave Slope (%): 0%
 Subregion(LRR or MLRA): LRR K - Northcentral Forests Lat. 45.075813° N Long. 87.641419° W Datum: WGS 84
 Soil Map Unit Name: Wainola loamy fine sand, 0 to 3 percent slopes WWI Classification: None
 Are climatic/hydrologic conditions on the site typical for time of year? Yes X No (If no, explain in the Remarks)
 Are Vegetation Soil or Hydrology significantly disturbed?
 Are Vegetation Soil or Hydrology naturally problematic?
 Are Normal Circumstances Present? Yes X No (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes X No **Is the Sampled Area within a Wetland?**
 Hydric Soil Present? Yes X No **Yes X No**
 Wetland Hydrology Present? Yes X No If yes, optional Wetland Site ID: W02

Remarks:
 Photo 04 in Appendix B. Wetland data point recorded at the boundary of W02. Based on the presence of all three parameters, this area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
<input type="checkbox"/>	Surface Water (A1)	<input type="checkbox"/>	Water Stained Leaves (B9)
X	High Water Table (A2)	<input type="checkbox"/>	Aquatic Fauna (B13)
X	Saturation (A3)	<input type="checkbox"/>	Marl Deposits (B15)
<input type="checkbox"/>	Water Marks (B1)	<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)
<input type="checkbox"/>	Sediment Deposits (B2)	<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)
<input type="checkbox"/>	Drift Deposits (B3)	<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/>	Algal Mat or Crust (B4)	<input type="checkbox"/>	Presence of Reduced Iron (C4)
<input type="checkbox"/>	Iron Deposits (B5)	<input type="checkbox"/>	Recent Iron Reduction in Tilled Soil (C6)
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/>	Thin Muck Surface (C7)
<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/>	Other (Explain in Remarks)
<input type="checkbox"/>		X	Surface Soil Cracks (B6)
		<input type="checkbox"/>	Drainage Patterns (B10)
		<input type="checkbox"/>	Moss Tim Lines (B6)
		<input type="checkbox"/>	Dry-Season Water Table (C2)
		<input type="checkbox"/>	Crayfish Burrows (C8)
		<input type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)
		<input type="checkbox"/>	Stunted or Stressed Plants (D1)
		X	Geomorphic Position (D2)
		<input type="checkbox"/>	Shallow Aquitard (D3)
		<input type="checkbox"/>	Microtopographic Relief (D4)
		X	FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No X Depth (inches) **Wetland Hydrology Present?**
 Water Table Present? Yes X No Depth (inches) 4 **Yes X No**
 Saturation Present? Yes X No Depth (inches) 0

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
 Topographic maps, aerial imagery, WWI data, WDNR Wetland Indicators data.

Remarks:
 The criterion for wetland hydrology is met. Based on WETS analysis, antecedent hydrologic conditions are within a normal range.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

VEGETATION

Sampling Point: DP04

Tree Stratum	Plot size: <u>30'</u>	Absolute % Cover	Dominant Species	Indicator Status
1.	_____	_____	_____	_____
2.	_____	_____	_____	_____
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____
6.	_____	_____	_____	_____
7.	_____	_____	_____	_____

Dominance Test Worksheet			
Number of dominant species that are OBL, FACW, or FAC:	<u>2</u>	(A)	
Total number of dominant species across all strata:	<u>2</u>	(B)	
Percent of dominant species that are OBL, FACW, or FAC:	<u>100%</u>	(A/B)	

50%= 0.0% 20%= 0.0% 0 Total Cover

Prevalence Index Worksheet:			
Total % cover of:			
OBL species	<u>90</u>	x	<u>1</u> <u>90</u>
FACW species	<u>0</u>	x	<u>2</u> <u>0</u>
FAC species	<u>10</u>	x	<u>3</u> <u>30</u>
FACU species	<u>0</u>	x	<u>4</u> <u>0</u>
UPL species	<u>0</u>	x	<u>5</u> <u>0</u>
Column Totals:	<u>100</u>	(A)	<u>120</u> (B)
Prevalence Index:	<u>1.2</u>	(B/A)	

Shrub Stratum	Plot size: <u>15'</u>	Absolute % Cover	Dominant Species	Indicator Status
1.	<u>Rhamnus cathartica</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>
2.	_____	_____	_____	_____
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____
6.	_____	_____	_____	_____
7.	_____	_____	_____	_____

50%= 2.5% 20%= 1.0% 5 Total Cover

Hydrophytic Vegetation Indicators:	
<input type="checkbox"/>	Rapid Test for Hydrophytic Vegetation
<input checked="" type="checkbox"/>	Dominance Test is >50%
<input checked="" type="checkbox"/>	Prevalence Index is ≤3.0*
<input type="checkbox"/>	Morphological Adaptations*
<input type="checkbox"/>	Problematic Hydrophytic Vegetation*

Herb Stratum	Plot size: <u>5'</u>	Absolute % Cover	Dominant Species	Indicator Status
1.	<u>Scirpus cyperinus</u>	<u>85</u>	<u>Y</u>	<u>OBL</u>
2.	<u>Rhamnus cathartica</u>	<u>5</u>	<u>N</u>	<u>FAC</u>
3.	<u>Lycopus americanus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____
6.	_____	_____	_____	_____
7.	_____	_____	_____	_____
8.	_____	_____	_____	_____
9.	_____	_____	_____	_____
10.	_____	_____	_____	_____
11.	_____	_____	_____	_____
12.	_____	_____	_____	_____

50%= 47.5% 20%= 19.0% 95 Total Cover

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

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height
Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1M) 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.

Woody Vine Stratum	Plot size: <u>30'</u>	Absolute % Cover	Dominant Species	Indicator Status
1.	_____	_____	_____	_____
2.	_____	_____	_____	_____
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____

50%= 0.0% 20%= 0.0% 0 Total Cover

Hydrophytic Vegetation Present?
Yes <u>X</u> No _____

Remarks: (Include photo numbers here or on a separate sheet.)
The criterion for hydrophytic vegetation is met.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

SOIL	Sampling Point:	DP04
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Profile Description: (Describe to depth needed to document the indicator or confirm absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type*	Loc**	Texture	Remarks
	Color	%	Color	%				
0-5	10YR 2/1	80	10YR 4/6	5	C	M	Sandy Loam	Prominent redox concentrations.
			10YR 4/1	15	D	M		
5-12	10YR 2/1	60	10YR 4/6	2	C	M	Silt Loam	Prominent redox concentrations.
			10YR 4/2	38	D	M		
12-20	10YR 4/6	100					Loamy Sand	

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

Hydric Soil Indicators:			Indicators for Problematic Soils	
Histosol (A1)		Stripped Matrix (S6)		2 cm Muck (A10) (LRR K, L, MLRA 149B)
Histic Epipedon (A2)		Dark Surface (S7)(LRR R,MLRA 149B)		Coast Prairie Redox (A16)
Black Histic (A3)		Polyvalve Below Surface (S8) (LRR R, MLRA 149B)		5 cm Mucky Peat (S3) (LRR K, L, R)
Hydrogen Sulfide (A4)				Dark Surface (S7) (LRR K, L, M)
Stratified Layers (A5)		Thin Dark Surface (S9)		Polyvalve Below Surface (S8) (LRR K, L)
Depleted Below Dark Surface (A11)		Loamy Mucky Mineral (F1)		Thin Dark Surface (S9) (LRR K, L)
Thick Dark Surface (A12)		Loamy Gleyed Matrix (F2)		Iron-Manganese Masses (F12) (LRR K, L, R)
Sandy Mucky Mineral (S1)		Depleted Matrix (F3)		Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
Sandy Gleyed Matrix (S4)	X	Redox Dark Surface (F6)		Red Parent Material (F21)
Sandy Redox (S5)		Depleted Dark Surface (F7)		Very Shallow Dark Surface (TF12)
		Redox Depressions (F8)		Other (Explain in Remarks)

<p>Restrictive Layer (if observed)</p> <p>Type: _____ None _____</p> <p>Depth (inches): _____</p>	<p>Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____</p>
--	--

Remarks:
The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

Site: Fire Technology Center City/County: Marinette County Sampling Date: 8/27/2019
 Applicant/Owner: Tyco Fire Products, L.P. State: WI Sampling Point: DP05
 Investigator(s): Ryan Bombeck, Michael Meisenger Section, Township, Range: Section 13, Township 30N, Range 23E
 Landform (hillslope,terrace,etc.): Toe Slope Local relief (concave, convex, none): Concave Slope (%): 0%
 Subregion(LRR or MLRA): LRR K - Northcentral Forests Lat. 45.076196° N Long. 87.640585° W Datum: WGS 84
 Soil Map Unit Name: Wainola loamy fine sand, 0 to 3 percent slopes WWI Classification: None
 Are climatic/hydrologic conditions on the site typical for time of year? Yes X No (If no, explain in the Remarks)
 Are Vegetation Soil or Hydrology significantly disturbed?
 Are Vegetation Soil or Hydrology naturally problematic?
 Are Normal Circumstances Present? Yes X No (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes X No **Is the Sampled Area within a Wetland?**
 Hydric Soil Present? Yes X No **Yes X No**
 Wetland Hydrology Present? Yes X No If yes, optional Wetland Site ID: W03

Remarks:
 Photo 05 in Appendix B. Wetland data point recorded at the boundary of W03. Based on the presence of all three parameters, this area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
	Surface Water (A1)		Water Stained Leaves (B9)
X	High Water Table (A2)		Aquatic Fauna (B13)
X	Saturation (A3)		Marl Deposits (B15)
	Water Marks (B1)		Hydrogen Sulfide Odor (C1)
	Sediment Deposits (B2)		Hydrogen Sulfide Odor (C1)
	Drift Deposits (B3)		Oxidized Rhizospheres on Living Roots (C3)
	Algal Mat or Crust (B4)		Presence of Reduced Iron (C4)
	Iron Deposits (B5)		Recent Iron Reduction in Tilled Soil (C6)
	Inundation Visible on Aerial Imagery (B7)		Thin Muck Surface (C7)
	Sparsely Vegetated Concave Surface (B8)		Other (Explain in Remarks)
		X	Surface Soil Cracks (B6)
			Drainage Patterns (B10)
			Moss Tim Lines (B6)
			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)
			Microtopographic Relief (D4)
		X	FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No X Depth (inches) **Wetland Hydrology Present?**
 Water Table Present? Yes X No Depth (inches) 9 **Yes X No**
 Saturation Present? Yes X No Depth (inches) 4

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
 Topographic maps, aerial imagery, WWI data, WDNR Wetland Indicators data.

Remarks:
 The criterion for wetland hydrology is met. Based on WETS analysis, antecedent hydrologic conditions are within a normal range.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

VEGETATION					Sampling Point: DP05
<u>Tree Stratum</u>	Plot size: <u>30'</u>	Absolute % Cover	Dominant Species	Indicator Status	<div style="text-align: right; font-weight: bold; margin-bottom: 10px;">Dominance Test Worksheet</div> Number of dominant species that are OBL, FACW, or FAC: <u>3</u> (A) Total number of dominant species across all strata: <u>3</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>100%</u> (A/B) <div style="font-weight: bold; margin-top: 10px;">Prevalence Index Worksheet:</div> Total % cover of: _____ OBL species <u>65</u> x 1 <u>65</u> FACW species <u>31</u> x 2 <u>62</u> FAC species <u>10</u> x 3 <u>30</u> FACU species <u>0</u> x 4 <u>0</u> UPL species <u>0</u> x 5 <u>0</u> Column Totals: <u>106</u> (A) <u>157</u> (B) Prevalence Index: <u>1.5</u> (B/A)
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
50%= 0.0%	20%= 0.0%	<u>0</u>	Total Cover		
<u>Shrub Stratum</u>	Plot size: <u>15'</u>				
1. <u>Rhamnus cathartica</u>		<u>5</u>	<u>Y</u>	<u>FAC</u>	
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
50%= 2.5%	20%= 1.0%	<u>5</u>	Total Cover		
<u>Herb Stratum</u>	Plot size: <u>5'</u>				
1. <u>Scirpus cyperinus</u>		<u>50</u>	<u>Y</u>	<u>OBL</u>	<div style="font-weight: bold; margin-bottom: 10px;">Hydrophytic Vegetation Indicators:</div> <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0* Morphological Adaptations* Problematic Hydrophytic Vegetation* * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2. <u>Phalaris arundinacea</u>		<u>30</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Lycopus americanus</u>		<u>15</u>	<u>N</u>	<u>OBL</u>	
4. <u>Rhamnus cathartica</u>		<u>5</u>	<u>N</u>	<u>FAC</u>	
5. <u>Solidago gigantea</u>		<u>1</u>	<u>N</u>	<u>FACW</u>	
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
12. _____					
50%= 50.5%	20%= 20.2%	<u>101</u>	Total Cover		
<u>Woody Vine Stratum</u>	Plot size: <u>30'</u>				
1. _____					<div style="font-weight: bold; margin-bottom: 10px;">Definitions of Vegetation Strata:</div> Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1M) 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.
2. _____					
3. _____					
4. _____					
5. _____					
50%= 0.0%	20%= 0.0%	<u>0</u>	Total Cover		
Remarks: (Include photo numbers here or on a separate sheet.) The criterion for hydrophytic vegetation is met.					<div style="font-weight: bold; margin-bottom: 10px;">Hydrophytic Vegetaion Present?</div> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

SOIL	Sampling Point: DP05
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Profile Description: (Describe to depth needed to document the indicator or confirm absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type*	Loc**	Texture	Remarks
	Color	%	Color	%				
0-4	10YR 2/2	98	10YR 4/6	2	C	M	Loamy Sand	Prominent redox concentrations.
4-12	10YR 4/1	80					Loamy Sand	Mixed matrix.
	10YR 2/1	20						
12-20	10YR 3/6	100					Loamy Sand	

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

Hydric Soil Indicators:	Indicators for Problematic Soils
Histosol (A1)	Stripped Matrix (S6)
Histic Epipedon (A2)	Dark Surface (S7)(LRR R,MLRA 149B)
Black Histic (A3)	Polyvalve Below Surface (S8) (LRR R, MLRA 149B)
Hydrogen Sulfide (A4)	Thin Dark Surface (S9)
Stratified Layers (A5)	Loamy Mucky Mineral (F1)
Depleted Below Dark Surface (A11)	Loamy Gleyed Matrix (F2)
Thick Dark Surface (A12)	Depleted Matrix (F3)
Sandy Mucky Mineral (S1)	Redox Dark Surface (F6)
Sandy Gleyed Matrix (S4)	Depleted Dark Surface (F7)
X Sandy Redox (S5)	Redox Depressions (F8)
	Other (Explain in Remarks)

<p>Restrictive Layer (if observed)</p> <p>Type: None</p> <p>Depth (inches): </p>	<p>Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
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Remarks:
The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

Site: Fire Technology Center City/County: Marinette County Sampling Date: 8/27/2019
 Applicant/Owner: Tyco Fire Products, L.P. State: WI Sampling Point: DP06
 Investigator(s): Ryan Bombeck, Michael Meisenger Section, Township, Range: Section 13, Township 30N, Range 23E
 Landform (hillslope,terrace,etc.): Back Slope Local relief (concave, convex, none): Convex Slope (%): 2%
 Subregion(LRR or MLRA): LRR K - Northcentral Forests Lat. 45.076168° N Long. 87.640598° W Datum: WGS 84
 Soil Map Unit Name: Wainola loamy fine sand, 0 to 3 percent slopes WWI Classification: None
 Are climatic/hydrologic conditions on the site typical for time of year? Yes X No (If no, explain in the Remarks)
 Are Vegetation Soil or Hydrology significantly disturbed?
 Are Vegetation Soil or Hydrology naturally problematic?
 Are Normal Circumstances Present? Yes X No (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?
Hydric Soil Present? Yes <u> </u> No <u>X</u>	Yes <u> </u> No <u>X</u>
Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	If yes, optional Wetland Site ID: <u> </u>

Remarks:
 Photo 06 in Appendix B. Upland data point recorded at the boundary of W03. Based on the absence of all three parameters, this area is an upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
Surface Water (A1)	Water Stained Leaves (B9)	Surface Soil Cracks (B6)	
High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)	
Saturation (A3)	Marl Deposits (B15)	Moss Tim Lines (B6)	
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Dry-Season Water Table (C2)	
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3)	Crayfish Burrows (C8)	
Drift Deposits (B3)		Saturation Visible on Aerial Imagery (C9)	
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)	
Iron Deposits (B5)	Recent Iron Reduction in Tilled Soil (C6)	Geomorphic Position (D2)	
Inundation Visible on Aerial Imagery (B7)		Shallow Aquitard (D3)	
Sparsely Vegetated Concave Surface (B8)	Thin Muck Surface (C7)	Microtopographic Relief (D4)	
	Other (Explain in Remarks)	FAC-Neutral Test (D5)	

Field Observations:	Wetland Hydrology Present?
Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches) <u> </u>	Yes <u> </u> No <u>X</u>
Water Table Present? Yes <u> </u> No <u>X</u> Depth (inches) <u> </u>	
Saturation Present? Yes <u> </u> No <u>X</u> Depth (inches) <u> </u>	

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
 Topographic maps, aerial imagery, WWI data, WDNR Wetland Indicators data.

Remarks:
 The criterion for wetland hydrology is not met. Based on WETS analysis, antecedent hydrologic conditions are within a normal range.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

VEGETATION					Sampling Point: DP06																																			
<u>Tree Stratum</u>	Plot size: <u>30'</u>	Absolute % Cover	Dominant Species	Indicator Status	<div style="text-align: right; font-weight: bold; margin-bottom: 10px;">Dominance Test Worksheet</div> Number of dominant species that are OBL, FACW, or FAC: <u>1</u> (A) Total number of dominant species across all strata: <u>3</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>33%</u> (A/B) <div style="font-weight: bold; margin-top: 10px;">Prevalence Index Worksheet:</div> Total % cover of: <table style="width: 100%; margin-top: 5px;"> <tr> <td>OBL species</td><td align="right"><u>0</u></td><td>x</td><td><u>1</u></td><td><u>0</u></td> </tr> <tr> <td>FACW species</td><td align="right"><u>5</u></td><td>x</td><td><u>2</u></td><td><u>10</u></td> </tr> <tr> <td>FAC species</td><td align="right"><u>30</u></td><td>x</td><td><u>3</u></td><td><u>90</u></td> </tr> <tr> <td>FACU species</td><td align="right"><u>15</u></td><td>x</td><td><u>4</u></td><td><u>60</u></td> </tr> <tr> <td>UPL species</td><td align="right"><u>105</u></td><td>x</td><td><u>5</u></td><td><u>525</u></td> </tr> <tr> <td>Column Totals:</td><td align="right"><u>155</u></td><td></td><td><u>(A)</u></td><td><u>685</u> (B)</td> </tr> <tr> <td></td><td></td><td></td><td>Prevalence Index:</td><td align="right"><u>4.4</u> (B/A)</td> </tr> </table> <div style="font-weight: bold; margin-top: 10px;">Hydrophytic Vegetation Indicators:</div> <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0* <input type="checkbox"/> Morphological Adaptations* <input type="checkbox"/> Problematic Hydrophytic Vegetation* * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic <div style="font-weight: bold; margin-top: 10px;">Definitions of Vegetation Strata:</div> <div style="margin-top: 5px;"> Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1M) 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. </div> <div style="font-weight: bold; margin-top: 10px;">Hydrophytic Vegetaion Present?</div> <p align="center">Yes <u> </u> No <u> </u> X <u> </u></p>	OBL species	<u>0</u>	x	<u>1</u>	<u>0</u>	FACW species	<u>5</u>	x	<u>2</u>	<u>10</u>	FAC species	<u>30</u>	x	<u>3</u>	<u>90</u>	FACU species	<u>15</u>	x	<u>4</u>	<u>60</u>	UPL species	<u>105</u>	x	<u>5</u>	<u>525</u>	Column Totals:	<u>155</u>		<u>(A)</u>	<u>685</u> (B)				Prevalence Index:	<u>4.4</u> (B/A)
OBL species	<u>0</u>	x	<u>1</u>	<u>0</u>																																				
FACW species	<u>5</u>	x	<u>2</u>	<u>10</u>																																				
FAC species	<u>30</u>	x	<u>3</u>	<u>90</u>																																				
FACU species	<u>15</u>	x	<u>4</u>	<u>60</u>																																				
UPL species	<u>105</u>	x	<u>5</u>	<u>525</u>																																				
Column Totals:	<u>155</u>		<u>(A)</u>	<u>685</u> (B)																																				
			Prevalence Index:	<u>4.4</u> (B/A)																																				
1. <u>Quercus velutina</u>		60	Y	UPL																																				
2. _____																																								
3. _____																																								
4. _____																																								
5. _____																																								
6. _____																																								
7. _____																																								
50%= <u>30.0%</u>	20%= <u>12.0%</u>	<u>60</u>	Total Cover																																					
<u>Shrub Stratum</u>	Plot size: <u>15'</u>																																							
1. _____																																								
2. _____																																								
3. _____																																								
4. _____																																								
5. _____																																								
6. _____																																								
7. _____																																								
50%= <u>0.0%</u>	20%= <u>0.0%</u>	<u>0</u>	Total Cover																																					
<u>Herb Stratum</u>	Plot size: <u>5'</u>																																							
1. <u>Comptonia peregrina</u>		40	Y	UPL																																				
2. <u>Rhamnus cathartica</u>		30	Y	FAC																																				
3. <u>Pteridium aquilinum</u>		10	N	FACU																																				
4. <u>Solidago canadensis</u>		5	N	FACU																																				
5. <u>Solidago gigantea</u>		5	N	FACW																																				
6. <u>Asclepias syriaca</u>		5	N	UPL																																				
7. _____																																								
8. _____																																								
9. _____																																								
10. _____																																								
11. _____																																								
12. _____																																								
50%= <u>47.5%</u>	20%= <u>19.0%</u>	<u>95</u>	Total Cover																																					
<u>Woody Vine Stratum</u>	Plot size: <u>30'</u>																																							
1. _____																																								
2. _____																																								
3. _____																																								
4. _____																																								
50%= <u>0.0%</u>	20%= <u>0.0%</u>	<u>0</u>	Total Cover																																					

Remarks: (Include photo numbers here or on a separate sheet.)
 The criterion for hydrophytic vegetation is not met.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

SOIL	Sampling Point: DP06
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Profile Description: (Describe to depth needed to document the indicator or confirm absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type*	Loc**	Texture	Remarks
	Color	%	Color	%				
0-4	10YR 2/1	100					Sandy Loam	
4-7	10YR 2/1	60	10YR 5/2	40	D	M	Sandy Loam	
7-20	10YR 4/6	100					Loamy Sand	

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

Hydric Soil Indicators:	Indicators for Problematic Soils
Histosol (A1)	Stripped Matrix (S6)
Histic Epipedon (A2)	2 cm Muck (A10) (LRR K, L, MLRA 149B)
Black Histic (A3)	Coast Prairie Redox (A16)
Hydrogen Sulfide (A4)	5 cm Mucky Peat (S3) (LRR K, L, R)
Stratified Layers (A5)	Dark Surface (S7) (LRR K, L, M)
Depleted Below Dark Surface (A11)	Polyvalve Below Surface (S8) (LRR R, MLRA 149B)
Thick Dark Surface (A12)	Thin Dark Surface (S9)
Sandy Mucky Mineral (S1)	Polyvalve Below Surface (S8) (LRR K, L)
Sandy Gleyed Matrix (S4)	Loamy Mucky Mineral (F1)
Sandy Redox (S5)	Thin Dark Surface (S9) (LRR K, L)
	Loamy Gleyed Matrix (F2)
	Iron-Manganese Masses (F12) (LRR K, L, R)
	Depleted Matrix (F3)
	Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
	Redox Dark Surface (F6)
	Red Parent Material (F21)
	Depleted Dark Surface (F7)
	Very Shallow Dark Surface (TF12)
	Redox Depressions (F8)
	Other (Explain in Remarks)

<p>Restrictive Layer (if observed)</p> <p>Type: None</p> <p>Depth (inches): </p>	<p>Hydric Soil Present? Yes No X</p>
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Remarks:
The criterion for hydric soil is not met.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

Site: Fire Technology Center City/County: Marinette County Sampling Date: 8/27/2019
 Applicant/Owner: Tyco Fire Products, L.P. State: WI Sampling Point: DP07
 Investigator(s): Ryan Bombeck, Michael Meisenger Section, Township, Range: Section 13, Township 30N, Range 23E
 Landform (hillslope,terrace,etc.): Summit Slope Local relief (concave, convex, none): Convex Slope (%): 0%
 Subregion(LRR or MLRA): LRR K - Northcentral Forests Lat. 45.076327° N Long. 87.640737° W Datum: WGS 84
 Soil Map Unit Name: Wainola loamy fine sand, 0 to 3 percent slopes WWI Classification: None
 Are climatic/hydrologic conditions on the site typical for time of year? Yes X No (If no, explain in the Remarks)
 Are Vegetation Soil or Hydrology significantly disturbed?
 Are Vegetation Soil or Hydrology naturally problematic?
 Are Normal Circumstances Present? Yes X No (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No X **Is the Sampled Area within a Wetland?**
 Hydric Soil Present? Yes X No **Yes No X**
 Wetland Hydrology Present? Yes No X If yes, optional Wetland Site ID:

Remarks:
 Photo 07 in Appendix B. Upland data point recorded in upland island in W03. Based on the absence of two out of three parameters, this area is an upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
Surface Water (A1)		Water Stained Leaves (B9)	Surface Soil Cracks (B6)
High Water Table (A2)		Aquatic Fauna (B13)	Drainage Patterns (B10)
Saturation (A3)		Marl Deposits (B15)	Moss Tim Lines (B6)
Water Marks (B1)		Hydrogen Sulfide Odor (C1)	Dry-Season Water Table (C2)
Sediment Deposits (B2)		Oxidized Rhizospheres on Living Roots (C3)	Crayfish Burrows (C8)
Drift Deposits (B3)			Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)		Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Iron Deposits (B5)		Recent Iron Reduction in Tilled Soil (C6)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)			Shallow Aquitard (D3)
Sparsely Vegetated Concave Surface (B8)		Thin Muck Surface (C7)	Microtopographic Relief (D4)
		Other (Explain in Remarks)	FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes <u> </u> No <u>X</u>	Depth (inches) <u> </u>	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water Table Present?	Yes <u> </u> No <u>X</u>	Depth (inches) <u> </u>	
Saturation Present?	Yes <u> </u> No <u>X</u>	Depth (inches) <u> </u>	

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
 Topographic maps, aerial imagery, WWI data, WDNR Wetland Indicators data.

Remarks:
 The criterion for wetland hydrology is not met. Based on WETS analysis, antecedent hydrologic conditions are within a normal range.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

VEGETATION					Sampling Point: DP07																																													
<u>Tree Stratum</u>	Plot size: <u>30'</u>	Absolute % Cover	Dominant Species	Indicator Status	<div style="text-align: right; font-weight: bold; margin-bottom: 10px;">Dominance Test Worksheet</div> 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% (A/B) <div style="font-weight: bold; margin-bottom: 5px;">Prevalence Index Worksheet:</div> Total % cover of: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">OBL species</td> <td style="width: 10%; text-align: center; border-bottom: 1px solid black;">0</td> <td style="width: 5%; text-align: center;">x</td> <td style="width: 5%; text-align: center;">1</td> <td style="width: 10%; text-align: center; border-bottom: 1px solid black;">0</td> </tr> <tr> <td>FACW species</td> <td style="text-align: center; border-bottom: 1px solid black;">25</td> <td style="text-align: center;">x</td> <td style="text-align: center;">2</td> <td style="text-align: center; border-bottom: 1px solid black;">50</td> </tr> <tr> <td>FAC species</td> <td style="text-align: center; border-bottom: 1px solid black;">0</td> <td style="text-align: center;">x</td> <td style="text-align: center;">3</td> <td style="text-align: center; border-bottom: 1px solid black;">0</td> </tr> <tr> <td>FACU species</td> <td style="text-align: center; border-bottom: 1px solid black;">60</td> <td style="text-align: center;">x</td> <td style="text-align: center;">4</td> <td style="text-align: center; border-bottom: 1px solid black;">240</td> </tr> <tr> <td>UPL species</td> <td style="text-align: center; border-bottom: 1px solid black;">25</td> <td style="text-align: center;">x</td> <td style="text-align: center;">5</td> <td style="text-align: center; border-bottom: 1px solid black;">125</td> </tr> <tr> <td style="text-align: right;">Column Totals:</td> <td style="text-align: center; border-bottom: 1px solid black;">110</td> <td></td> <td style="text-align: center;">(A)</td> <td style="text-align: center; border-bottom: 1px solid black;">415</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center; border-bottom: 1px solid black;">(B)</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center; border: 1px solid black;">3.8</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">(B/A)</td> </tr> </table> <div style="font-weight: bold; margin-bottom: 5px;">Hydrophytic Vegetation Indicators:</div> <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0* <input type="checkbox"/> Morphological Adaptations* <input type="checkbox"/> Problematic Hydrophytic Vegetation* * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	OBL species	0	x	1	0	FACW species	25	x	2	50	FAC species	0	x	3	0	FACU species	60	x	4	240	UPL species	25	x	5	125	Column Totals:	110		(A)	415					(B)					3.8					(B/A)
OBL species	0	x	1	0																																														
FACW species	25	x	2	50																																														
FAC species	0	x	3	0																																														
FACU species	60	x	4	240																																														
UPL species	25	x	5	125																																														
Column Totals:	110		(A)	415																																														
				(B)																																														
				3.8																																														
				(B/A)																																														
1. <u><i>Pinus banksiana</i></u>		5	Y	FACU																																														
2. _____																																																		
3. _____																																																		
4. _____																																																		
5. _____																																																		
6. _____																																																		
7. _____																																																		
50%= 2.5%	20%= 1.0%	5	Total Cover																																															
<u>Shrub Stratum</u>	Plot size: <u>15'</u>				<div style="font-weight: bold; margin-bottom: 5px;">Hydrophytic Vegetation Indicators:</div> <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0* <input type="checkbox"/> Morphological Adaptations* <input type="checkbox"/> Problematic Hydrophytic Vegetation* * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																																													
1. _____																																																		
2. _____																																																		
3. _____																																																		
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5. _____																																																		
6. _____																																																		
7. _____																																																		
50%= 0.0%	20%= 0.0%	0	Total Cover																																															
<u>Herb Stratum</u>	Plot size: <u>5'</u>					<div style="font-weight: bold; margin-bottom: 5px;">Definitions of Vegetation Strata:</div> Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1M) 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. <div style="font-weight: bold; margin-bottom: 5px;">Hydrophytic Vegetation Present?</div> Yes _____ No _____ X _____																																												
1. <u><i>Solidago canadensis</i></u>		50	Y	FACU																																														
2. <u><i>Solidago gigantea</i></u>		20	Y	FACW																																														
3. <u><i>Comptonia peregrina</i></u>		20	Y	UPL																																														
4. <u><i>Achillea millefolium</i></u>		5	N	FACU																																														
5. <u><i>Phalaris arundinacea</i></u>		5	N	FACW																																														
6. <u><i>Asclepias syriaca</i></u>		5	N	UPL																																														
7. _____																																																		
8. _____																																																		
9. _____																																																		
10. _____																																																		
11. _____																																																		
12. _____																																																		
50%= 52.5%	20%= 21.0%	105	Total Cover																																															
<u>Woody Vine Stratum</u>	Plot size: <u>30'</u>				<div style="font-weight: bold; margin-bottom: 5px;">Hydrophytic Vegetation Present?</div> Yes _____ No _____ X _____																																													
1. _____																																																		
2. _____																																																		
3. _____																																																		
4. _____																																																		
50%= 0.0%	20%= 0.0%	0	Total Cover																																															
Remarks: (Include photo numbers here or on a separate sheet.) The criterion for hydrophytic vegetation is not met.																																																		

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

SOIL	Sampling Point: DP07
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Profile Description: (Describe to depth needed to document the indicator or confirm absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type*	Loc**	Texture	Remarks
	Color	%	Color	%				
0-3	10YR 2/1	98	10YR 4/6	2	C	M	Sandy Loam	Prominent redox concentrations.
3-8	10YR 4/2	90	10YR 4/6	10	C	M	Loamy Sand	Prominent redox concentrations.
8-20	10YR 4/6	100					Loamy Sand	

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

Hydric Soil Indicators:	Indicators for Problematic Soils
Histosol (A1)	Stripped Matrix (S6)
Histic Epipedon (A2)	2 cm Muck (A10) (LRR K, L, MLRA 149B)
Black Histic (A3)	Coast Prairie Redox (A16)
Hydrogen Sulfide (A4)	5 cm Mucky Peat (S3) (LRR K, L, R)
Stratified Layers (A5)	Dark Surface (S7) (LRR K, L, M)
Depleted Below Dark Surface (A11)	Polyvalve Below Surface (S8) (LRR R, MLRA 149B)
Thick Dark Surface (A12)	Thin Dark Surface (S9)
Sandy Mucky Mineral (S1)	Polyvalve Below Surface (S8) (LRR K, L)
Sandy Gleyed Matrix (S4)	Loamy Mucky Mineral (F1)
X Sandy Redox (S5)	Thin Dark Surface (S9) (LRR K, L)
	Loamy Gleyed Matrix (F2)
	Iron-Manganese Masses (F12) (LRR K, L, R)
	Depleted Matrix (F3)
	Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
	Redox Dark Surface (F6)
	Red Parent Material (F21)
	Depleted Dark Surface (F7)
	Very Shallow Dark Surface (TF12)
	Redox Depressions (F8)
	Other (Explain in Remarks)

<p>Restrictive Layer (if observed)</p> <p>Type: None</p> <p>Depth (inches): _____</p>	<p>Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
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Remarks:
The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

Site: Fire Technology Center City/County: Marinette County Sampling Date: 8/27/2019
 Applicant/Owner: Tyco Fire Products, L.P. State: WI Sampling Point: DP08
 Investigator(s): Ryan Bombeck, Michael Meisenger Section, Township, Range: Section 13, Township 30N, Range 23E
 Landform (hillslope,terrace,etc.): Toe Slope Local relief (concave, convex, none): Concave Slope (%): 0%
 Subregion(LRR or MLRA): LRR K - Northcentral Forests Lat. 45.077159° N Long. 87.640600° W Datum: WGS 84
 Soil Map Unit Name: Rousseau loamy fine sand, 1 to 6 percent slopes WWI Classification: None
 Are climatic/hydrologic conditions on the site typical for time of year? Yes X No (If no, explain in the Remarks)
 Are Vegetation Soil or Hydrology significantly disturbed?
 Are Vegetation Soil or Hydrology naturally problematic?
 Are Normal Circumstances Present? Yes X No (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes X No **Is the Sampled Area within a Wetland?**
 Hydric Soil Present? Yes X No **Yes X No**
 Wetland Hydrology Present? Yes X No If yes, optional Wetland Site ID: W04

Remarks:
 Photo 08 in Appendix B. Wetland data point recorded at the boundary of W04. Based on the presence of all three parameters, this area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
<input type="checkbox"/>	Surface Water (A1)	<input type="checkbox"/>	Water Stained Leaves (B9)
<input checked="" type="checkbox"/>	High Water Table (A2)	<input type="checkbox"/>	Aquatic Fauna (B13)
<input checked="" type="checkbox"/>	Saturation (A3)	<input type="checkbox"/>	Marl Deposits (B15)
<input type="checkbox"/>	Water Marks (B1)	<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)
<input type="checkbox"/>	Sediment Deposits (B2)	<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)
<input type="checkbox"/>	Drift Deposits (B3)	<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/>	Algal Mat or Crust (B4)	<input type="checkbox"/>	Presence of Reduced Iron (C4)
<input type="checkbox"/>	Iron Deposits (B5)	<input checked="" type="checkbox"/>	Recent Iron Reduction in Tilled Soil (C6)
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/>	Thin Muck Surface (C7)
<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)	<input checked="" type="checkbox"/>	Other (Explain in Remarks)
<input type="checkbox"/>		<input type="checkbox"/>	Surface Soil Cracks (B6)
<input type="checkbox"/>		<input type="checkbox"/>	Drainage Patterns (B10)
<input type="checkbox"/>		<input type="checkbox"/>	Moss Tim Lines (B6)
<input type="checkbox"/>		<input type="checkbox"/>	Dry-Season Water Table (C2)
<input type="checkbox"/>		<input type="checkbox"/>	Crayfish Burrows (C8)
<input type="checkbox"/>		<input type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/>		<input type="checkbox"/>	Stunted or Stressed Plants (D1)
<input type="checkbox"/>		<input type="checkbox"/>	Geomorphic Position (D2)
<input type="checkbox"/>		<input type="checkbox"/>	Shallow Aquitard (D3)
<input type="checkbox"/>		<input type="checkbox"/>	Microtopographic Relief (D4)
<input type="checkbox"/>		<input type="checkbox"/>	FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No X Depth (inches) **Wetland Hydrology Present?**
 Water Table Present? Yes X No Depth (inches) 9 **Yes X No**
 Saturation Present? Yes X No Depth (inches) 0

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
 Topographic maps, aerial imagery, WWI data, WDNR Wetland Indicators data.

Remarks:
 The criterion for wetland hydrology is met. Based on WETS analysis, antecedent hydrologic conditions are within a normal range.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

VEGETATION					Sampling Point: DP08																																									
<u>Tree Stratum</u>	Plot size: <u>30'</u>	Absolute % Cover	Dominant Species	Indicator Status	<div style="text-align: right;">Dominance Test Worksheet</div> Number of dominant species that are OBL, FACW, or FAC: <u>1</u> (A) Total number of dominant species across all strata: <u>1</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>100%</u> (A/B) <div style="text-align: right;">Prevalence Index Worksheet:</div> Total % cover of: <table style="width: 100%; margin-top: 5px;"> <tr> <td>OBL species</td><td align="right"><u>15</u></td><td>x</td><td><u>1</u></td><td><u>15</u></td> </tr> <tr> <td>FACW species</td><td align="right"><u>91</u></td><td>x</td><td><u>2</u></td><td><u>182</u></td> </tr> <tr> <td>FAC species</td><td align="right"><u>0</u></td><td>x</td><td><u>3</u></td><td><u>0</u></td> </tr> <tr> <td>FACU species</td><td align="right"><u>0</u></td><td>x</td><td><u>4</u></td><td><u>0</u></td> </tr> <tr> <td>UPL species</td><td align="right"><u>0</u></td><td>x</td><td><u>5</u></td><td><u>0</u></td> </tr> <tr> <td>Column Totals:</td><td align="right"><u>106</u></td><td></td><td></td><td><u>197</u> (B)</td> </tr> <tr> <td></td><td></td><td></td><td></td><td align="right">Prevalence Index: <u>1.9</u> (B/A)</td> </tr> </table> <div style="text-align: right; margin-top: 5px;">Hydrophytic Vegetation Indicators:</div> <table style="width: 100%; margin-top: 5px;"> <tr> <td><input type="checkbox"/></td><td>Rapid Test for Hydrophytic Vegetation</td> </tr> <tr> <td><input checked="" type="checkbox"/></td><td>Dominance Test is >50%</td> </tr> <tr> <td><input checked="" type="checkbox"/></td><td>Prevalence Index is ≤3.0*</td> </tr> </table> <div style="text-align: right; margin-top: 5px;">Morphological Adaptations*</div> <div style="text-align: right; margin-top: 5px;">Problematic Hydrophytic Vegetation*</div> <div style="text-align: right; margin-top: 5px;">* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic</div> <div style="text-align: right; margin-top: 5px;">Definitions of Vegetation Strata:</div> <div style="text-align: right; margin-top: 5px;">Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height</div> <div style="text-align: right; margin-top: 5px;">Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1M) tall.</div> <div style="text-align: right; margin-top: 5px;">Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.</div> <div style="text-align: right; margin-top: 5px;">Woody Vines - All woody vines greater than 3.28 ft in height.</div> <div style="text-align: right; margin-top: 5px;">Hydrophytic Vegetation Present?</div> <div style="text-align: right; margin-top: 5px;">Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></div>	OBL species	<u>15</u>	x	<u>1</u>	<u>15</u>	FACW species	<u>91</u>	x	<u>2</u>	<u>182</u>	FAC species	<u>0</u>	x	<u>3</u>	<u>0</u>	FACU species	<u>0</u>	x	<u>4</u>	<u>0</u>	UPL species	<u>0</u>	x	<u>5</u>	<u>0</u>	Column Totals:	<u>106</u>			<u>197</u> (B)					Prevalence Index: <u>1.9</u> (B/A)	<input type="checkbox"/>	Rapid Test for Hydrophytic Vegetation	<input checked="" type="checkbox"/>	Dominance Test is >50%	<input checked="" type="checkbox"/>	Prevalence Index is ≤3.0*
OBL species	<u>15</u>	x	<u>1</u>	<u>15</u>																																										
FACW species	<u>91</u>	x	<u>2</u>	<u>182</u>																																										
FAC species	<u>0</u>	x	<u>3</u>	<u>0</u>																																										
FACU species	<u>0</u>	x	<u>4</u>	<u>0</u>																																										
UPL species	<u>0</u>	x	<u>5</u>	<u>0</u>																																										
Column Totals:	<u>106</u>			<u>197</u> (B)																																										
				Prevalence Index: <u>1.9</u> (B/A)																																										
<input type="checkbox"/>	Rapid Test for Hydrophytic Vegetation																																													
<input checked="" type="checkbox"/>	Dominance Test is >50%																																													
<input checked="" type="checkbox"/>	Prevalence Index is ≤3.0*																																													
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50%= 0.0%	20%= 0.0%	<u>0</u>	Total Cover																																											
<u>Shrub Stratum</u>	Plot size: <u>15'</u>				(Continued from above)																																									
1. _____																																														
2. _____																																														
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4. _____																																														
5. _____																																														
6. _____																																														
7. _____																																														
50%= 0.0%	20%= 0.0%	<u>0</u>	Total Cover																																											
<u>Herb Stratum</u>	Plot size: <u>5'</u>					(Continued from above)																																								
1. <u>Phalaris arundinacea</u>		<u>90</u>	<u>Y</u>	<u>FACW</u>																																										
2. <u>Lycopus americanus</u>		<u>10</u>	<u>N</u>	<u>OBL</u>																																										
3. <u>Scirpus cyperinus</u>		<u>5</u>	<u>N</u>	<u>OBL</u>																																										
4. <u>Solidago gigantea</u>		<u>1</u>	<u>N</u>	<u>FACW</u>																																										
5. _____																																														
6. _____																																														
7. _____																																														
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9. _____																																														
10. _____																																														
11. _____																																														
12. _____																																														
50%= 53.0%	20%= 21.2%	<u>106</u>	Total Cover																																											
<u>Woody Vine Stratum</u>	Plot size: <u>30'</u>				(Continued from above)																																									
1. _____																																														
2. _____																																														
3. _____																																														
4. _____																																														
50%= 0.0%	20%= 0.0%	<u>0</u>	Total Cover																																											

Remarks: (Include photo numbers here or on a separate sheet.)
 The criterion for hydrophytic vegetation is met.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

SOIL	Sampling Point: DP08
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Profile Description: (Describe to depth needed to document the indicator or confirm absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type*	Loc**	Texture	Remarks
	Color	%	Color	%				
0-4	10YR 2/1	100					Loamy Sand	Mucky.
4-18	10YR 2/1	100					Loamy Sand	
18-25	10YR 3/1	80	10YR 4/6	5	C	M	Loamy Sand	Prominent redox concentrations.
			10YR 5/1	15	D	M		

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

Hydric Soil Indicators:	Indicators for Problematic Soils
Histosol (A1)	Stripped Matrix (S6)
Histic Epipedon (A2)	2 cm Muck (A10) (LRR K, L, MLRA 149B)
Black Histic (A3)	Dark Surface (S7)(LRR R,MLRA 149B)
Hydrogen Sulfide (A4)	Coast Prairie Redox (A16)
Stratified Layers (A5)	Polyvalve Below Surface (S8) (LRR R, MLRA 149B)
Depleted Below Dark Surface (A11)	5 cm Mucky Peat (S3) (LRR K, L, R)
Thick Dark Surface (A12)	Dark Surface (S7) (LRR K, L, M)
X Sandy Mucky Mineral (S1)	Thin Dark Surface (S9)
Sandy Gleyed Matrix (S4)	Polyvalve Below Surface (S8) (LRR K, L)
Sandy Redox (S5)	Loamy Mucky Mineral (F1)
	Thin Dark Surface (S9) (LRR K, L)
	Loamy Gleyed Matrix (F2)
	Iron-Manganese Masses (F12) (LRR K, L, R)
	Depleted Matrix (F3)
	Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
	Redox Dark Surface (F6)
	Red Parent Material (F21)
	Depleted Dark Surface (F7)
	Very Shallow Dark Surface (TF12)
	Redox Depressions (F8)
	Other (Explain in Remarks)

<p>Restrictive Layer (if observed)</p> <p>Type: None</p> <p>Depth (inches): </p>	<p>Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
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Remarks:
The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

Site: Fire Technology Center City/County: Marinette County Sampling Date: 8/27/2019
 Applicant/Owner: Tyco Fire Products, L.P. State: WI Sampling Point: DP09
 Investigator(s): Ryan Bombeck, Michael Meisenger Section, Township, Range: Section 13, Township 30N, Range 23E
 Landform (hillslope,terrace,etc.): Back Slope Local relief (concave, convex, none): Convex Slope (%): 2%
 Subregion(LRR or MLRA): LRR K - Northcentral Forests Lat. 45.077110° N Long. 87.640569° W Datum: WGS 84
 Soil Map Unit Name: Rousseau loamy fine sand, 1 to 6 percent slopes WWI Classification: None
 Are climatic/hydrologic conditions on the site typical for time of year? Yes X No (If no, explain in the Remarks)
 Are Vegetation Soil or Hydrology significantly disturbed?
 Are Vegetation Soil or Hydrology naturally problematic?
 Are Normal Circumstances Present? Yes X No (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?
Hydric Soil Present? Yes <u> </u> No <u>X</u>	Yes <u> </u> No <u>X</u>
Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	If yes, optional Wetland Site ID: <u> </u>

Remarks:
 Photo 09 in Appendix B. Upland data point recorded at the boundary of W04. Based on the absence of all three parameters, this area is an upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
<input type="checkbox"/>	Surface Water (A1)	<input type="checkbox"/>	Water Stained Leaves (B9)
<input type="checkbox"/>	High Water Table (A2)	<input type="checkbox"/>	Aquatic Fauna (B13)
<input type="checkbox"/>	Saturation (A3)	<input type="checkbox"/>	Marl Deposits (B15)
<input type="checkbox"/>	Water Marks (B1)	<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)
<input type="checkbox"/>	Sediment Deposits (B2)	<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/>	Drift Deposits (B3)	<input type="checkbox"/>	Presence of Reduced Iron (C4)
<input type="checkbox"/>	Algal Mat or Crust (B4)	<input type="checkbox"/>	Recent Iron Reduction in Tilled Soil (C6)
<input type="checkbox"/>	Iron Deposits (B5)	<input type="checkbox"/>	Thin Muck Surface (C7)
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/>	Other (Explain in Remarks)
<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/>	
		<input type="checkbox"/>	Surface Soil Cracks (B6)
		<input type="checkbox"/>	Drainage Patterns (B10)
		<input type="checkbox"/>	Moss Tim Lines (B6)
		<input type="checkbox"/>	Dry-Season Water Table (C2)
		<input type="checkbox"/>	Crayfish Burrows (C8)
		<input type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)
		<input type="checkbox"/>	Stunted or Stressed Plants (D1)
		<input type="checkbox"/>	Geomorphic Position (D2)
		<input type="checkbox"/>	Shallow Aquitard (D3)
		<input type="checkbox"/>	Microtopographic Relief (D4)
		<input type="checkbox"/>	FAC-Neutral Test (D5)

Field Observations:	Wetland Hydrology Present?
Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches) <u> </u>	Yes <u> </u> No <u>X</u>
Water Table Present? Yes <u> </u> No <u>X</u> Depth (inches) <u> </u>	
Saturation Present? Yes <u> </u> No <u>X</u> Depth (inches) <u> </u>	

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
 Topographic maps, aerial imagery, WWI data, WDNR Wetland Indicators data.

Remarks:
 The criterion for wetland hydrology is not met. Based on WETS analysis, antecedent hydrologic conditions are within a normal range.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

VEGETATION					Sampling Point: DP09																																			
<u>Tree Stratum</u>	Plot size: <u>30'</u>	Absolute % Cover	Dominant Species	Indicator Status	<div style="text-align: right; font-weight: bold; margin-bottom: 10px;">Dominance Test Worksheet</div> 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% (A/B) <div style="font-weight: bold; margin-bottom: 5px;">Prevalence Index Worksheet:</div> Total % cover of: <table style="width: 100%; margin-top: 5px;"> <tr> <td style="width: 20%;">OBL species</td> <td style="width: 10%; text-align: center;">0</td> <td style="width: 5%; text-align: center;">x</td> <td style="width: 5%; text-align: center;">1</td> <td style="width: 10%; text-align: center;">0</td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;">10</td> <td style="text-align: center;">x</td> <td style="text-align: center;">2</td> <td style="text-align: center;">20</td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;">15</td> <td style="text-align: center;">x</td> <td style="text-align: center;">3</td> <td style="text-align: center;">45</td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;">35</td> <td style="text-align: center;">x</td> <td style="text-align: center;">4</td> <td style="text-align: center;">140</td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;">70</td> <td style="text-align: center;">x</td> <td style="text-align: center;">5</td> <td style="text-align: center;">350</td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;">130</td> <td></td> <td style="text-align: center;">(A)</td> <td style="text-align: center;">555 (B)</td> </tr> <tr> <td>Prevalence Index:</td> <td colspan="4" style="text-align: center; border: 1px solid black; padding: 2px;">4.3 (B/A)</td> </tr> </table>	OBL species	0	x	1	0	FACW species	10	x	2	20	FAC species	15	x	3	45	FACU species	35	x	4	140	UPL species	70	x	5	350	Column Totals:	130		(A)	555 (B)	Prevalence Index:	4.3 (B/A)			
OBL species	0	x	1	0																																				
FACW species	10	x	2	20																																				
FAC species	15	x	3	45																																				
FACU species	35	x	4	140																																				
UPL species	70	x	5	350																																				
Column Totals:	130		(A)	555 (B)																																				
Prevalence Index:	4.3 (B/A)																																							
1. <u><i>Pinus banksiana</i></u>		15	Y	FACU																																				
2. _____																																								
3. _____																																								
4. _____																																								
5. _____																																								
6. _____																																								
7. _____																																								
50%= 7.5%	20%= 3.0%	15	Total Cover																																					
<u>Shrub Stratum</u>	Plot size: <u>15'</u>	Absolute % Cover	Dominant Species	Indicator Status	<div style="font-weight: bold; margin-bottom: 5px;">Hydrophytic Vegetation Indicators:</div> <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0* <input type="checkbox"/> Morphological Adaptations* <input type="checkbox"/> Problematic Hydrophytic Vegetation* * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic <div style="font-weight: bold; margin-bottom: 5px;">Definitions of Vegetation Strata:</div> Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1M) 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. <div style="font-weight: bold; margin-bottom: 5px;">Hydrophytic Vegetaion Present?</div> Yes _____ No _____ X _____																																			
1. <u><i>Rhamnus cathartica</i></u>		10	Y	FAC																																				
2. _____																																								
3. _____																																								
4. _____																																								
5. _____																																								
6. _____																																								
7. _____																																								
50%= 5.0%	20%= 2.0%	10	Total Cover																																					
<u>Herb Stratum</u>	Plot size: <u>5'</u>	Absolute % Cover	Dominant Species	Indicator Status		* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic <div style="font-weight: bold; margin-bottom: 5px;">Definitions of Vegetation Strata:</div> Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1M) 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. <div style="font-weight: bold; margin-bottom: 5px;">Hydrophytic Vegetaion Present?</div> Yes _____ No _____ X _____																																		
1. <u><i>Bromus inermis</i></u>		60	Y	UPL																																				
2. <u><i>Solidago canadensis</i></u>		10	N	FACU																																				
3. <u><i>Phalaris arundinacea</i></u>		10	N	FACW																																				
4. <u><i>Comptonia peregrina</i></u>		10	N	UPL																																				
5. <u><i>Rhamnus cathartica</i></u>		5	N	FAC																																				
6. <u><i>Pteridium aquilinum</i></u>		5	N	FACU																																				
7. <u><i>Achillea millefolium</i></u>		5	N	FACU																																				
8. _____																																								
9. _____																																								
10. _____																																								
11. _____																																								
12. _____																																								
50%= 52.5%	20%= 21.0%	105	Total Cover																																					
<u>Woody Vine Stratum</u>	Plot size: <u>30'</u>	Absolute % Cover	Dominant Species	Indicator Status	* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic <div style="font-weight: bold; margin-bottom: 5px;">Definitions of Vegetation Strata:</div> Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1M) 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. <div style="font-weight: bold; margin-bottom: 5px;">Hydrophytic Vegetaion Present?</div> Yes _____ No _____ X _____																																			
1. _____																																								
2. _____																																								
3. _____																																								
4. _____																																								
50%= 0.0%	20%= 0.0%	0	Total Cover																																					

Remarks: (Include photo numbers here or on a separate sheet.)
The criterion for hydrophytic vegetation is not met.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

SOIL

Sampling Point: DP09

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

Depth (inches)	Matrix		Redox Features		Type*	Loc**	Texture	Remarks
	Color	%	Color	%				
0-4	10YR 2/1	100					Sandy Loam	
4-7	10YR 2/1	60	10YR 5/2	40	D	M	Sandy Loam	
7-20	10YR 4/6	100					Loamy Sand	

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

Hydric Soil Indicators:			Indicators for Problematic Soils	
Histosol (A1)		Stripped Matrix (S6)		2 cm Muck (A10) (LRR K, L, MLRA 149B)
Histic Epipedon (A2)		Dark Surface (S7)(LRR R,MLRA 149B)		Coast Prairie Redox (A16)
Black Histic (A3)		Polyvalve Below Surface (S8) (LRR R, MLRA 149B)		5 cm Mucky Peat (S3) (LRR K, L, R)
Hydrogen Sulfide (A4)				Dark Surface (S7) (LRR K, L, M)
Stratified Layers (A5)		Thin Dark Surface (S9)		Polyvalve Below Surface (S8) (LRR K, L)
Depleted Below Dark Surface (A11)		Loamy Mucky Mineral (F1)		Thin Dark Surface (S9) (LRR K, L)
Thick Dark Surface (A12)		Loamy Gleyed Matrix (F2)		Iron-Manganese Masses (F12) (LRR K, L, R)
Sandy Mucky Mineral (S1)		Depleted Matrix (F3)		Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
Sandy Gleyed Matrix (S4)		Redox Dark Surface (F6)		Red Parent Material (F21)
Sandy Redox (S5)		Depleted Dark Surface (F7)		Very Shallow Dark Surface (TF12)
		Redox Depressions (F8)		Other (Explain in Remarks)

Restrictive Layer (if observed)

Type: None

Depth (inches):

Hydric Soil Present? Yes No X

Remarks:

The criterion for hydric soil is not met.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

Site: Fire Technology Center City/County: Marinette County Sampling Date: 8/27/2019
 Applicant/Owner: Tyco Fire Products, L.P. State: WI Sampling Point: DP10
 Investigator(s): Ryan Bombeck, Michael Meisenger Section, Township, Range: Section 13, Township 30N, Range 23E
 Landform (hillslope,terrace,etc.): Summit Slope Local relief (concave, convex, none): Convex Slope (%): 0%
 Subregion(LRR or MLRA): LRR K - Northcentral Forests Lat. 45.077716° N Long. 87.640559° W Datum: WGS 84
 Soil Map Unit Name: Wainola loamy fine sand, 0 to 3 percent slopes WWI Classification: None
 Are climatic/hydrologic conditions on the site typical for time of year? Yes X No (If no, explain in the Remarks)
 Are Vegetation Soil or Hydrology significantly disturbed?
 Are Vegetation Soil or Hydrology naturally problematic?
 Are Normal Circumstances Present? Yes X No (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No X **Is the Sampled Area within a Wetland?**
 Hydric Soil Present? Yes No X **Yes No X**
 Wetland Hydrology Present? Yes No X If yes, optional Wetland Site ID:

Remarks:
 Photo 10 in Appendix B. Upland data point recorded at the boundary of W05. Based on the absence of all three parameters, this area is an upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
Surface Water (A1)		Water Stained Leaves (B9)	Surface Soil Cracks (B6)
High Water Table (A2)		Aquatic Fauna (B13)	Drainage Patterns (B10)
Saturation (A3)		Marl Deposits (B15)	Moss Tim Lines (B6)
Water Marks (B1)		Hydrogen Sulfide Odor (C1)	Dry-Season Water Table (C2)
Sediment Deposits (B2)		Oxidized Rhizospheres on Living Roots (C3)	Crayfish Burrows (C8)
Drift Deposits (B3)			Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)		Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Iron Deposits (B5)		Recent Iron Reduction in Tilled Soil (C6)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)			Shallow Aquitard (D3)
Sparsely Vegetated Concave Surface (B8)		Thin Muck Surface (C7)	Microtopographic Relief (D4)
		Other (Explain in Remarks)	FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes <u> </u> No <u>X</u>	Depth (inches) <u> </u>	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water Table Present?	Yes <u>X</u> No <u> </u>	Depth (inches) <u>17</u>	
Saturation Present?	Yes <u>X</u> No <u> </u>	Depth (inches) <u>14</u>	

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
 Topographic maps, aerial imagery, WWI data, WDNR Wetland Indicators data.

Remarks:
 The criterion for wetland hydrology is not met. Based on WETS analysis, antecedent hydrologic conditions are within a normal range.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

VEGETATION					Sampling Point: DP10																																			
Tree Stratum	Plot size: <u>30'</u>	Absolute % Cover	Dominant Species	Indicator Status	<div style="text-align: right;">Dominance Test Worksheet</div> Number of dominant species that are OBL, FACW, or FAC: <u>0</u> (A) Total number of dominant species across all strata: <u>4</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>0%</u> (A/B)																																			
1. <u><i>Pinus banksiana</i></u>		5	Y	FACU																																				
2. _____																																								
3. _____																																								
4. _____																																								
5. _____																																								
6. _____																																								
7. _____																																								
50%= 2.5%	20%= 1.0%	5	Total Cover																																					
Shrub Stratum	Plot size: <u>15'</u>					<div style="text-align: right;">Prevalence Index Worksheet:</div> Total % cover of: <table style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <tr><td style="width: 20%;">OBL species</td><td style="width: 10%; text-align: center;"><u>0</u></td><td style="width: 5%;">x</td><td style="width: 5%;">1</td><td style="width: 10%; text-align: center;"><u>0</u></td></tr> <tr><td>FACW species</td><td style="text-align: center;"><u>10</u></td><td>x</td><td>2</td><td style="text-align: center;"><u>20</u></td></tr> <tr><td>FAC species</td><td style="text-align: center;"><u>5</u></td><td>x</td><td>3</td><td style="text-align: center;"><u>15</u></td></tr> <tr><td>FACU species</td><td style="text-align: center;"><u>40</u></td><td>x</td><td>4</td><td style="text-align: center;"><u>160</u></td></tr> <tr><td>UPL species</td><td style="text-align: center;"><u>55</u></td><td>x</td><td>5</td><td style="text-align: center;"><u>275</u></td></tr> <tr><td>Column Totals:</td><td style="text-align: center;"><u>110</u></td><td></td><td>(A)</td><td style="text-align: center;"><u>470</u></td></tr> <tr><td>Prevalence Index:</td><td></td><td></td><td></td><td style="text-align: center;"><u>4.3</u> (B/A)</td></tr> </table>	OBL species	<u>0</u>	x	1	<u>0</u>	FACW species	<u>10</u>	x	2	<u>20</u>	FAC species	<u>5</u>	x	3	<u>15</u>	FACU species	<u>40</u>	x	4	<u>160</u>	UPL species	<u>55</u>	x	5	<u>275</u>	Column Totals:	<u>110</u>		(A)	<u>470</u>	Prevalence Index:			
OBL species	<u>0</u>	x	1	<u>0</u>																																				
FACW species	<u>10</u>	x	2	<u>20</u>																																				
FAC species	<u>5</u>	x	3	<u>15</u>																																				
FACU species	<u>40</u>	x	4	<u>160</u>																																				
UPL species	<u>55</u>	x	5	<u>275</u>																																				
Column Totals:	<u>110</u>		(A)	<u>470</u>																																				
Prevalence Index:				<u>4.3</u> (B/A)																																				
1. _____																																								
2. _____																																								
3. _____																																								
4. _____																																								
5. _____																																								
6. _____																																								
7. _____																																								
50%= 0.0%	20%= 0.0%	0	Total Cover																																					
Herb Stratum	Plot size: <u>5'</u>				<div style="text-align: right;">Hydrophytic Vegetation Indicators:</div> _____ Rapid Test for Hydrophytic Vegetation _____ Dominance Test is >50% _____ Prevalence Index is ≤3.0* _____ Morphological Adaptations* _____ Problematic Hydrophytic Vegetation* * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																																			
1. <u><i>Comptonia peregrina</i></u>		30	Y	UPL																																				
2. <u><i>Achillea millefolium</i></u>		20	Y	FACU																																				
3. <u><i>Bromus inermis</i></u>		20	Y	UPL																																				
4. <u><i>Solidago gigantea</i></u>		10	N	FACW																																				
5. <u><i>Solidago canadensis</i></u>		10	N	FACU																																				
6. <u><i>Erigeron annuus</i></u>		5	N	FACU																																				
7. <u><i>Rhamnus cathartica</i></u>		5	N	FAC																																				
8. <u><i>Centaurea stoebe</i></u>		2	N	UPL																																				
9. <u><i>Daucus carota</i></u>		2	N	UPL																																				
10. <u><i>Asclepias syriaca</i></u>		1	N	UPL																																				
11. _____																																								
12. _____																																								
50%= 52.5%	20%= 21.0%	105	Total Cover																																					
Woody Vine Stratum	Plot size: <u>30'</u>				<div style="text-align: right;">Definitions of Vegetation Strata:</div> Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1M) 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.																																			
1. _____																																								
2. _____																																								
3. _____																																								
4. _____																																								
50%= 0.0%	20%= 0.0%	0	Total Cover																																					
<div style="text-align: right;">Hydrophytic Vegetaion Present?</div> Yes _____ No _____ X _____																																								
Remarks: (Include photo numbers here or on a separate sheet.) The criterion for hydrophytic vegetation is not met.																																								

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

SOIL	Sampling Point: DP10
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Profile Description: (Describe to depth needed to document the indicator or confirm absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type*	Loc**	Texture	Remarks
	Color	%	Color	%				
0-4	10YR 2/1	100					Sandy Loam	
4-6	10YR 4/2	98	10YR 4/6	2	C	M	Loamy Sand	Prominent redox concentrations.
6-20	10YR 4/6	100					Loamy Sand	

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

Hydric Soil Indicators:	Indicators for Problematic Soils
Histosol (A1)	Stripped Matrix (S6)
Histic Epipedon (A2)	2 cm Muck (A10) (LRR K, L, MLRA 149B)
Black Histic (A3)	Coast Prairie Redox (A16)
Hydrogen Sulfide (A4)	5 cm Mucky Peat (S3) (LRR K, L, R)
Stratified Layers (A5)	Dark Surface (S7) (LRR K, L, M)
Depleted Below Dark Surface (A11)	Polyvalve Below Surface (S8) (LRR R, MLRA 149B)
Thick Dark Surface (A12)	Thin Dark Surface (S9)
Sandy Mucky Mineral (S1)	Loamy Mucky Mineral (F1)
Sandy Gleyed Matrix (S4)	Thin Dark Surface (S9) (LRR K, L)
Sandy Redox (S5)	Loamy Gleyed Matrix (F2)
	Iron-Manganese Masses (F12) (LRR K, L, R)
	Depleted Matrix (F3)
	Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
	Redox Dark Surface (F6)
	Red Parent Material (F21)
	Depleted Dark Surface (F7)
	Very Shallow Dark Surface (TF12)
	Redox Depressions (F8)
	Other (Explain in Remarks)

<p>Restrictive Layer (if observed)</p> <p>Type: None</p> <p>Depth (inches): _____</p>	<p>Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> X</p>
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Remarks:
The criterion for hydric soil is not met.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

Site: Fire Technology Center City/County: Marinette County Sampling Date: 8/27/2019
 Applicant/Owner: Tyco Fire Products, L.P. State: WI Sampling Point: DP11
 Investigator(s): Ryan Bombeck, Michael Meisenger Section, Township, Range: Section 13, Township 30N, Range 23E
 Landform (hillslope,terrace,etc.): Toe Slope Local relief (concave, convex, none): Concave Slope (%): 0%
 Subregion(LRR or MLRA): LRR K - Northcentral Forests Lat. 45.077786° N Long. 87.640637° W Datum: WGS 84
 Soil Map Unit Name: Wainola loamy fine sand, 0 to 3 percent slopes WWI Classification: None
 Are climatic/hydrologic conditions on the site typical for time of year? Yes X No (If no, explain in the Remarks)
 Are Vegetation Soil or Hydrology significantly disturbed?
 Are Vegetation Soil or Hydrology naturally problematic?
 Are Normal Circumstances Present? Yes X No (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes X No **Is the Sampled Area within a Wetland?**
 Hydric Soil Present? Yes X No **Yes X No**
 Wetland Hydrology Present? Yes X No If yes, optional Wetland Site ID: W05

Remarks:
 Photo 11 in Appendix B. Wetland data point recorded at the boundary of W05. Based on the presence of all three parameters, this area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
<input checked="" type="checkbox"/>	Surface Water (A1)	<input type="checkbox"/>	Water Stained Leaves (B9)
<input checked="" type="checkbox"/>	High Water Table (A2)	<input type="checkbox"/>	Aquatic Fauna (B13)
<input checked="" type="checkbox"/>	Saturation (A3)	<input type="checkbox"/>	Marl Deposits (B15)
<input type="checkbox"/>	Water Marks (B1)	<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)
<input type="checkbox"/>	Sediment Deposits (B2)	<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)
<input type="checkbox"/>	Drift Deposits (B3)	<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/>	Algal Mat or Crust (B4)	<input type="checkbox"/>	Presence of Reduced Iron (C4)
<input type="checkbox"/>	Iron Deposits (B5)	<input checked="" type="checkbox"/>	Recent Iron Reduction in Tilled Soil (C6)
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/>	Thin Muck Surface (C7)
<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)	<input checked="" type="checkbox"/>	Other (Explain in Remarks)
<input type="checkbox"/>		<input type="checkbox"/>	Surface Soil Cracks (B6)
<input type="checkbox"/>		<input type="checkbox"/>	Drainage Patterns (B10)
<input type="checkbox"/>		<input type="checkbox"/>	Moss Tim Lines (B6)
<input type="checkbox"/>		<input type="checkbox"/>	Dry-Season Water Table (C2)
<input type="checkbox"/>		<input type="checkbox"/>	Crayfish Burrows (C8)
<input type="checkbox"/>		<input type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/>		<input type="checkbox"/>	Stunted or Stressed Plants (D1)
<input type="checkbox"/>		<input type="checkbox"/>	Geomorphic Position (D2)
<input type="checkbox"/>		<input type="checkbox"/>	Shallow Aquitard (D3)
<input type="checkbox"/>		<input type="checkbox"/>	Microtopographic Relief (D4)
<input type="checkbox"/>		<input type="checkbox"/>	FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes <u>X</u> No <u> </u>	Depth (inches) <u>1</u>	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
Water Table Present?	Yes <u>X</u> No <u> </u>	Depth (inches) <u>0</u>	
Saturation Present?	Yes <u>X</u> No <u> </u>	Depth (inches) <u>0</u>	

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
 Topographic maps, aerial imagery, WWI data, WDNR Wetland Indicators data.

Remarks:
 The criterion for wetland hydrology is met. Based on WETS analysis, antecedent hydrologic conditions are within a normal range.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

VEGETATION					Sampling Point: DP11
<u>Tree Stratum</u>	Plot size: <u>30'</u>	Absolute % Cover	Dominant Species	Indicator Status	<div style="text-align: right;">Dominance Test Worksheet</div> Number of dominant species that are OBL, FACW, or FAC: <u>4</u> (A) Total number of dominant species across all strata: <u>4</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>100%</u> (A/B) <div style="text-align: right;">Prevalence Index Worksheet:</div> Total % cover of: _____ OBL species <u>70</u> x 1 <u>70</u> FACW species <u>30</u> x 2 <u>60</u> FAC species <u>5</u> x 3 <u>15</u> FACU species <u>0</u> x 4 <u>0</u> UPL species <u>0</u> x 5 <u>0</u> Column Totals: <u>105</u> (A) <u>145</u> (B) Prevalence Index: <u>1.4</u> (B/A)
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
50%= 0.0%	20%= 0.0%	<u>0</u>	Total Cover		
<u>Shrub Stratum</u>	Plot size: <u>15'</u>				
1. <u>Rhamnus cathartica</u>		<u>5</u>	<u>Y</u>	<u>FAC</u>	
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
50%= 2.5%	20%= 1.0%	<u>5</u>	Total Cover		
<u>Herb Stratum</u>	Plot size: <u>5'</u>				<div style="text-align: right;">Definitions of Vegetation Strata:</div> Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1M) 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.
1. <u>Juncus effusus</u>		<u>40</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Scirpus cyperinus</u>		<u>30</u>	<u>Y</u>	<u>OBL</u>	
3. <u>Phalaris arundinacea</u>		<u>20</u>	<u>Y</u>	<u>FACW</u>	
4. <u>Phragmites australis</u>		<u>5</u>	<u>N</u>	<u>FACW</u>	
5. <u>Verbena hastata</u>		<u>5</u>	<u>N</u>	<u>FACW</u>	
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
12. _____					
50%= 50.0%	20%= 20.0%	<u>100</u>	Total Cover		
<u>Woody Vine Stratum</u>	Plot size: <u>30'</u>				<div style="text-align: right;">Hydrophytic Vegetaion Present?</div> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1. _____					
2. _____					
3. _____					
4. _____					
50%= 0.0%	20%= 0.0%	<u>0</u>	Total Cover		

Remarks: (Include photo numbers here or on a separate sheet.)
 The criterion for hydrophytic vegetation is met.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

SOIL	Sampling Point: DP11
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Profile Description: (Describe to depth needed to document the indicator or confirm absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type*	Loc**	Texture	Remarks
	Color	%	Color	%				
0-4	10YR 2/1	100					Loamy Sand	Mucky.
4-18	10YR 2/1	100					Loamy Sand	
18-25	10YR 3/1	80	10YR 4/6	5	C	M	Loamy Sand	Prominent redox concentrations.
			10YR 5/1	15	D	M		

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

Hydric Soil Indicators:	Indicators for Problematic Soils
Histosol (A1)	Stripped Matrix (S6)
Histic Epipedon (A2)	2 cm Muck (A10) (LRR K, L, MLRA 149B)
Black Histic (A3)	Coast Prairie Redox (A16)
Hydrogen Sulfide (A4)	5 cm Mucky Peat (S3) (LRR K, L, R)
Stratified Layers (A5)	Dark Surface (S7) (LRR K, L, M)
Depleted Below Dark Surface (A11)	Polyvalve Below Surface (S8) (LRR K, L)
Thick Dark Surface (A12)	Thin Dark Surface (S9) (LRR K, L)
X Sandy Mucky Mineral (S1)	Loamy Mucky Mineral (F1)
Sandy Gleyed Matrix (S4)	Loamy Gleyed Matrix (F2)
Sandy Redox (S5)	Iron-Manganese Masses (F12) (LRR K, L, R)
	Depleted Matrix (F3)
	Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
	Redox Dark Surface (F6)
	Red Parent Material (F21)
	Depleted Dark Surface (F7)
	Very Shallow Dark Surface (TF12)
	Redox Depressions (F8)
	Other (Explain in Remarks)

<p>Restrictive Layer (if observed)</p> <p>Type: None</p> <p>Depth (inches): </p>	<p>Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
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Remarks:
The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

Site: Fire Technology Center City/County: Marinette County Sampling Date: 9/4/2019
 Applicant/Owner: Tyco Fire Products, L.P. State: WI Sampling Point: DP12
 Investigator(s): Ryan Bombeck, Michael Meisenger Section, Township, Range: Section 12, Township 30N, Range 23E
 Landform (hillslope,terrace,etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0%
 Subregion(LRR or MLRA): LRR K - Northcentral Forests Lat. 45.078329° N Long. 87.640400° W Datum: WGS 84
 Soil Map Unit Name: Wainola loamy fine sand, 0 to 3 percent slopes WWI Classification: None
 Are climatic/hydrologic conditions on the site typical for time of year? Yes X No (If no, explain in the Remarks)
 Are Vegetation Soil or Hydrology significantly disturbed?
 Are Vegetation Soil or Hydrology naturally problematic?
 Are Normal Circumstances Present? Yes X No (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes X No **Is the Sampled Area within a Wetland?**
 Hydric Soil Present? Yes X No **Yes X No**
 Wetland Hydrology Present? Yes X No If yes, optional Wetland Site ID: W06

Remarks:
 Photo 12 in Appendix B. Wetland data point recorded at the boundary of W06. Based on the presence of all three parameters, this area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
<input type="checkbox"/>	Surface Water (A1)	<input type="checkbox"/>	Water Stained Leaves (B9)
X	High Water Table (A2)	<input type="checkbox"/>	Aquatic Fauna (B13)
X	Saturation (A3)	<input type="checkbox"/>	Marl Deposits (B15)
<input type="checkbox"/>	Water Marks (B1)	<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)
<input type="checkbox"/>	Sediment Deposits (B2)	<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)
<input type="checkbox"/>	Drift Deposits (B3)	<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/>	Algal Mat or Crust (B4)	<input type="checkbox"/>	Presence of Reduced Iron (C4)
<input type="checkbox"/>	Iron Deposits (B5)	<input type="checkbox"/>	Recent Iron Reduction in Tilled Soil (C6)
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/>	Thin Muck Surface (C7)
<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/>	Other (Explain in Remarks)
<input type="checkbox"/>		X	Surface Soil Cracks (B6)
<input type="checkbox"/>		<input type="checkbox"/>	Drainage Patterns (B10)
<input type="checkbox"/>		<input type="checkbox"/>	Moss Tim Lines (B6)
<input type="checkbox"/>		<input type="checkbox"/>	Dry-Season Water Table (C2)
<input type="checkbox"/>		<input type="checkbox"/>	Crayfish Burrows (C8)
<input type="checkbox"/>		<input type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/>		<input type="checkbox"/>	Stunted or Stressed Plants (D1)
<input type="checkbox"/>		X	Geomorphic Position (D2)
<input type="checkbox"/>		<input type="checkbox"/>	Shallow Aquitard (D3)
<input type="checkbox"/>		<input type="checkbox"/>	Microtopographic Relief (D4)
<input type="checkbox"/>		X	FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No X Depth (inches) **Wetland Hydrology Present?**
 Water Table Present? Yes X No Depth (inches) 9 **Yes X No**
 Saturation Present? Yes X No Depth (inches) 0

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
 Topographic maps, aerial imagery, WWI data, WDNR Wetland Indicators data.

Remarks:
 The criterion for wetland hydrology is met. Based on WETS analysis, antecedent hydrologic conditions are within a normal range.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

VEGETATION					Sampling Point: DP12
<u>Tree Stratum</u> Plot size: 30'		Absolute % Cover	Dominant Species	Indicator Status	<p align="center">Dominance Test Worksheet</p> <p>Number of dominant species that are OBL, FACW, or FAC: <u>2</u> (A)</p> <p>Total number of dominant species across all strata: <u>2</u> (B)</p> <p>Percent of dominant species that are OBL, FACW, or FAC: <u>100%</u> (A/B)</p> <p>Prevalence Index Worksheet:</p> <p>Total % cover of:</p> <p>OBL species <u>0</u> x 1 <u>0</u></p> <p>FACW species <u>90</u> x 2 <u>180</u></p> <p>FAC species <u>10</u> x 3 <u>30</u></p> <p>FACU species <u>5</u> x 4 <u>20</u></p> <p>UPL species <u>0</u> x 5 <u>0</u></p> <p>Column Totals: <u>105</u> (A) <u>230</u> (B)</p> <p>Prevalence Index: <u>2.2</u> (B/A)</p> <p>Hydrophytic Vegetation Indicators:</p> <p><input type="checkbox"/> Rapid Test for Hydrophytic Vegetation</p> <p><input checked="" type="checkbox"/> Dominance Test is >50%</p> <p><input checked="" type="checkbox"/> Prevalence Index is ≤3.0*</p> <p><input type="checkbox"/> Morphological Adaptations*</p> <p><input type="checkbox"/> Problematic Hydrophytic Vegetation*</p> <p>* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic</p> <p>Definitions of Vegetation Strata:</p> <p>Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height</p> <p>Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1M) tall.</p> <p>Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.</p> <p>Woody Vines - All woody vines greater than 3.28 ft in height.</p> <p>Hydrophytic Vegetation Present?</p> <p>Yes <u>X</u> No _____</p>
1. _____	_____	_____	_____	_____	
2. _____	_____	_____	_____	_____	
3. _____	_____	_____	_____	_____	
4. _____	_____	_____	_____	_____	
5. _____	_____	_____	_____	_____	
6. _____	_____	_____	_____	_____	
7. _____	_____	_____	_____	_____	
50%= 0.0%	20%= 0.0%	<u>0</u>	Total Cover		
<u>Shrub Stratum</u> Plot size: 15'		Absolute % Cover	Dominant Species	Indicator Status	
1. <u>Rhamnus cathartica</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>		
2. _____	_____	_____	_____	_____	
3. _____	_____	_____	_____	_____	
4. _____	_____	_____	_____	_____	
5. _____	_____	_____	_____	_____	
6. _____	_____	_____	_____	_____	
7. _____	_____	_____	_____	_____	
50%= 2.5%	20%= 1.0%	<u>5</u>	Total Cover		
<u>Herb Stratum</u> Plot size: 5'		Absolute % Cover	Dominant Species	Indicator Status	
1. <u>Phalaris arundinacea</u>	<u>80</u>	<u>Y</u>	<u>FACW</u>		
2. <u>Solidago gigantea</u>	<u>10</u>	<u>N</u>	<u>FACW</u>		
3. <u>Solidago canadensis</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
4. <u>Persicaria maculosa</u>	<u>5</u>	<u>N</u>	<u>FAC</u>		
5. _____	_____	_____	_____	_____	
6. _____	_____	_____	_____	_____	
7. _____	_____	_____	_____	_____	
8. _____	_____	_____	_____	_____	
9. _____	_____	_____	_____	_____	
10. _____	_____	_____	_____	_____	
11. _____	_____	_____	_____	_____	
12. _____	_____	_____	_____	_____	
50%= 50.0%	20%= 20.0%	<u>100</u>	Total Cover		
<u>Woody Vine Stratum</u> Plot size: 30'		Absolute % Cover	Dominant Species	Indicator Status	
1. _____	_____	_____	_____	_____	
2. _____	_____	_____	_____	_____	
3. _____	_____	_____	_____	_____	
4. _____	_____	_____	_____	_____	
50%= 0.0%	20%= 0.0%	<u>0</u>	Total Cover		
Remarks: (Include photo numbers here or on a separate sheet.)					
The criterion for hydrophytic vegetation is met.					

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

SOIL	Sampling Point: DP12
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Profile Description: (Describe to depth needed to document the indicator or confirm absence of indicators.)

Depth (inches)	Matrix		Redox Features					Remarks
	Color	%	Color	%	Type*	Loc**	Texture	
0-3	10YR 3/3	100					Loamy Sand	
3-20	10YR 2/2	80	10YR 4/6	20	C	M	Sandy Loam	Prominent redox concentrations.

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

Hydric Soil Indicators:			Indicators for Problematic Soils		
	Histosol (A1)			Stripped Matrix (S6)	2 cm Muck (A10) (LRR K, L, MLRA 149B)
	Histic Epipedon (A2)			Dark Surface (S7)(LRR R, MLRA 149B)	Coast Prairie Redox (A16)
	Black Histic (A3)			Polyvalve Below Surface (S8) (LRR R, MLRA 149B)	5 cm Mucky Peat (S3) (LRR K, L, R)
	Hydrogen Sulfide (A4)				Dark Surface (S7) (LRR K, L, M)
	Stratified Layers (A5)			Thin Dark Surface (S9)	Polyvalve Below Surface (S8) (LRR K, L)
	Depleted Below Dark Surface (A11)			Loamy Mucky Mineral (F1)	Thin Dark Surface (S9) (LRR K, L)
	Thick Dark Surface (A12)			Loamy Gleyed Matrix (F2)	Iron-Manganese Masses (F12) (LRR K, L, R)
	Sandy Mucky Mineral (S1)			Depleted Matrix (F3)	Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
	Sandy Gleyed Matrix (S4)	X		Redox Dark Surface (F6)	Red Parent Material (F21)
	Sandy Redox (S5)			Depleted Dark Surface (F7)	Very Shallow Dark Surface (TF12)
				Redox Depressions (F8)	Other (Explain in Remarks)

<p>Restrictive Layer (if observed)</p> <p>Type: None</p> <p>Depth (inches): </p>	<p>Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
---	--

Remarks:
The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

Site: Fire Technology Center City/County: Marinette County Sampling Date: 9/4/2019
 Applicant/Owner: Tyco Fire Products, L.P. State: WI Sampling Point: DP13
 Investigator(s): Ryan Bombeck, Michael Meisenger Section, Township, Range: Section 12, Township 30N, Range 23E
 Landform (hillslope,terrace,etc.): Back Slope Local relief (concave, convex, none): Convex Slope (%): 1%
 Subregion(LRR or MLRA): LRR K - Northcentral Forests Lat. 45.078309° N Long. 87.640438° W Datum: WGS 84
 Soil Map Unit Name: Wainola loamy fine sand, 0 to 3 percent slopes WWI Classification: None
 Are climatic/hydrologic conditions on the site typical for time of year? Yes X No (If no, explain in the Remarks)
 Are Vegetation Soil or Hydrology significantly disturbed?
 Are Vegetation Soil or Hydrology naturally problematic?
 Are Normal Circumstances Present? Yes X No (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?
Hydric Soil Present? Yes <u> </u> No <u>X</u>	Yes <u> </u> No <u>X</u>
Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	If yes, optional Wetland Site ID: <u> </u>

Remarks:
 Photo 10 in Appendix B. Upland data point recorded at the boundary of W06. Based on the absence of all three parameters, this area is an upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
Surface Water (A1)	Water Stained Leaves (B9)	Surface Soil Cracks (B6)	
High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)	
Saturation (A3)	Marl Deposits (B15)	Moss Tim Lines (B6)	
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Dry-Season Water Table (C2)	
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3)	Crayfish Burrows (C8)	
Drift Deposits (B3)		Saturation Visible on Aerial Imagery (C9)	
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)	
Iron Deposits (B5)	Recent Iron Reduction in Tilled Soil (C6)	Geomorphic Position (D2)	
Inundation Visible on Aerial Imagery (B7)		Thin Muck Surface (C7)	Shallow Aquitard (D3)
	Sparsely Vegetated Concave Surface (B8)	Other (Explain in Remarks)	Microtopographic Relief (D4)
		FAC-Neutral Test (D5)	

Field Observations:

Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches) <u> </u>	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water Table Present? Yes <u> </u> No <u>X</u> Depth (inches) <u> </u>	
Saturation Present? Yes <u> </u> No <u>X</u> Depth (inches) <u> </u>	

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
 Topographic maps, aerial imagery, WWI data, WDNR Wetland Indicators data.

Remarks:
 The criterion for wetland hydrology is not met. Based on WETS analysis, antecedent hydrologic conditions are within a normal range.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

VEGETATION					Sampling Point: DP13																																			
<u>Tree Stratum</u>	Plot size: <u>30'</u>	Absolute % Cover	Dominant Species	Indicator Status	<div style="text-align: right; font-weight: bold; margin-bottom: 10px;">Dominance Test Worksheet</div> 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% (A/B) <div style="font-weight: bold; margin-bottom: 5px;">Prevalence Index Worksheet:</div> Total % cover of: <table style="width: 100%; margin-top: 5px;"> <tr> <td>OBL species</td><td align="right">0</td><td>x</td><td>1</td><td align="right">0</td></tr> <tr> <td>FACW species</td><td align="right">16</td><td>x</td><td>2</td><td align="right">32</td></tr> <tr> <td>FAC species</td><td align="right">0</td><td>x</td><td>3</td><td align="right">0</td></tr> <tr> <td>FACU species</td><td align="right">52</td><td>x</td><td>4</td><td align="right">208</td></tr> <tr> <td>UPL species</td><td align="right">35</td><td>x</td><td>5</td><td align="right">175</td></tr> <tr> <td>Column Totals:</td><td align="right">103</td><td></td><td></td><td align="right">415</td></tr> <tr> <td></td><td></td><td></td><td></td><td align="right">Prevalence Index: 4.0 (B/A)</td></tr> </table> <div style="font-weight: bold; margin-bottom: 5px;">Hydrophytic Vegetation Indicators:</div> <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0* <input type="checkbox"/> Morphological Adaptations* <input type="checkbox"/> Problematic Hydrophytic Vegetation* * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	OBL species	0	x	1	0	FACW species	16	x	2	32	FAC species	0	x	3	0	FACU species	52	x	4	208	UPL species	35	x	5	175	Column Totals:	103			415					Prevalence Index: 4.0 (B/A)
OBL species	0	x	1	0																																				
FACW species	16	x	2	32																																				
FAC species	0	x	3	0																																				
FACU species	52	x	4	208																																				
UPL species	35	x	5	175																																				
Column Totals:	103			415																																				
				Prevalence Index: 4.0 (B/A)																																				
1. _____																																								
2. _____																																								
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50%= 0.0%	20%= 0.0%	0	Total Cover																																					
<u>Shrub Stratum</u>	Plot size: <u>15'</u>																																							
1. _____																																								
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5. _____																																								
6. _____																																								
7. _____																																								
50%= 0.0%	20%= 0.0%	0	Total Cover																																					
<u>Herb Stratum</u>	Plot size: <u>5'</u>																																							
1. <u>Bromus inermis</u>		35	Y	UPL																																				
2. <u>Schizachyrium scoparium</u>		35	Y	FACU																																				
3. <u>Solidago canadensis</u>		15	N	FACU																																				
4. <u>Solidago gigantea</u>		15	N	FACW																																				
5. <u>Achillea millefolium</u>		2	N	FACU																																				
6. <u>Symphyotrichum novae-angliae</u>		1	N	FACW																																				
7. _____																																								
8. _____																																								
9. _____																																								
10. _____																																								
11. _____																																								
12. _____																																								
50%= 51.5%	20%= 20.6%	103	Total Cover																																					
<u>Woody Vine Stratum</u>	Plot size: <u>30'</u>																																							
1. _____																																								
2. _____																																								
3. _____																																								
4. _____																																								
50%= 0.0%	20%= 0.0%	0	Total Cover																																					

Remarks: (Include photo numbers here or on a separate sheet.)
 The criterion for hydrophytic vegetation is not met.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

SOIL	Sampling Point: DP13
-------------	--

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

Depth (inches)	Matrix		Redox Features		Type*	Loc**	Texture	Remarks
	Color	%	Color	%				
0-6	10YR 4/3	100					Loamy Sand	Gravelly.
6-20	10YR 2/2	80	10YR 4/6	20	C	M	Sandy Loam	Prominent redox concentrations.

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

Hydric Soil Indicators:	Indicators for Problematic Soils
Histosol (A1)	Stripped Matrix (S6)
Histic Epipedon (A2)	2 cm Muck (A10) (LRR K, L, MLRA 149B)
Black Histic (A3)	Coast Prairie Redox (A16)
Hydrogen Sulfide (A4)	5 cm Mucky Peat (S3) (LRR K, L, R)
Stratified Layers (A5)	Dark Surface (S7) (LRR K, L, M)
Depleted Below Dark Surface (A11)	Polyvalve Below Surface (S8) (LRR R, MLRA 149B)
Thick Dark Surface (A12)	Thin Dark Surface (S9)
Sandy Mucky Mineral (S1)	Loamy Mucky Mineral (F1)
Sandy Gleyed Matrix (S4)	Loamy Gleyed Matrix (F2)
Sandy Redox (S5)	Depleted Matrix (F3)
	Redox Dark Surface (F6)
	Depleted Dark Surface (F7)
	Redox Depressions (F8)
	Other (Explain in Remarks)

Restrictive Layer (if observed)

Type: _____ None _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____ X _____

Remarks:
The criterion for hydric soil is not met.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

Site: Fire Technology Center City/County: Marinette County Sampling Date: 9/4/2019
 Applicant/Owner: Tyco Fire Products, L.P. State: WI Sampling Point: DP14
 Investigator(s): Ryan Bombeck, Michael Meisenger Section, Township, Range: Section 12, Township 30N, Range 23E
 Landform (hillslope,terrace,etc.): Back Slope Local relief (concave, convex, none): Convex Slope (%): 1%
 Subregion(LRR or MLRA): LRR K - Northcentral Forests Lat. 45.078323° N Long. 87.640549° W Datum: WGS 84
 Soil Map Unit Name: Wainola loamy fine sand, 0 to 3 percent slopes WWI Classification: None
 Are climatic/hydrologic conditions on the site typical for time of year? Yes X No (If no, explain in the Remarks)
 Are Vegetation Soil or Hydrology significantly disturbed?
 Are Vegetation Soil or Hydrology naturally problematic?
 Are Normal Circumstances Present? Yes X No (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes X No **Is the Sampled Area within a Wetland?**
 Hydric Soil Present? Yes No X **Yes** **No** X
 Wetland Hydrology Present? Yes No X If yes, optional Wetland Site ID:

Remarks:
 Photo 14 in Appendix B. Upland data point recorded in small area with observed hydrophytic vegetation. Based on the absence of two out of three parameters, this area is an upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
Surface Water (A1)		Water Stained Leaves (B9)	Surface Soil Cracks (B6)
High Water Table (A2)		Aquatic Fauna (B13)	Drainage Patterns (B10)
Saturation (A3)		Marl Deposits (B15)	Moss Tim Lines (B6)
Water Marks (B1)		Hydrogen Sulfide Odor (C1)	Dry-Season Water Table (C2)
Sediment Deposits (B2)		Oxidized Rhizospheres on Living Roots (C3)	Crayfish Burrows (C8)
Drift Deposits (B3)			Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)		Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Iron Deposits (B5)		Recent Iron Reduction in Tilled Soil (C6)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)			Shallow Aquitard (D3)
Sparsely Vegetated Concave Surface (B8)		Thin Muck Surface (C7)	Microtopographic Relief (D4)
		Other (Explain in Remarks)	FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes <u> </u> No <u>X</u>	Depth (inches) <u> </u>	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water Table Present?	Yes <u>X</u> No <u> </u>	Depth (inches) <u>16</u>	
Saturation Present?	Yes <u>X</u> No <u> </u>	Depth (inches) <u>14</u>	

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
 Topographic maps, aerial imagery, WWI data, WDNR Wetland Indicators data.

Remarks:
 The criterion for wetland hydrology is not met. Based on WETS analysis, antecedent hydrologic conditions are within a normal range.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

VEGETATION					Sampling Point: DP14																																			
<u>Tree Stratum</u>	Plot size: <u>30'</u>	Absolute % Cover	Dominant Species	Indicator Status	<p align="center">Dominance Test Worksheet</p> <p>Number of dominant species that are OBL, FACW, or FAC: <u>1</u> (A)</p> <p>Total number of dominant species across all strata: <u>2</u> (B)</p> <p>Percent of dominant species that are OBL, FACW, or FAC: <u>50%</u> (A/B)</p> <p>Prevalence Index Worksheet:</p> <p>Total % cover of:</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td>OBL species</td> <td align="center"><u>55</u></td> <td align="center">x</td> <td align="center"><u>1</u></td> <td align="center"><u>55</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>10</u></td> <td align="center">x</td> <td align="center"><u>2</u></td> <td align="center"><u>20</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>1</u></td> <td align="center">x</td> <td align="center"><u>3</u></td> <td align="center"><u>3</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>20</u></td> <td align="center">x</td> <td align="center"><u>4</u></td> <td align="center"><u>80</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>15</u></td> <td align="center">x</td> <td align="center"><u>5</u></td> <td align="center"><u>75</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>101</u> (A)</td> <td></td> <td></td> <td align="center"><u>233</u> (B)</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td align="center">Prevalence Index: <u>2.3</u> (B/A)</td> </tr> </table>	OBL species	<u>55</u>	x	<u>1</u>	<u>55</u>	FACW species	<u>10</u>	x	<u>2</u>	<u>20</u>	FAC species	<u>1</u>	x	<u>3</u>	<u>3</u>	FACU species	<u>20</u>	x	<u>4</u>	<u>80</u>	UPL species	<u>15</u>	x	<u>5</u>	<u>75</u>	Column Totals:	<u>101</u> (A)			<u>233</u> (B)					Prevalence Index: <u>2.3</u> (B/A)
OBL species	<u>55</u>	x	<u>1</u>	<u>55</u>																																				
FACW species	<u>10</u>	x	<u>2</u>	<u>20</u>																																				
FAC species	<u>1</u>	x	<u>3</u>	<u>3</u>																																				
FACU species	<u>20</u>	x	<u>4</u>	<u>80</u>																																				
UPL species	<u>15</u>	x	<u>5</u>	<u>75</u>																																				
Column Totals:	<u>101</u> (A)			<u>233</u> (B)																																				
				Prevalence Index: <u>2.3</u> (B/A)																																				
1. _____	_____	_____	_____	_____																																				
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50%= 0.0%	20%= 0.0%	<u>0</u>	Total Cover																																					
<u>Shrub Stratum</u>	Plot size: <u>15'</u>																																							
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5. _____	_____	_____	_____	_____																																				
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7. _____	_____	_____	_____	_____																																				
50%= 0.0%	20%= 0.0%	<u>0</u>	Total Cover																																					
<u>Herb Stratum</u>	Plot size: <u>5'</u>																																							
1. <u>Scirpus cyperinus</u>		<u>40</u>	<u>Y</u>	<u>OBL</u>																																				
2. <u>Solidago canadensis</u>		<u>20</u>	<u>Y</u>	<u>FACU</u>																																				
3. <u>Juncus effusus</u>		<u>15</u>	<u>N</u>	<u>OBL</u>																																				
4. <u>Bromus inermis</u>		<u>15</u>	<u>N</u>	<u>UPL</u>																																				
5. <u>Phalaris arundinacea</u>		<u>10</u>	<u>N</u>	<u>FACW</u>																																				
6. <u>Equisetum arvense</u>		<u>1</u>	<u>N</u>	<u>FAC</u>																																				
7. _____		_____	_____	_____																																				
8. _____		_____	_____	_____																																				
9. _____		_____	_____	_____																																				
10. _____		_____	_____	_____																																				
11. _____		_____	_____	_____																																				
12. _____		_____	_____	_____																																				
50%= 50.5%	20%= 20.2%	<u>101</u>	Total Cover																																					
<u>Woody Vine Stratum</u>	Plot size: <u>30'</u>																																							
1. _____	_____	_____	_____	_____																																				
2. _____	_____	_____	_____	_____																																				
3. _____	_____	_____	_____	_____																																				
4. _____	_____	_____	_____	_____																																				
50%= 0.0%	20%= 0.0%	<u>0</u>	Total Cover																																					

Hydrophytic Vegetation Indicators:

Rapid Test for Hydrophytic Vegetation

Dominance Test is >50%

Prevalence Index is ≤3.0*

Morphological Adaptations*

Problematic Hydrophytic Vegetation*

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

Definitions of Vegetation Strata:

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

Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1M) 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?

Yes No

Remarks: (Include photo numbers here or on a separate sheet.)
The criterion for hydrophytic vegetation is met.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

SOIL

Sampling Point: DP14

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

Depth (inches)	Matrix		Redox Features					Remarks
	Color	%	Color	%	Type*	Loc**	Texture	
0-9	10YR 2/1	40					Loamy Sand	Mixed matrix.
	10YR 4/6	60					Loamy Sand	
9-12	10YR 4/6	98	10YR 5/6	2	C	PL	Loamy Sand	Faint redox concentrations.
12-20	10YR 2/1	100					Sandy Loam	

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

Hydric Soil Indicators:	Indicators for Problematic Soils
Histosol (A1)	Stripped Matrix (S6)
Histic Epipedon (A2)	2 cm Muck (A10) (LRR K, L, MLRA 149B)
Black Histic (A3)	Coast Prairie Redox (A16)
Hydrogen Sulfide (A4)	5 cm Mucky Peat (S3) (LRR K, L, R)
Stratified Layers (A5)	Dark Surface (S7) (LRR K, L, M)
Depleted Below Dark Surface (A11)	Polyvalve Below Surface (S8) (LRR K, L)
Thick Dark Surface (A12)	Thin Dark Surface (S9) (LRR K, L)
Sandy Mucky Mineral (S1)	Loamy Mucky Mineral (F1)
Sandy Gleyed Matrix (S4)	Loamy Gleyed Matrix (F2)
Sandy Redox (S5)	Iron-Manganese Masses (F12) (LRR K, L, R)
	Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
	Red Parent Material (F21)
	Very Shallow Dark Surface (TF12)
	Redox Depressions (F8)
	Other (Explain in Remarks)

Restrictive Layer (if observed)
 Type: None
 Depth (inches):

Hydric Soil Present? Yes **No** **X**

Remarks:
 The criterion for hydric soil is not met.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

Site: Fire Technology Center City/County: Marinette County Sampling Date: 9/5/2019
 Applicant/Owner: Tyco Fire Products, L.P. State: WI Sampling Point: DP15
 Investigator(s): Ryan Bombeck, Michael Meisenger Section, Township, Range: Section 12, Township 30N, Range 23E
 Landform (hillslope,terrace,etc.): Toe Slope Local relief (concave, convex, none): Concave Slope (%): 0%
 Subregion(LRR or MLRA): LRR K - Northcentral Forests Lat. 45.078472° N Long. 87.641216° W Datum: WGS 84
 Soil Map Unit Name: Rousseau loamy fine sand, 1 to 6 percent slopes WWI Classification: None
 Are climatic/hydrologic conditions on the site typical for time of year? Yes X No (If no, explain in the Remarks)
 Are Vegetation Soil or Hydrology significantly disturbed?
 Are Vegetation Soil or Hydrology naturally problematic?
 Are Normal Circumstances Present? Yes X No (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes X No **Is the Sampled Area within a Wetland?**
 Hydric Soil Present? Yes X No **Yes X No**
 Wetland Hydrology Present? Yes X No If yes, optional Wetland Site ID: W07

Remarks:
 Photo 15 in Appendix B. Wetland data point recorded at the boundary of W07. Based on the presence of all three parameters, this area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
<input checked="" type="checkbox"/>	Surface Water (A1)	<input type="checkbox"/>	Water Stained Leaves (B9)
<input checked="" type="checkbox"/>	High Water Table (A2)	<input type="checkbox"/>	Aquatic Fauna (B13)
<input checked="" type="checkbox"/>	Saturation (A3)	<input type="checkbox"/>	Marl Deposits (B15)
<input type="checkbox"/>	Water Marks (B1)	<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)
<input type="checkbox"/>	Sediment Deposits (B2)	<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)
<input type="checkbox"/>	Drift Deposits (B3)	<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/>	Algal Mat or Crust (B4)	<input type="checkbox"/>	Presence of Reduced Iron (C4)
<input type="checkbox"/>	Iron Deposits (B5)	<input checked="" type="checkbox"/>	Recent Iron Reduction in Tilled Soil (C6)
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/>	Thin Muck Surface (C7)
<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)	<input checked="" type="checkbox"/>	Other (Explain in Remarks)
<input type="checkbox"/>		<input type="checkbox"/>	Surface Soil Cracks (B6)
<input type="checkbox"/>		<input type="checkbox"/>	Drainage Patterns (B10)
<input type="checkbox"/>		<input type="checkbox"/>	Moss Tim Lines (B6)
<input type="checkbox"/>		<input type="checkbox"/>	Dry-Season Water Table (C2)
<input type="checkbox"/>		<input type="checkbox"/>	Crayfish Burrows (C8)
<input type="checkbox"/>		<input type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/>		<input type="checkbox"/>	Stunted or Stressed Plants (D1)
<input type="checkbox"/>		<input type="checkbox"/>	Geomorphic Position (D2)
<input type="checkbox"/>		<input type="checkbox"/>	Shallow Aquitard (D3)
<input type="checkbox"/>		<input type="checkbox"/>	Microtopographic Relief (D4)
<input type="checkbox"/>		<input type="checkbox"/>	FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No Depth (inches) 1 **Wetland Hydrology Present?**
 Water Table Present? Yes X No Depth (inches) 0 **Yes X No**
 Saturation Present? Yes X No Depth (inches) 0

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
 Topographic maps, aerial imagery, WWI data, WDNR Wetland Indicators data.

Remarks:
 The criterion for wetland hydrology is met. Based on WETS analysis, antecedent hydrologic conditions are within a normal range.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

VEGETATION					Sampling Point: <u>DP15</u>																																			
<u>Tree Stratum</u> Plot size: <u>30'</u>		Absolute % Cover	Dominant Species	Indicator Status	<p align="center">Dominance Test Worksheet</p> <p>Number of dominant species that are OBL, FACW, or FAC: <u>1</u> (A)</p> <p>Total number of dominant species across all strata: <u>1</u> (B)</p> <p>Percent of dominant species that are OBL, FACW, or FAC: <u>100%</u> (A/B)</p> <p>Prevalence Index Worksheet:</p> <p>Total % cover of:</p> <table style="width:100%; border:none;"> <tr> <td>OBL species</td> <td align="right"><u>90</u></td> <td>x</td> <td><u>1</u></td> <td align="right"><u>90</u></td> </tr> <tr> <td>FACW species</td> <td align="right"><u>10</u></td> <td>x</td> <td><u>2</u></td> <td align="right"><u>20</u></td> </tr> <tr> <td>FAC species</td> <td align="right"><u>0</u></td> <td>x</td> <td><u>3</u></td> <td align="right"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td align="right"><u>0</u></td> <td>x</td> <td><u>4</u></td> <td align="right"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td align="right"><u>0</u></td> <td>x</td> <td><u>5</u></td> <td align="right"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="right"><u>100</u></td> <td></td> <td></td> <td align="right"><u>110</u> (B)</td> </tr> <tr> <td colspan="4"></td> <td align="right">Prevalence Index: <u>1.1</u> (B/A)</td> </tr> </table>	OBL species	<u>90</u>	x	<u>1</u>	<u>90</u>	FACW species	<u>10</u>	x	<u>2</u>	<u>20</u>	FAC species	<u>0</u>	x	<u>3</u>	<u>0</u>	FACU species	<u>0</u>	x	<u>4</u>	<u>0</u>	UPL species	<u>0</u>	x	<u>5</u>	<u>0</u>	Column Totals:	<u>100</u>			<u>110</u> (B)					Prevalence Index: <u>1.1</u> (B/A)
OBL species	<u>90</u>	x	<u>1</u>	<u>90</u>																																				
FACW species	<u>10</u>	x	<u>2</u>	<u>20</u>																																				
FAC species	<u>0</u>	x	<u>3</u>	<u>0</u>																																				
FACU species	<u>0</u>	x	<u>4</u>	<u>0</u>																																				
UPL species	<u>0</u>	x	<u>5</u>	<u>0</u>																																				
Column Totals:	<u>100</u>			<u>110</u> (B)																																				
				Prevalence Index: <u>1.1</u> (B/A)																																				
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50%= 0.0%	20%= 0.0%	<u>0</u>	Total Cover																																					
<u>Shrub Stratum</u> Plot size: <u>15'</u>																																								
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50%= 0.0%	20%= 0.0%	<u>0</u>	Total Cover																																					
<u>Herb Stratum</u> Plot size: <u>5'</u>																																								
1. <u>Scirpus cyperinus</u>	<u>90</u>	<u>Y</u>	<u>OBL</u>	<input checked="" type="checkbox"/> Rapid Test for Hydrophytic Vegetation																																				
2. <u>Phalaris arundinacea</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	<input checked="" type="checkbox"/> Dominance Test is >50%																																				
3. <u>Solidago gigantea</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0*																																				
4. _____	_____	_____	_____	Morphological Adaptations*																																				
5. _____	_____	_____	_____	Problematic Hydrophytic Vegetation*																																				
6. _____	_____	_____	_____	* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																																				
7. _____	_____	_____	_____	Definitions of Vegetation Strata:																																				
8. _____	_____	_____	_____	Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height																																				
9. _____	_____	_____	_____	Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1M) tall.																																				
10. _____	_____	_____	_____	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.																																				
11. _____	_____	_____	_____	Woody Vines - All woody vines greater than 3.28 ft in height.																																				
12. _____	_____	_____	_____																																					
50%= 50.0%	20%= 20.0%	<u>100</u>	Total Cover																																					
<u>Woody Vine Stratum</u> Plot size: <u>30'</u>																																								
1. _____	_____	_____	_____	<p>Hydrophytic Vegetaion Present?</p> <p>Yes <u>X</u> No _____</p>																																				
2. _____	_____	_____	_____																																					
3. _____	_____	_____	_____																																					
4. _____	_____	_____	_____																																					
5. _____	_____	_____	_____																																					
50%= 0.0%	20%= 0.0%	<u>0</u>	Total Cover																																					
Remarks: (Include photo numbers here or on a separate sheet.) The criterion for hydrophytic vegetation is met.																																								

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

SOIL

Sampling Point: DP15

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

Depth	Matrix		Redox Features						
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks	
0-4	10YR 2/1	100					Loamy Sand		
4-10	10YR 2/1	95	10YR 4/6	5	C	PL	Loamy Sand	Prominent redox concentrations.	
10-20	10YR 4/2	95	10YR 5/8	5	C	M	Loamy Sand	Prominent redox concentrations.	

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

Hydric Soil Indicators:			Indicators for Problematic Soils	
	Histosol (A1)		Stripped Matrix (S6)	2 cm Muck (A10) (LRR K, L, MLRA 149B)
	Histic Epipedon (A2)		Dark Surface (S7)(LRR R,MLRA 149B)	Coast Prairie Redox (A16)
	Black Histic (A3)		Polyvalve Below Surface (S8) (LRR R, MLRA 149B)	5 cm Mucky Peat (S3) (LRR K, L, R)
	Hydrogen Sulfide (A4)			Dark Surface (S7) (LRR K, L, M)
	Stratified Layers (A5)		Thin Dark Surface (S9)	Polyvalve Below Surface (S8) (LRR K, L)
X	Depleted Below Dark Surface (A11)		Loamy Mucky Mineral (F1)	Thin Dark Surface (S9) (LRR K, L)
	Thick Dark Surface (A12)		Loamy Gleyed Matrix (F2)	Iron-Manganese Masses (F12) (LRR K, L, R)
	Sandy Mucky Mineral (S1)		Depleted Matrix (F3)	Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
	Sandy Gleyed Matrix (S4)		Redox Dark Surface (F6)	Red Parent Material (F21)
X	Sandy Redox (S5)		Depleted Dark Surface (F7)	Very Shallow Dark Surface (TF12)
			Redox Depressions (F8)	Other (Explain in Remarks)

Restrictive Layer (if observed)

Type: None

Depth (inches):

Hydric Soil Present? Yes No

Remarks:

The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

Site: Fire Technology Center City/County: Marinette County Sampling Date: 9/5/2019
 Applicant/Owner: Tyco Fire Products, L.P. State: WI Sampling Point: DP16
 Investigator(s): Ryan Bombeck, Michael Meisenger Section, Township, Range: Section 12, Township 30N, Range 23E
 Landform (hillslope,terrace,etc.): Shoulder Slope Local relief (concave, convex, none): Convex Slope (%): 2%
 Subregion(LRR or MLRA): LRR K - Northcentral Forests Lat. 45.078451° N Long. 87.641191° W Datum: WGS 84
 Soil Map Unit Name: Rousseau loamy fine sand, 1 to 6 percent slopes WWI Classification: None
 Are climatic/hydrologic conditions on the site typical for time of year? Yes X No (If no, explain in the Remarks)
 Are Vegetation Soil or Hydrology significantly disturbed?
 Are Vegetation Soil or Hydrology naturally problematic?
 Are Normal Circumstances Present? Yes X No (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No X **Is the Sampled Area within a Wetland?**
 Hydric Soil Present? Yes No X **Yes** **No** X
 Wetland Hydrology Present? Yes No X If yes, optional Wetland Site ID:

Remarks:
 Photo 16 in Appendix B. Upland data point recorded at the boundary of W07. Based on the absence of all three parameters, this area is an upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
Surface Water (A1)		Water Stained Leaves (B9)	Surface Soil Cracks (B6)
High Water Table (A2)		Aquatic Fauna (B13)	Drainage Patterns (B10)
Saturation (A3)		Marl Deposits (B15)	Moss Tim Lines (B6)
Water Marks (B1)		Hydrogen Sulfide Odor (C1)	Dry-Season Water Table (C2)
Sediment Deposits (B2)		Oxidized Rhizospheres on Living Roots (C3)	Crayfish Burrows (C8)
Drift Deposits (B3)			Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)		Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Iron Deposits (B5)		Recent Iron Reduction in Tilled Soil (C6)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)			Shallow Aquitard (D3)
Sparsely Vegetated Concave Surface (B8)		Thin Muck Surface (C7)	Microtopographic Relief (D4)
		Other (Explain in Remarks)	FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes <u> </u> No <u>X</u>	Depth (inches) <u> </u>	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water Table Present?	Yes <u> </u> No <u>X</u>	Depth (inches) <u> </u>	
Saturation Present?	Yes <u> </u> No <u>X</u>	Depth (inches) <u> </u>	

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
 Topographic maps, aerial imagery, WWI data, WDNR Wetland Indicators data.

Remarks:
 The criterion for wetland hydrology is not met. Based on WETS analysis, antecedent hydrologic conditions are within a normal range.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

VEGETATION

Sampling Point: DP16

Tree Stratum	Plot size: <u>30'</u>	Absolute % Cover	Dominant Species	Indicator Status
1.	_____	_____	_____	_____
2.	_____	_____	_____	_____
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____
6.	_____	_____	_____	_____
7.	_____	_____	_____	_____

Dominance Test Worksheet	
Number of dominant species that are OBL, FACW, or FAC:	<u>0</u> (A)
Total number of dominant species across all strata:	<u>1</u> (B)
Percent of dominant species that are OBL, FACW, or FAC:	<u>0%</u> (A/B)

Shrub Stratum	Plot size: <u>15'</u>	Absolute % Cover	Dominant Species	Indicator Status
1.	_____	_____	_____	_____
2.	_____	_____	_____	_____
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____
6.	_____	_____	_____	_____
7.	_____	_____	_____	_____

Prevalence Index Worksheet:	
Total % cover of:	_____
OBL species	<u>1</u> x <u>1</u> = <u>1</u>
FACW species	<u>0</u> x <u>2</u> = <u>0</u>
FAC species	<u>5</u> x <u>3</u> = <u>15</u>
FACU species	<u>95</u> x <u>4</u> = <u>380</u>
UPL species	<u>0</u> x <u>5</u> = <u>0</u>
Column Totals:	<u>101</u> (A) <u>396</u> (B)
Prevalence Index:	<u>3.9</u> (B/A)

Herb Stratum	Plot size: <u>5'</u>	Absolute % Cover	Dominant Species	Indicator Status
1.	<u>Schizachyrium scoparium</u>	<u>80</u>	<u>Y</u>	<u>FACU</u>
2.	<u>Solidago canadensis</u>	<u>15</u>	<u>N</u>	<u>FACU</u>
3.	<u>Equisetum arvense</u>	<u>5</u>	<u>N</u>	<u>FAC</u>
4.	<u>Scirpus cyperinus</u>	<u>1</u>	<u>N</u>	<u>OBL</u>
5.	_____	_____	_____	_____
6.	_____	_____	_____	_____
7.	_____	_____	_____	_____
8.	_____	_____	_____	_____
9.	_____	_____	_____	_____
10.	_____	_____	_____	_____
11.	_____	_____	_____	_____
12.	_____	_____	_____	_____

Hydrophytic Vegetation Indicators:	
_____	Rapid Test for Hydrophytic Vegetation
_____	Dominance Test is >50%
_____	Prevalence Index is ≤3.0*
_____	Morphological Adaptations*
_____	Problematic Hydrophytic Vegetation*
* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	

Woody Vine Stratum	Plot size: <u>30'</u>	Absolute % Cover	Dominant Species	Indicator Status
1.	_____	_____	_____	_____
2.	_____	_____	_____	_____
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____

Definitions of Vegetation Strata:	
Tree	- Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height
Sapling/shrub	- Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1M) 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.

50%= <u>0.0%</u> 20%= <u>0.0%</u> <u>0</u> Total Cover
--

Hydrophytic Vegetation Present?	
Yes	<u> </u> No <u> </u> X <u> </u>

Remarks: (Include photo numbers here or on a separate sheet.)
 The criterion for hydrophytic vegetation is not met.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

SOIL	Sampling Point: DP16
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Profile Description: (Describe to depth needed to document the indicator or confirm absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type*	Loc**	Texture	Remarks
	Color	%	Color	%				
0-2	10YR 2/1	100					Loamy Sand	
2-13	10YR 4/6	100					Loamy Sand	
13-20	10YR 4/2	50					Sandy Loam	Mixed matrix.
	10YR 2/1	50						

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

Hydric Soil Indicators:	Indicators for Problematic Soils
Histosol (A1)	Stripped Matrix (S6)
Histic Epipedon (A2)	2 cm Muck (A10) (LRR K, L, MLRA 149B)
Black Histic (A3)	Coast Prairie Redox (A16)
Hydrogen Sulfide (A4)	5 cm Mucky Peat (S3) (LRR K, L, R)
Stratified Layers (A5)	Dark Surface (S7) (LRR K, L, M)
Depleted Below Dark Surface (A11)	Polyvalve Below Surface (S8) (LRR K, L)
Thick Dark Surface (A12)	Thin Dark Surface (S9) (LRR K, L)
Sandy Mucky Mineral (S1)	Loamy Mucky Mineral (F1)
Sandy Gleyed Matrix (S4)	Loamy Gleyed Matrix (F2)
Sandy Redox (S5)	Depleted Matrix (F3)
	Redox Dark Surface (F6)
	Depleted Dark Surface (F7)
	Redox Depressions (F8)
	Other (Explain in Remarks)

<p>Restrictive Layer (if observed)</p> <p>Type: None</p> <p>Depth (inches): </p>	<p>Hydric Soil Present? Yes No X</p>
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Remarks:
The criterion for hydric soil is not met.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

Site: Fire Technology Center City/County: Marinette County Sampling Date: 9/5/2019
 Applicant/Owner: Tyco Fire Products, L.P. State: WI Sampling Point: DP17
 Investigator(s): Ryan Bombeck, Michael Meisenger Section, Township, Range: Section 12, Township 30N, Range 23E
 Landform (hillslope,terrace,etc.): Toe Slope Local relief (concave, convex, none): Concave Slope (%): 0%
 Subregion(LRR or MLRA): LRR K - Northcentral Forests Lat. 45.078391° N Long. 87.641542° W Datum: WGS 84
 Soil Map Unit Name: Shawano loamy fine sand, 2 to 6 percent slopes WWI Classification: None
 Are climatic/hydrologic conditions on the site typical for time of year? Yes X No (If no, explain in the Remarks)
 Are Vegetation Soil or Hydrology X significantly disturbed?
 Are Vegetation Soil or Hydrology naturally problematic?
 Are Normal Circumstances Present? Yes No X (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes X No **Is the Sampled Area within a Wetland?**
 Hydric Soil Present? Yes X No **Yes X No**
 Wetland Hydrology Present? Yes X No If yes, optional Wetland Site ID: W07

Remarks:
 Photo 17 in Appendix B. Wetland data point recorded in W07 to confirm that the three wetland parameters are still met. Hydrology within the data point is significantly disturbed by the discharge of water from nearby firefighting equipment the resulting disturbance has significantly increased the water input to the subject area. Based on the presence of all three parameters, this area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
	Surface Water (A1)		Water Stained Leaves (B9)
X	High Water Table (A2)		Aquatic Fauna (B13)
X	Saturation (A3)		Marl Deposits (B15)
	Water Marks (B1)		Hydrogen Sulfide Odor (C1)
	Sediment Deposits (B2)		Oxidized Rhizospheres on Living Roots (C3)
	Drift Deposits (B3)		Presence of Reduced Iron (C4)
	Algal Mat or Crust (B4)		Recent Iron Reduction in Tilled Soil (C6)
	Iron Deposits (B5)		Thin Muck Surface (C7)
	Inundation Visible on Aerial Imagery (B7)		Other (Explain in Remarks)
	Sparsely Vegetated Concave Surface (B8)		
			Surface Soil Cracks (B6)
			Drainage Patterns (B10)
			Moss Tim Lines (B6)
			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)
			Microtopographic Relief (D4)
		X	FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No X Depth (inches) **Wetland Hydrology Present?**
 Water Table Present? Yes X No Depth (inches) 5 **Yes X No**
 Saturation Present? Yes X No Depth (inches) 0

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
 Topographic maps, aerial imagery, WWI data, WDNR Wetland Indicators data.

Remarks:
 The criterion for wetland hydrology is met. Based on WETS analysis, antecedent hydrologic conditions are within a normal range. However, firefighting equipment testing at the nearby facility has significantly increased the water input to the area. Based on the presence of hydric soils and hydrophytic vegetation criteria, it is anticipated that the criteria for wetland hydrology would be met at this data point under under normal circumstances.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

VEGETATION					Sampling Point: DP17																																			
<u>Tree Stratum</u>	Plot size: <u>30'</u>	Absolute % Cover	Dominant Species	Indicator Status	<div style="text-align: right; font-weight: bold;">Dominance Test Worksheet</div> Number of dominant species that are OBL, FACW, or FAC: <u>1</u> (A) Total number of dominant species across all strata: <u>3</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>33%</u> (A/B)																																			
1. <u><i>Betula papyrifera</i></u>		30	Y	FACU																																				
2. <u><i>Quercus velutina</i></u>		30	Y	UPL																																				
3. _____																																								
4. _____																																								
5. _____																																								
6. _____																																								
7. _____																																								
50%= 30.0%	20%= 12.0%	60	Total Cover																																					
<u>Shrub Stratum</u>	Plot size: <u>15'</u>					<div style="text-align: right; font-weight: bold;">Prevalence Index Worksheet:</div> Total % cover of: <table style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <tr> <td style="width: 30%;">OBL species</td> <td style="width: 10%; text-align: center;">80</td> <td style="width: 5%; text-align: center;">x</td> <td style="width: 5%; text-align: center;">1</td> <td style="width: 50%; text-align: right;">80</td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;">15</td> <td style="text-align: center;">x</td> <td style="text-align: center;">2</td> <td style="text-align: right;">30</td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;">1</td> <td style="text-align: center;">x</td> <td style="text-align: center;">3</td> <td style="text-align: right;">3</td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;">37</td> <td style="text-align: center;">x</td> <td style="text-align: center;">4</td> <td style="text-align: right;">148</td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;">30</td> <td style="text-align: center;">x</td> <td style="text-align: center;">5</td> <td style="text-align: right;">150</td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;">163</td> <td></td> <td style="text-align: center;">(A)</td> <td style="text-align: right;">411 (B)</td> </tr> <tr> <td colspan="4" style="text-align: right;">Prevalence Index:</td> <td style="text-align: center; border: 1px solid black;">2.5 (B/A)</td> </tr> </table>	OBL species	80	x	1	80	FACW species	15	x	2	30	FAC species	1	x	3	3	FACU species	37	x	4	148	UPL species	30	x	5	150	Column Totals:	163		(A)	411 (B)	Prevalence Index:			
OBL species	80	x	1	80																																				
FACW species	15	x	2	30																																				
FAC species	1	x	3	3																																				
FACU species	37	x	4	148																																				
UPL species	30	x	5	150																																				
Column Totals:	163		(A)	411 (B)																																				
Prevalence Index:				2.5 (B/A)																																				
1. _____																																								
2. _____																																								
3. _____																																								
4. _____																																								
5. _____																																								
6. _____																																								
7. _____																																								
50%= 0.0%	20%= 0.0%	0	Total Cover																																					
<u>Herb Stratum</u>	Plot size: <u>5'</u>				<div style="text-align: right; font-weight: bold;">Hydrophytic Vegetation Indicators:</div> _____ Rapid Test for Hydrophytic Vegetation _____ Dominance Test is >50% x Prevalence Index is ≤3.0* _____ Morphological Adaptations* _____ Problematic Hydrophytic Vegetation* * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																																			
1. <u><i>Scirpus cyperinus</i></u>		80	Y	OBL																																				
2. <u><i>Phalaris arundinacea</i></u>		15	N	FACW																																				
3. <u><i>Pteridium aquilinum</i></u>		5	N	FACU																																				
4. <u><i>Solidago canadensis</i></u>		2	N	FACU																																				
5. <u><i>Equisetum arvense</i></u>		1	N	FAC																																				
6. _____																																								
7. _____																																								
8. _____																																								
9. _____																																								
10. _____																																								
11. _____																																								
12. _____																																								
50%= 51.5%	20%= 20.6%	103	Total Cover																																					
<u>Woody Vine Stratum</u>	Plot size: <u>30'</u>				<div style="text-align: right; font-weight: bold;">Definitions of Vegetation Strata:</div> Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1M) 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.																																			
1. _____																																								
2. _____																																								
3. _____																																								
4. _____																																								
50%= 0.0%	20%= 0.0%	0	Total Cover																																					
<div style="text-align: right; font-weight: bold;">Hydrophytic Vegetaion Present?</div> Yes <u> X </u> No _____																																								
Remarks: (Include photo numbers here or on a separate sheet.) The criterion for hydrophytic vegetation is met.																																								

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

SOIL

Sampling Point: DP17

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

Depth (inches)	Matrix		Redox Features		Type*	Loc**	Texture	Remarks
	Color	%	Color	%				
0-7	10YR 2/1	95	10YR 4/6	5	C	M	Sandy Loam	Prominent redox concentrations.
7-10	10YR 5/2	60	10YR 4/6	40	C	M	Loamy Sand	Prominent redox concentrations.
10-18	10YR 6/2	100					Loamy Sand	

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

Hydric Soil Indicators:			Indicators for Problematic Soils	
Histosol (A1)		Stripped Matrix (S6)		2 cm Muck (A10) (LRR K, L, MLRA 149B)
Histic Epipedon (A2)		Dark Surface (S7)(LRR R,MLRA 149B)		Coast Prairie Redox (A16)
Black Histic (A3)		Polyvalve Below Surface (S8) (LRR R, MLRA 149B)		5 cm Mucky Peat (S3) (LRR K, L, R)
Hydrogen Sulfide (A4)				Dark Surface (S7) (LRR K, L, M)
Stratified Layers (A5)		Thin Dark Surface (S9)		Polyvalve Below Surface (S8) (LRR K, L)
Depleted Below Dark Surface (A11)		Loamy Mucky Mineral (F1)		Thin Dark Surface (S9) (LRR K, L)
Thick Dark Surface (A12)		Loamy Gleyed Matrix (F2)		Iron-Manganese Masses (F12) (LRR K, L, R)
Sandy Mucky Mineral (S1)		Depleted Matrix (F3)		Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
Sandy Gleyed Matrix (S4)	X	Redox Dark Surface (F6)		Red Parent Material (F21)
Sandy Redox (S5)		Depleted Dark Surface (F7)		Very Shallow Dark Surface (TF12)
		Redox Depressions (F8)		Other (Explain in Remarks)

Restrictive Layer (if observed)

Type: None

Depth (inches):

Hydric Soil Present? Yes No

Remarks:
The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

Site: Fire Technology Center City/County: Marinette County Sampling Date: 9/5/2019
 Applicant/Owner: Tyco Fire Products, L.P. State: WI Sampling Point: DP18
 Investigator(s): Ryan Bombeck, Michael Meisenger Section, Township, Range: Section 12, Township 30N, Range 23E
 Landform (hillslope,terrace,etc.): Back Slope Local relief (concave, convex, none): Convex Slope (%): 1%
 Subregion(LRR or MLRA): LRR K - Northcentral Forests Lat. 45.078339° N Long. 87.641776° W Datum: WGS 84
 Soil Map Unit Name: Shawano loamy fine sand, 2 to 6 percent slopes WWI Classification: None
 Are climatic/hydrologic conditions on the site typical for time of year? Yes X No (If no, explain in the Remarks)
 Are Vegetation Soil or Hydrology X significantly disturbed?
 Are Vegetation Soil or Hydrology naturally problematic?
 Are Normal Circumstances Present? Yes No X (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?
Hydric Soil Present? Yes <u> </u> No <u>X</u>	Yes <u> </u> No <u>X</u>
Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	If yes, optional Wetland Site ID: <u> </u>

Remarks:
 Photo 18 in Appendix B. Upland data point recorded at the boundary of W07. Hydrology within the data point is significantly disturbed by the discharge of water from nearby firefighting equipment the resulting disturbance has significantly increased the water input to the subject area. Based on the absence of all three parameters, this area is an upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
<input type="checkbox"/>	Surface Water (A1)	<input type="checkbox"/>	Water Stained Leaves (B9)
<input type="checkbox"/>	High Water Table (A2)	<input type="checkbox"/>	Aquatic Fauna (B13)
<input type="checkbox"/>	Saturation (A3)	<input type="checkbox"/>	Marl Deposits (B15)
<input type="checkbox"/>	Water Marks (B1)	<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)
<input type="checkbox"/>	Sediment Deposits (B2)	<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/>	Drift Deposits (B3)	<input type="checkbox"/>	Presence of Reduced Iron (C4)
<input type="checkbox"/>	Algal Mat or Crust (B4)	<input type="checkbox"/>	Recent Iron Reduction in Tilled Soil (C6)
<input type="checkbox"/>	Iron Deposits (B5)	<input type="checkbox"/>	Thin Muck Surface (C7)
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/>	Other (Explain in Remarks)
<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/>	
		<input type="checkbox"/>	Surface Soil Cracks (B6)
		<input type="checkbox"/>	Drainage Patterns (B10)
		<input type="checkbox"/>	Moss Tim Lines (B6)
		<input type="checkbox"/>	Dry-Season Water Table (C2)
		<input type="checkbox"/>	Crayfish Burrows (C8)
		<input type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)
		<input type="checkbox"/>	Stunted or Stressed Plants (D1)
		<input type="checkbox"/>	Geomorphic Position (D2)
		<input type="checkbox"/>	Shallow Aquitard (D3)
		<input type="checkbox"/>	Microtopographic Relief (D4)
		<input type="checkbox"/>	FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes <u>X</u> No <u> </u> Depth (inches) <u>1</u>	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water Table Present? Yes <u>X</u> No <u> </u> Depth (inches) <u>0</u>	
Saturation Present? Yes <u>X</u> No <u> </u> Depth (inches) <u>0</u>	

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
 Topographic maps, aerial imagery, WWI data, WDNR Wetland Indicators data.

Remarks:
 The criterion for wetland hydrology is not met. Based on WETS analysis, antecedent hydrologic conditions are within a normal range. However, firefighting equipment testing at the nearby facility has significantly increased the water input to the area. Approximately 1 inch of surface water was observed at this data point. Based on the absence of hydric soils and hydrophytic vegetation criteria and the position on the landscape, it is anticipated that the criteria for wetland hydrology would not be met at this data point under under normal circumstances.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

VEGETATION					Sampling Point: <u>DP18</u>																																			
<u>Tree Stratum</u> Plot size: <u>30'</u>		Absolute % Cover	Dominant Species	Indicator Status	<p align="center">Dominance Test Worksheet</p> <p>Number of dominant species that are OBL, FACW, or FAC: <u>0</u> (A)</p> <p>Total number of dominant species across all strata: <u>1</u> (B)</p> <p>Percent of dominant species that are OBL, FACW, or FAC: <u>0%</u> (A/B)</p> <p>Prevalence Index Worksheet:</p> <p>Total % cover of:</p> <table style="width:100%; border:none;"> <tr> <td>OBL species</td><td align="right"><u>5</u></td><td>x</td><td><u>1</u></td><td align="right"><u>5</u></td> </tr> <tr> <td>FACW species</td><td align="right"><u>0</u></td><td>x</td><td><u>2</u></td><td align="right"><u>0</u></td> </tr> <tr> <td>FAC species</td><td align="right"><u>5</u></td><td>x</td><td><u>3</u></td><td align="right"><u>15</u></td> </tr> <tr> <td>FACU species</td><td align="right"><u>20</u></td><td>x</td><td><u>4</u></td><td align="right"><u>80</u></td> </tr> <tr> <td>UPL species</td><td align="right"><u>70</u></td><td>x</td><td><u>5</u></td><td align="right"><u>350</u></td> </tr> <tr> <td>Column Totals:</td><td align="right"><u>100</u></td><td></td><td></td><td align="right"><u>450</u> (B)</td> </tr> <tr> <td colspan="4"></td> <td align="right">Prevalence Index: <u>4.5</u> (B/A)</td> </tr> </table>	OBL species	<u>5</u>	x	<u>1</u>	<u>5</u>	FACW species	<u>0</u>	x	<u>2</u>	<u>0</u>	FAC species	<u>5</u>	x	<u>3</u>	<u>15</u>	FACU species	<u>20</u>	x	<u>4</u>	<u>80</u>	UPL species	<u>70</u>	x	<u>5</u>	<u>350</u>	Column Totals:	<u>100</u>			<u>450</u> (B)					Prevalence Index: <u>4.5</u> (B/A)
OBL species	<u>5</u>	x	<u>1</u>	<u>5</u>																																				
FACW species	<u>0</u>	x	<u>2</u>	<u>0</u>																																				
FAC species	<u>5</u>	x	<u>3</u>	<u>15</u>																																				
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Column Totals:	<u>100</u>			<u>450</u> (B)																																				
				Prevalence Index: <u>4.5</u> (B/A)																																				
<u>Shrub Stratum</u> Plot size: <u>15'</u>																																								
<u>Herb Stratum</u> Plot size: <u>5'</u>																																								
1. <u>Bromus inermis</u>	<u>70</u>	<u>Y</u>	<u>UPL</u>																																					
2. <u>Schizachyrium scoparium</u>	<u>15</u>	<u>N</u>	<u>FACU</u>																																					
3. <u>Equisetum arvense</u>	<u>5</u>	<u>N</u>	<u>FAC</u>																																					
4. <u>Scirpus cyperinus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>																																					
5. <u>Solidago canadensis</u>	<u>5</u>	<u>N</u>	<u>FACU</u>																																					
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50%= <u>50.0%</u> 20%= <u>20.0%</u>	<u>100</u>	Total Cover																																						
<u>Woody Vine Stratum</u> Plot size: <u>30'</u>																																								
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2. _____																																								
3. _____																																								
4. _____																																								
50%= <u>0.0%</u> 20%= <u>0.0%</u>	<u>0</u>	Total Cover																																						
<p align="center">Hydrophytic Vegetation Indicators:</p> <p><input type="checkbox"/> Rapid Test for Hydrophytic Vegetation</p> <p><input type="checkbox"/> Dominance Test is >50%</p> <p><input type="checkbox"/> Prevalence Index is ≤3.0*</p> <p><input type="checkbox"/> Morphological Adaptations*</p> <p><input type="checkbox"/> Problematic Hydrophytic Vegetation*</p> <p>* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic</p> <p>Definitions of Vegetation Strata:</p> <p>Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height</p> <p>Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1M) tall.</p> <p>Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.</p> <p>Woody Vines - All woody vines greater than 3.28 ft in height.</p> <p>Hydrophytic Vegetation Present?</p> <p align="center">Yes _____ No _____ X _____</p>																																								
<p>Remarks: (Include photo numbers here or on a separate sheet.)</p> <p>The criterion for hydrophytic vegetation is not met.</p>																																								

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

SOIL	Sampling Point: DP18
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Profile Description: (Describe to depth needed to document the indicator or confirm absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type*	Loc**	Texture	Remarks
	Color	%	Color	%				
0-4	10YR 3/2	100					Loamy Sand	
4-18	10YR 4/6	100					Loamy Sand	

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

Hydric Soil Indicators:	Indicators for Problematic Soils
Histosol (A1)	Stripped Matrix (S6)
Histic Epipedon (A2)	2 cm Muck (A10) (LRR K, L, MLRA 149B)
Black Histic (A3)	Coast Prairie Redox (A16)
Hydrogen Sulfide (A4)	5 cm Mucky Peat (S3) (LRR K, L, R)
Stratified Layers (A5)	Dark Surface (S7) (LRR K, L, M)
Depleted Below Dark Surface (A11)	Polyvalve Below Surface (S8) (LRR R, MLRA 149B)
Thick Dark Surface (A12)	Thin Dark Surface (S9)
Sandy Mucky Mineral (S1)	Polyvalve Below Surface (S8) (LRR K, L)
Sandy Gleyed Matrix (S4)	Loamy Mucky Mineral (F1)
Sandy Redox (S5)	Thin Dark Surface (S9) (LRR K, L)
	Loamy Gleyed Matrix (F2)
	Iron-Manganese Masses (F12) (LRR K, L, R)
	Depleted Matrix (F3)
	Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
	Redox Dark Surface (F6)
	Red Parent Material (F21)
	Depleted Dark Surface (F7)
	Very Shallow Dark Surface (TF12)
	Redox Depressions (F8)
	Other (Explain in Remarks)

Restrictive Layer (if observed)

Type: _____ None _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:
The criterion for hydric soil is not met.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

Site: Fire Technology Center City/County: Marinette County Sampling Date: 9/5/2019
 Applicant/Owner: Tyco Fire Products, L.P. State: WI Sampling Point: DP19
 Investigator(s): Ryan Bombeck, Michael Meisenger Section, Township, Range: Section 12, Township 30N, Range 23E
 Landform (hillslope, terrace, etc.): Toe Slope Local relief (concave, convex, none): Concave Slope (%): 0%
 Subregion (LRR or MLRA): LRR K - Northcentral Forests Lat. 45.078427° N Long. 87.641747° W Datum: WGS 84
 Soil Map Unit Name: Shawano loamy fine sand, 2 to 6 percent slopes WWI Classification: None
 Are climatic/hydrologic conditions on the site typical for time of year? Yes X No (If no, explain in the Remarks)
 Are Vegetation Soil or Hydrology X significantly disturbed?
 Are Vegetation Soil or Hydrology naturally problematic?
 Are Normal Circumstances Present? Yes No X (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes X No **Is the Sampled Area within a Wetland?**
 Hydric Soil Present? Yes X No **Yes X No**
 Wetland Hydrology Present? Yes X No If yes, optional Wetland Site ID: W07

Remarks:
 Photo 19 in Appendix B. Wetland data point recorded at the boundary of W07. Hydrology within the data point is significantly disturbed by the discharge of water from nearby firefighting equipment the resulting disturbance has significantly increased the water input to the subject area. Based on the presence of all three parameters, this area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
	Surface Water (A1)		Water Stained Leaves (B9)
X	High Water Table (A2)		Aquatic Fauna (B13)
X	Saturation (A3)		Marl Deposits (B15)
	Water Marks (B1)		Hydrogen Sulfide Odor (C1)
	Sediment Deposits (B2)		Hydrogen Sulfide Odor (C1)
	Drift Deposits (B3)		Oxidized Rhizospheres on Living Roots (C3)
	Algal Mat or Crust (B4)		Presence of Reduced Iron (C4)
	Iron Deposits (B5)		Recent Iron Reduction in Tilled Soil (C6)
	Inundation Visible on Aerial Imagery (B7)		Thin Muck Surface (C7)
	Sparsely Vegetated Concave Surface (B8)		Other (Explain in Remarks)
		X	Surface Soil Cracks (B6)
			Drainage Patterns (B10)
			Moss Tim Lines (B6)
			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)
			Microtopographic Relief (D4)
		X	FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No X Depth (inches) **Wetland Hydrology Present?**
 Water Table Present? Yes X No Depth (inches) 0 **Yes X No**
 Saturation Present? Yes X No Depth (inches) 0

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
 Topographic maps, aerial imagery, WWI data, WDNR Wetland Indicators data.

Remarks:
 The criterion for wetland hydrology is met. Based on WETS analysis, antecedent hydrologic conditions are within a normal range. However, firefighting equipment testing at the nearby facility has significantly increased the water input to the area. Based on the presence of hydric soils and hydrophytic vegetation criteria, it is anticipated that the criteria for wetland hydrology would be met at this data point under under normal circumstances.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

VEGETATION					Sampling Point: DP19																																			
<u>Tree Stratum</u>	Plot size: <u>30'</u>	Absolute % Cover	Dominant Species	Indicator Status	<div style="text-align: right; font-weight: bold;">Dominance Test Worksheet</div> Number of dominant species that are OBL, FACW, or FAC: <u>2</u> (A) Total number of dominant species across all strata: <u>5</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>40%</u> (A/B) <div style="font-weight: bold;">Prevalence Index Worksheet:</div> Total % cover of: <table style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <tr> <td style="width: 30%;">OBL species</td> <td style="width: 10%; text-align: center;"><u>50</u></td> <td style="width: 5%; text-align: center;">x</td> <td style="width: 5%; text-align: center;"><u>1</u></td> <td style="width: 50%; text-align: right;"><u>50</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>20</u></td> <td style="text-align: center;">x</td> <td style="text-align: center;"><u>2</u></td> <td style="text-align: right;"><u>40</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>5</u></td> <td style="text-align: center;">x</td> <td style="text-align: center;"><u>3</u></td> <td style="text-align: right;"><u>15</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>70</u></td> <td style="text-align: center;">x</td> <td style="text-align: center;"><u>4</u></td> <td style="text-align: right;"><u>280</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>2</u></td> <td style="text-align: center;">x</td> <td style="text-align: center;"><u>5</u></td> <td style="text-align: right;"><u>10</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>147</u></td> <td></td> <td style="text-align: center;"><u>(A)</u></td> <td style="text-align: right;"><u>395</u> (B)</td> </tr> <tr> <td colspan="4"></td> <td style="text-align: right;">Prevalence Index: <u>2.7</u> (B/A)</td> </tr> </table>	OBL species	<u>50</u>	x	<u>1</u>	<u>50</u>	FACW species	<u>20</u>	x	<u>2</u>	<u>40</u>	FAC species	<u>5</u>	x	<u>3</u>	<u>15</u>	FACU species	<u>70</u>	x	<u>4</u>	<u>280</u>	UPL species	<u>2</u>	x	<u>5</u>	<u>10</u>	Column Totals:	<u>147</u>		<u>(A)</u>	<u>395</u> (B)					Prevalence Index: <u>2.7</u> (B/A)
OBL species	<u>50</u>	x	<u>1</u>	<u>50</u>																																				
FACW species	<u>20</u>	x	<u>2</u>	<u>40</u>																																				
FAC species	<u>5</u>	x	<u>3</u>	<u>15</u>																																				
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Column Totals:	<u>147</u>		<u>(A)</u>	<u>395</u> (B)																																				
				Prevalence Index: <u>2.7</u> (B/A)																																				
1. <u><i>Betula papyrifera</i></u>		<u>30</u>	<u>Y</u>	<u>FACU</u>																																				
2. <u><i>Acer saccharum</i></u>		<u>20</u>	<u>Y</u>	<u>FACU</u>																																				
3. <u><i>Quercus velutina</i></u>		<u>2</u>	<u>N</u>	<u>UPL</u>																																				
4. _____																																								
5. _____																																								
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7. _____																																								
50%= <u>26.0%</u>	20%= <u>10.4%</u>	<u>52</u>	Total Cover																																					
<u>Shrub Stratum</u>	Plot size: <u>15'</u>				<div style="font-weight: bold;">Hydrophytic Vegetation Indicators:</div> <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0* <input type="checkbox"/> Morphological Adaptations* <input type="checkbox"/> Problematic Hydrophytic Vegetation* * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																																			
1. _____																																								
2. _____																																								
3. _____																																								
4. _____																																								
5. _____																																								
6. _____																																								
7. _____																																								
50%= <u>0.0%</u>	20%= <u>0.0%</u>	<u>0</u>	Total Cover																																					
<u>Herb Stratum</u>	Plot size: <u>5'</u>					<div style="font-weight: bold;">Definitions of Vegetation Strata:</div> Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1M) 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.																																		
1. <u><i>Scirpus cyperinus</i></u>		<u>50</u>	<u>Y</u>	<u>OBL</u>																																				
2. <u><i>Phalaris arundinacea</i></u>		<u>20</u>	<u>Y</u>	<u>FACW</u>																																				
3. <u><i>Solidago canadensis</i></u>		<u>20</u>	<u>Y</u>	<u>FACU</u>																																				
4. <u><i>Equisetum arvense</i></u>		<u>5</u>	<u>N</u>	<u>FAC</u>																																				
5. _____																																								
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11. _____																																								
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50%= <u>47.5%</u>	20%= <u>19.0%</u>	<u>95</u>	Total Cover																																					
<u>Woody Vine Stratum</u>	Plot size: <u>30'</u>				<div style="font-weight: bold;">Hydrophytic Vegetaion Present?</div> Yes <u> X </u> No _____																																			
1. _____																																								
2. _____																																								
3. _____																																								
4. _____																																								
50%= <u>0.0%</u>	20%= <u>0.0%</u>	<u>0</u>	Total Cover																																					
Remarks: (Include photo numbers here or on a separate sheet.) The criterion for hydrophytic vegetation is met.																																								

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

SOIL	Sampling Point: DP19
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Profile Description: (Describe to depth needed to document the indicator or confirm absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type*	Loc**	Texture	Remarks
	Color	%	Color	%				
0-5	10YR 2/1	100					Loamy Sand	Mucky.
5-12	10YR 2/2	50					Sandy Loam	Mixed matrix.
	10YR 4/2	50						
12-20	10YR 4/6	100					Loamy Sand	

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

Hydric Soil Indicators:			Indicators for Problematic Soils	
	Histosol (A1)		Stripped Matrix (S6)	2 cm Muck (A10) (LRR K, L, MLRA 149B)
	Histic Epipedon (A2)		Dark Surface (S7)(LRR R,MLRA 149B)	Coast Prairie Redox (A16)
	Black Histic (A3)		Polyvalve Below Surface (S8) (LRR R, MLRA 149B)	5 cm Mucky Peat (S3) (LRR K, L, R)
	Hydrogen Sulfide (A4)			Dark Surface (S7) (LRR K, L, M)
	Stratified Layers (A5)		Thin Dark Surface (S9)	Polyvalve Below Surface (S8) (LRR K, L)
	Depleted Below Dark Surface (A11)		Loamy Mucky Mineral (F1)	Thin Dark Surface (S9) (LRR K, L)
	Thick Dark Surface (A12)		Loamy Gleyed Matrix (F2)	Iron-Manganese Masses (F12) (LRR K, L, R)
X	Sandy Mucky Mineral (S1)		Depleted Matrix (F3)	Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
	Sandy Gleyed Matrix (S4)		Redox Dark Surface (F6)	Red Parent Material (F21)
	Sandy Redox (S5)		Depleted Dark Surface (F7)	Very Shallow Dark Surface (TF12)
			Redox Depressions (F8)	Other (Explain in Remarks)

<p>Restrictive Layer (if observed)</p> <p>Type: None</p> <p>Depth (inches): _____</p>	<p>Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____</p>
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Remarks:
The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

Site: Fire Technology Center City/County: Marinette County Sampling Date: 9/5/2019
 Applicant/Owner: Tyco Fire Products, L.P. State: WI Sampling Point: DP20
 Investigator(s): Ryan Bombeck, Michael Meisenger Section, Township, Range: Section 12, Township 30N, Range 23E
 Landform (hillslope,terrace,etc.): Terrace Local relief (concave, convex, none): Convex Slope (%): 0%
 Subregion(LRR or MLRA): LRR K - Northcentral Forests Lat. 45.078535° N Long. 87.641503° W Datum: WGS 84
 Soil Map Unit Name: Shawano loamy fine sand, 2 to 6 percent slopes WWI Classification: None
 Are climatic/hydrologic conditions on the site typical for time of year? Yes X No (If no, explain in the Remarks)
 Are Vegetation Soil or Hydrology X significantly disturbed?
 Are Vegetation Soil or Hydrology naturally problematic?
 Are Normal Circumstances Present? Yes No X (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes X No **Is the Sampled Area within a Wetland?**
 Hydric Soil Present? Yes X No **Yes X No**
 Wetland Hydrology Present? Yes X No If yes, optional Wetland Site ID: W07

Remarks:
 Photo 20 in Appendix B. Wetland data point recorded within W07 on slight rise with more non-hydrophytic vegetation than surrounding area. Hydrology within the data point is significantly disturbed by the discharge of water from nearby firefighting equipment the resulting disturbance has significantly increased the water input to the subject area. Based on the presence of all three parameters, this area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
<input type="checkbox"/>	Surface Water (A1)	<input type="checkbox"/>	Water Stained Leaves (B9)
<input checked="" type="checkbox"/>	High Water Table (A2)	<input type="checkbox"/>	Aquatic Fauna (B13)
<input checked="" type="checkbox"/>	Saturation (A3)	<input type="checkbox"/>	Marl Deposits (B15)
<input type="checkbox"/>	Water Marks (B1)	<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)
<input type="checkbox"/>	Sediment Deposits (B2)	<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/>	Drift Deposits (B3)	<input type="checkbox"/>	Presence of Reduced Iron (C4)
<input type="checkbox"/>	Algal Mat or Crust (B4)	<input type="checkbox"/>	Recent Iron Reduction in Tilled Soil (C6)
<input type="checkbox"/>	Iron Deposits (B5)	<input type="checkbox"/>	Thin Muck Surface (C7)
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/>	Other (Explain in Remarks)
<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)	<input checked="" type="checkbox"/>	FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No X Depth (inches) **Wetland Hydrology Present?**
 Water Table Present? Yes X No Depth (inches) 5 **Yes X No**
 Saturation Present? Yes X No Depth (inches) 0

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
 Topographic maps, aerial imagery, WWI data, WDNR Wetland Indicators data.

Remarks:
 The criterion for wetland hydrology is met. Based on WETS analysis, antecedent hydrologic conditions are within a normal range. However, firefighting equipment testing at the nearby facility has significantly increased the water input to the area. Based on the presence of hydric soils and hydrophytic vegetation criteria, it is anticipated that the criteria for wetland hydrology would be met at this data point under under normal circumstances.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

VEGETATION					Sampling Point: DP20																														
<u>Tree Stratum</u>	Plot size: <u>30'</u>	Absolute % Cover	Dominant Species	Indicator Status	<div style="text-align: right; font-weight: bold; margin-bottom: 10px;">Dominance Test Worksheet</div> 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% (A/B) <div style="text-align: right; font-weight: bold; margin-bottom: 5px;">Prevalence Index Worksheet:</div> Total % cover of: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">OBL species</td> <td style="width: 10%; text-align: center; border-bottom: 1px solid black;">60</td> <td style="width: 5%; text-align: center;">x</td> <td style="width: 5%; text-align: center;">1</td> <td style="width: 10%; text-align: center; border-bottom: 1px solid black;">60</td> </tr> <tr> <td>FACW species</td> <td style="text-align: center; border-bottom: 1px solid black;">5</td> <td style="text-align: center;">x</td> <td style="text-align: center;">2</td> <td style="text-align: center; border-bottom: 1px solid black;">10</td> </tr> <tr> <td>FAC species</td> <td style="text-align: center; border-bottom: 1px solid black;">6</td> <td style="text-align: center;">x</td> <td style="text-align: center;">3</td> <td style="text-align: center; border-bottom: 1px solid black;">18</td> </tr> <tr> <td>FACU species</td> <td style="text-align: center; border-bottom: 1px solid black;">10</td> <td style="text-align: center;">x</td> <td style="text-align: center;">4</td> <td style="text-align: center; border-bottom: 1px solid black;">40</td> </tr> <tr> <td>UPL species</td> <td style="text-align: center; border-bottom: 1px solid black;">20</td> <td style="text-align: center;">x</td> <td style="text-align: center;">5</td> <td style="text-align: center; border-bottom: 1px solid black;">100</td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center; border-bottom: 1px solid black;">101</td> <td></td> <td></td> <td style="text-align: center; border-bottom: 1px solid black;">228</td> </tr> </table> Prevalence Index: 2.3 (B/A)	OBL species	60	x	1	60	FACW species	5	x	2	10	FAC species	6	x	3	18	FACU species	10	x	4	40	UPL species	20	x	5	100	Column Totals:	101			228
OBL species	60	x	1	60																															
FACW species	5	x	2	10																															
FAC species	6	x	3	18																															
FACU species	10	x	4	40																															
UPL species	20	x	5	100																															
Column Totals:	101			228																															
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50%= 0.0%	20%= 0.0%	0	Total Cover																																
<u>Shrub Stratum</u>	Plot size: <u>15'</u>				<div style="text-align: right; font-weight: bold; margin-bottom: 10px;">Hydrophytic Vegetation Indicators:</div> <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0* Morphological Adaptations* Problematic Hydrophytic Vegetation* * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic <div style="text-align: right; font-weight: bold; margin-bottom: 5px;">Definitions of Vegetation Strata:</div> Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1M) 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. <div style="text-align: right; font-weight: bold; margin-bottom: 5px;">Hydrophytic Vegetaion Present?</div> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																														
1. _____																																			
2. _____																																			
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7. _____																																			
50%= 0.0%	20%= 0.0%	0	Total Cover																																
<u>Herb Stratum</u>	Plot size: <u>5'</u>																																		
1. <u>Scirpus cyperinus</u>		60	Y	OBL																															
2. <u>Comptonia peregrina</u>		20	N	UPL																															
3. <u>Solidago canadensis</u>		10	N	FACU																															
4. <u>Equisetum arvense</u>		5	N	FAC																															
5. <u>Solidago gigantea</u>		5	N	FACW																															
6. <u>Rhamnus cathartica</u>		1	N	FAC																															
7. _____																																			
8. _____																																			
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10. _____																																			
11. _____																																			
12. _____																																			
50%= 50.5%	20%= 20.2%	101	Total Cover																																
<u>Woody Vine Stratum</u>	Plot size: <u>30'</u>																																		
1. _____																																			
2. _____																																			
3. _____																																			
4. _____																																			
50%= 0.0%	20%= 0.0%	0	Total Cover																																

Remarks: (Include photo numbers here or on a separate sheet.)
 The criterion for hydrophytic vegetation is met.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

SOIL	Sampling Point: DP20
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Profile Description: (Describe to depth needed to document the indicator or confirm absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type*	Loc**	Texture	Remarks
	Color	%	Color	%				
0-2	10YR 2/1	100					Sandy Loam	Mucky.
2-13	10YR 3/2	95	10YR 4/6	5	C	M	Sandy Loam	
13-20	10YR 4/6	100					Loamy Sand	

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

Hydric Soil Indicators:	Indicators for Problematic Soils
Histosol (A1)	Stripped Matrix (S6)
Histic Epipedon (A2)	2 cm Muck (A10) (LRR K, L, MLRA 149B)
Black Histic (A3)	Coast Prairie Redox (A16)
Hydrogen Sulfide (A4)	5 cm Mucky Peat (S3) (LRR K, L, R)
Stratified Layers (A5)	Dark Surface (S7) (LRR K, L, M)
Depleted Below Dark Surface (A11)	Polyvalve Below Surface (S8) (LRR R, MLRA 149B)
Thick Dark Surface (A12)	Thin Dark Surface (S9)
Sandy Mucky Mineral (S1)	Polyvalve Below Surface (S8) (LRR K, L)
Sandy Gleyed Matrix (S4)	Loamy Mucky Mineral (F1)
Sandy Redox (S5)	Thin Dark Surface (S9) (LRR K, L)
	Loamy Gleyed Matrix (F2)
	Iron-Manganese Masses (F12) (LRR K, L, R)
	Depleted Matrix (F3)
	Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
	X Redox Dark Surface (F6)
	Red Parent Material (F21)
	Depleted Dark Surface (F7)
	Very Shallow Dark Surface (TF12)
	Redox Depressions (F8)
	Other (Explain in Remarks)

<p>Restrictive Layer (if observed)</p> <p>Type: None</p> <p>Depth (inches): _____</p>	<p>Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
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Remarks:
The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

Site: Fire Technology Center City/County: Marinette County Sampling Date: 9/5/2019
 Applicant/Owner: Tyco Fire Products, L.P. State: WI Sampling Point: DP21
 Investigator(s): Ryan Bombeck, Michael Meisenger Section, Township, Range: Section 12, Township 30N, Range 23E
 Landform (hillslope, terrace, etc.): Toe Slope Local relief (concave, convex, none): Concave Slope (%): 0%
 Subregion (LRR or MLRA): LRR K - Northcentral Forests Lat. 45.078579° N Long. 87.641694° W Datum: WGS 84
 Soil Map Unit Name: Rousseau loamy fine sand, 1 to 6 percent slopes WWI Classification: None
 Are climatic/hydrologic conditions on the site typical for time of year? Yes X No (If no, explain in the Remarks)
 Are Vegetation Soil or Hydrology X significantly disturbed?
 Are Vegetation Soil or Hydrology naturally problematic?
 Are Normal Circumstances Present? Yes No X (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes X No **Is the Sampled Area within a Wetland?**
 Hydric Soil Present? Yes X No **Yes X No**
 Wetland Hydrology Present? Yes X No If yes, optional Wetland Site ID: W07

Remarks:
 Photo 21 in Appendix B. Wetland data point recorded at the boundary of W07. Hydrology within the data point is significantly disturbed by the discharge of water from nearby firefighting equipment the resulting disturbance has significantly increased the water input to the subject area. Based on the presence of all three parameters, this area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
<input type="checkbox"/>	Surface Water (A1)	<input type="checkbox"/>	Water Stained Leaves (B9)
<input checked="" type="checkbox"/>	High Water Table (A2)	<input type="checkbox"/>	Aquatic Fauna (B13)
<input checked="" type="checkbox"/>	Saturation (A3)	<input type="checkbox"/>	Marl Deposits (B15)
<input type="checkbox"/>	Water Marks (B1)	<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)
<input type="checkbox"/>	Sediment Deposits (B2)	<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)
<input type="checkbox"/>	Drift Deposits (B3)	<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/>	Algal Mat or Crust (B4)	<input type="checkbox"/>	Presence of Reduced Iron (C4)
<input type="checkbox"/>	Iron Deposits (B5)	<input type="checkbox"/>	Recent Iron Reduction in Tilled Soil (C6)
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/>	Thin Muck Surface (C7)
<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/>	Other (Explain in Remarks)
		<input checked="" type="checkbox"/>	Surface Soil Cracks (B6)
		<input type="checkbox"/>	Drainage Patterns (B10)
		<input type="checkbox"/>	Moss Tim Lines (B6)
		<input type="checkbox"/>	Dry-Season Water Table (C2)
		<input type="checkbox"/>	Crayfish Burrows (C8)
		<input type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)
		<input type="checkbox"/>	Stunted or Stressed Plants (D1)
		<input checked="" type="checkbox"/>	Geomorphic Position (D2)
		<input type="checkbox"/>	Shallow Aquitard (D3)
		<input type="checkbox"/>	Microtopographic Relief (D4)
		<input checked="" type="checkbox"/>	FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No X Depth (inches) **Wetland Hydrology Present?**
 Water Table Present? Yes X No Depth (inches) 0 **Yes X No**
 Saturation Present? Yes X No Depth (inches) 0

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
 Topographic maps, aerial imagery, WWI data, WDNR Wetland Indicators data.

Remarks:
 The criterion for wetland hydrology is met. Based on WETS analysis, antecedent hydrologic conditions are within a normal range. However, firefighting equipment testing at the nearby facility has significantly increased the water input to the area. Based on the presence of hydric soils and hydrophytic vegetation criteria, it is anticipated that the criteria for wetland hydrology would be met at this data point under under normal circumstances.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

VEGETATION					Sampling Point: DP21																																			
<u>Tree Stratum</u>	Plot size: <u>30'</u>	Absolute % Cover	Dominant Species	Indicator Status	<div style="text-align: right;">Dominance Test Worksheet</div> Number of dominant species that are OBL, FACW, or FAC: <u>2</u> (A) Total number of dominant species across all strata: <u>2</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>100%</u> (A/B) <div style="text-align: right;">Prevalence Index Worksheet:</div> Total % cover of: <table style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <tr> <td style="width: 30%;">OBL species</td> <td style="width: 10%; text-align: center;"><u>32</u></td> <td style="width: 5%; text-align: center;">x</td> <td style="width: 5%; text-align: center;"><u>1</u></td> <td style="width: 50%; text-align: right;"><u>32</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>60</u></td> <td style="text-align: center;">x</td> <td style="text-align: center;"><u>2</u></td> <td style="text-align: right;"><u>120</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x</td> <td style="text-align: center;"><u>3</u></td> <td style="text-align: right;"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>5</u></td> <td style="text-align: center;">x</td> <td style="text-align: center;"><u>4</u></td> <td style="text-align: right;"><u>20</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>5</u></td> <td style="text-align: center;">x</td> <td style="text-align: center;"><u>5</u></td> <td style="text-align: right;"><u>25</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>102</u></td> <td></td> <td style="text-align: center;"><u>(A)</u></td> <td style="text-align: right;"><u>197</u> (B)</td> </tr> <tr> <td colspan="4"></td> <td style="text-align: right;">Prevalence Index: <u>1.9</u> (B/A)</td> </tr> </table>	OBL species	<u>32</u>	x	<u>1</u>	<u>32</u>	FACW species	<u>60</u>	x	<u>2</u>	<u>120</u>	FAC species	<u>0</u>	x	<u>3</u>	<u>0</u>	FACU species	<u>5</u>	x	<u>4</u>	<u>20</u>	UPL species	<u>5</u>	x	<u>5</u>	<u>25</u>	Column Totals:	<u>102</u>		<u>(A)</u>	<u>197</u> (B)					Prevalence Index: <u>1.9</u> (B/A)
OBL species	<u>32</u>	x	<u>1</u>	<u>32</u>																																				
FACW species	<u>60</u>	x	<u>2</u>	<u>120</u>																																				
FAC species	<u>0</u>	x	<u>3</u>	<u>0</u>																																				
FACU species	<u>5</u>	x	<u>4</u>	<u>20</u>																																				
UPL species	<u>5</u>	x	<u>5</u>	<u>25</u>																																				
Column Totals:	<u>102</u>		<u>(A)</u>	<u>197</u> (B)																																				
				Prevalence Index: <u>1.9</u> (B/A)																																				
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50%= 0.0%	20%= 0.0%	<u>0</u>	Total Cover																																					
<u>Shrub Stratum</u>	Plot size: <u>15'</u>				<div style="text-align: right;">Hydrophytic Vegetation Indicators:</div> <input checked="" type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0* Morphological Adaptations* Problematic Hydrophytic Vegetation* * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																																			
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7. _____																																								
50%= 0.0%	20%= 0.0%	<u>0</u>	Total Cover																																					
<u>Herb Stratum</u>	Plot size: <u>5'</u>					<div style="text-align: right;">Definitions of Vegetation Strata:</div> Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1M) 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.																																		
1. <u>Phalaris arundinacea</u>		55	Y	FACW																																				
2. <u>Scirpus cyperinus</u>		30	Y	OBL																																				
3. <u>Solidago canadensis</u>		5	N	FACU																																				
4. <u>Solidago gigantea</u>		5	N	FACW																																				
5. <u>Daucus carota</u>		5	N	UPL																																				
6. <u>Juncus effusus</u>		2	N	OBL																																				
7. _____																																								
8. _____																																								
9. _____																																								
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12. _____																																								
50%= 51.0%	20%= 20.4%	<u>102</u>	Total Cover																																					
<u>Woody Vine Stratum</u>	Plot size: <u>30'</u>				<div style="text-align: right;">Hydrophytic Vegetaion Present?</div> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																																			
1. _____																																								
2. _____																																								
3. _____																																								
4. _____																																								
50%= 0.0%	20%= 0.0%	<u>0</u>	Total Cover																																					

Remarks: (Include photo numbers here or on a separate sheet.)
 The criterion for hydrophytic vegetation is met.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

SOIL	Sampling Point: DP21
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Profile Description: (Describe to depth needed to document the indicator or confirm absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type*	Loc**	Texture	Remarks
	Color	%	Color	%				
0-3	10YR 2/2	100					Sandy Loam	Mucky.
3-8	10YR 2/2	95	10YR 4/6	5	C	M	Sandy Loam	Prominent redox concentrations.
8-20	10YR 3/3	80	10YR 4/6	20	C	M	Loamy Sand	Distinct redox concentrations.

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

Hydric Soil Indicators:	Indicators for Problematic Soils
Histosol (A1)	Stripped Matrix (S6)
Histic Epipedon (A2)	2 cm Muck (A10) (LRR K, L, MLRA 149B)
Black Histic (A3)	Coast Prairie Redox (A16)
Hydrogen Sulfide (A4)	5 cm Mucky Peat (S3) (LRR K, L, R)
Stratified Layers (A5)	Dark Surface (S7) (LRR K, L, M)
Depleted Below Dark Surface (A11)	Polyvalve Below Surface (S8) (LRR R, MLRA 149B)
Thick Dark Surface (A12)	Thin Dark Surface (S9)
Sandy Mucky Mineral (S1)	Polyvalve Below Surface (S8) (LRR K, L)
Sandy Gleyed Matrix (S4)	Loamy Mucky Mineral (F1)
Sandy Redox (S5)	Thin Dark Surface (S9) (LRR K, L)
	Loamy Gleyed Matrix (F2)
	Iron-Manganese Masses (F12) (LRR K, L, R)
	Depleted Matrix (F3)
	Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
	X Redox Dark Surface (F6)
	Red Parent Material (F21)
	Depleted Dark Surface (F7)
	Very Shallow Dark Surface (TF12)
	Redox Depressions (F8)
	Other (Explain in Remarks)

<p>Restrictive Layer (if observed)</p> <p>Type: None</p> <p>Depth (inches): </p>	<p>Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
---	--

Remarks:
The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

Site: Fire Technology Center City/County: Marinette County Sampling Date: 9/5/2019
 Applicant/Owner: Tyco Fire Products, L.P. State: WI Sampling Point: DP22
 Investigator(s): Ryan Bombeck, Michael Meisenger Section, Township, Range: Section 12, Township 30N, Range 23E
 Landform (hillslope,terrace,etc.): Back Slope Local relief (concave, convex, none): Convex Slope (%): 2%
 Subregion(LRR or MLRA): LRR K - Northcentral Forests Lat. 45.078620° N Long. 87.641702° W Datum: WGS 84
 Soil Map Unit Name: Rousseau loamy fine sand, 1 to 6 percent slopes WWI Classification: None
 Are climatic/hydrologic conditions on the site typical for time of year? Yes X No (If no, explain in the Remarks)
 Are Vegetation Soil or Hydrology significantly disturbed?
 Are Vegetation Soil or Hydrology naturally problematic?
 Are Normal Circumstances Present? Yes X No (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?
Hydric Soil Present? Yes <u> </u> No <u>X</u>	Yes <u> </u> No <u>X</u>
Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	If yes, optional Wetland Site ID: <u> </u>

Remarks:
 Photo 22 in Appendix B. Upland data point recorded at the boundary of W07. Based on the absence of all three parameters, this area is an upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
<input type="checkbox"/>	Surface Water (A1)	<input type="checkbox"/>	Water Stained Leaves (B9)
<input type="checkbox"/>	High Water Table (A2)	<input type="checkbox"/>	Aquatic Fauna (B13)
<input type="checkbox"/>	Saturation (A3)	<input type="checkbox"/>	Marl Deposits (B15)
<input type="checkbox"/>	Water Marks (B1)	<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)
<input type="checkbox"/>	Sediment Deposits (B2)	<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/>	Drift Deposits (B3)	<input type="checkbox"/>	Presence of Reduced Iron (C4)
<input type="checkbox"/>	Algal Mat or Crust (B4)	<input type="checkbox"/>	Recent Iron Reduction in Tilled Soil (C6)
<input type="checkbox"/>	Iron Deposits (B5)	<input type="checkbox"/>	Thin Muck Surface (C7)
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/>	Other (Explain in Remarks)
<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/>	
		<input type="checkbox"/>	Surface Soil Cracks (B6)
		<input type="checkbox"/>	Drainage Patterns (B10)
		<input type="checkbox"/>	Moss Tim Lines (B6)
		<input type="checkbox"/>	Dry-Season Water Table (C2)
		<input type="checkbox"/>	Crayfish Burrows (C8)
		<input type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)
		<input type="checkbox"/>	Stunted or Stressed Plants (D1)
		<input type="checkbox"/>	Geomorphic Position (D2)
		<input type="checkbox"/>	Shallow Aquitard (D3)
		<input type="checkbox"/>	Microtopographic Relief (D4)
		<input type="checkbox"/>	FAC-Neutral Test (D5)

Field Observations:	Wetland Hydrology Present?
Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches) <u> </u>	Yes <u> </u> No <u>X</u>
Water Table Present? Yes <u> </u> No <u>X</u> Depth (inches) <u> </u>	
Saturation Present? Yes <u> </u> No <u>X</u> Depth (inches) <u> </u>	

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
 Topographic maps, aerial imagery, WWI data, WDNR Wetland Indicators data.

Remarks:
 The criterion for wetland hydrology is not met. Based on WETS analysis, antecedent hydrologic conditions are within a normal range. This data point is at a high enough elevation on the landscape that it is not influenced by the water increase from nearby firefighting equipment testing.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

VEGETATION					Sampling Point: DP22																																			
<u>Tree Stratum</u>	Plot size: <u>30'</u>	Absolute % Cover	Dominant Species	Indicator Status	<div style="text-align: right; font-weight: bold; margin-bottom: 10px;">Dominance Test Worksheet</div> 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% (A/B) <div style="font-weight: bold; margin-bottom: 5px;">Prevalence Index Worksheet:</div> Total % cover of: <table style="width: 100%; margin-top: 5px;"> <tr> <td>OBL species</td><td style="text-align: right;">5</td><td>x</td><td>1</td><td style="text-align: right;">5</td></tr> <tr> <td>FACW species</td><td style="text-align: right;">0</td><td>x</td><td>2</td><td style="text-align: right;">0</td></tr> <tr> <td>FAC species</td><td style="text-align: right;">5</td><td>x</td><td>3</td><td style="text-align: right;">15</td></tr> <tr> <td>FACU species</td><td style="text-align: right;">6</td><td>x</td><td>4</td><td style="text-align: right;">24</td></tr> <tr> <td>UPL species</td><td style="text-align: right;">86</td><td>x</td><td>5</td><td style="text-align: right;">430</td></tr> <tr> <td>Column Totals:</td><td style="text-align: right;">102 (A)</td><td></td><td></td><td style="text-align: right;">474 (B)</td></tr> <tr> <td>Prevalence Index:</td><td colspan="4" style="text-align: right; border: 1px solid black;">4.6 (B/A)</td></tr> </table> <div style="font-weight: bold; margin-bottom: 5px;">Hydrophytic Vegetation Indicators:</div> <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0* <input type="checkbox"/> Morphological Adaptations* <input type="checkbox"/> Problematic Hydrophytic Vegetation* * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	OBL species	5	x	1	5	FACW species	0	x	2	0	FAC species	5	x	3	15	FACU species	6	x	4	24	UPL species	86	x	5	430	Column Totals:	102 (A)			474 (B)	Prevalence Index:	4.6 (B/A)			
OBL species	5	x	1	5																																				
FACW species	0	x	2	0																																				
FAC species	5	x	3	15																																				
FACU species	6	x	4	24																																				
UPL species	86	x	5	430																																				
Column Totals:	102 (A)			474 (B)																																				
Prevalence Index:	4.6 (B/A)																																							
1. _____																																								
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50%= 0.0%	20%= 0.0%	0	Total Cover																																					
<u>Shrub Stratum</u>	Plot size: <u>15'</u>																																							
1. _____																																								
2. _____																																								
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50%= 0.0%	20%= 0.0%	0	Total Cover																																					
<u>Herb Stratum</u>	Plot size: <u>5'</u>					<div style="font-weight: bold; margin-bottom: 5px;">Definitions of Vegetation Strata:</div> Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1M) 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.																																		
1. <u>Bromus inermis</u>		85	Y	UPL																																				
2. <u>Equisetum arvense</u>		5	N	FAC																																				
3. <u>Scirpus cyperinus</u>		5	N	OBL																																				
4. <u>Solidago canadensis</u>		5	N	FACU																																				
5. <u>Schizachyrium scoparium</u>		1	N	FACU																																				
6. <u>Medicago sativa</u>		1	N	UPL																																				
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50%= 51.0%	20%= 20.4%	102	Total Cover																																					
<u>Woody Vine Stratum</u>	Plot size: <u>30'</u>				<div style="font-weight: bold; margin-bottom: 5px;">Hydrophytic Vegetaion Present?</div> Yes _____ No _____ X _____																																			
1. _____																																								
2. _____																																								
3. _____																																								
4. _____																																								
50%= 0.0%	20%= 0.0%	0	Total Cover																																					
Remarks: (Include photo numbers here or on a separate sheet.) The criterion for hydrophytic vegetation is not met.																																								

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

SOIL

Sampling Point: DP22

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

Depth (inches)	Matrix		Redox Features		Type*	Loc**	Texture	Remarks
	Color	%	Color	%				
0-9	10YR 2/1	100					Sandy Loam	
9-14	10YR 3/3	85	10YR 4/6	15	C	M	Loamy Sand	Distinct redox concentrations.
14-20	10YR 2/1	50					Loamy Sand	Mixed matrix.
	10YR 4/6	50						

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

Hydric Soil Indicators:	Indicators for Problematic Soils
Histosol (A1)	Stripped Matrix (S6)
Histic Epipedon (A2)	2 cm Muck (A10) (LRR K, L, MLRA 149B)
Black Histic (A3)	Coast Prairie Redox (A16)
Hydrogen Sulfide (A4)	5 cm Mucky Peat (S3) (LRR K, L, R)
Stratified Layers (A5)	Dark Surface (S7) (LRR K, L, M)
Depleted Below Dark Surface (A11)	Polyvalve Below Surface (S8) (LRR K, L)
Thick Dark Surface (A12)	Thin Dark Surface (S9) (LRR K, L)
Sandy Mucky Mineral (S1)	Loamy Mucky Mineral (F1)
Sandy Gleyed Matrix (S4)	Loamy Gleyed Matrix (F2)
Sandy Redox (S5)	Depleted Matrix (F3)
	Redox Dark Surface (F6)
	Depleted Dark Surface (F7)
	Redox Depressions (F8)
	Other (Explain in Remarks)

Restrictive Layer (if observed)

Type: None

Depth (inches):

Hydric Soil Present? Yes **No** **X**

Remarks:
The criterion for hydric soil is not met.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

Site: Fire Technology Center City/County: Marinette County Sampling Date: 8/27/2019
 Applicant/Owner: Tyco Fire Products, L.P. State: WI Sampling Point: DP23
 Investigator(s): Ryan Bombeck, Michael Meisenger Section, Township, Range: Section 13, Township 30N, Range 23E
 Landform (hillslope,terrace,etc.): Toe Slope Local relief (concave, convex, none): Concave Slope (%): 2%
 Subregion(LRR or MLRA): LRR K - Northcentral Forests Lat. 45.075607° N Long. 87.643915° W Datum: WGS 84
 Soil Map Unit Name: Udorthents, loamy, nearly level WWI Classification: None
 Are climatic/hydrologic conditions on the site typical for time of year? Yes X No (If no, explain in the Remarks)
 Are Vegetation Soil or Hydrology significantly disturbed?
 Are Vegetation Soil or Hydrology naturally problematic?
 Are Normal Circumstances Present? Yes X No (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes X No **Is the Sampled Area within a Wetland?**
 Hydric Soil Present? Yes X No **Yes X No**
 Wetland Hydrology Present? Yes X No If yes, optional Wetland Site ID: W08

Remarks:
 Photo 23 in Appendix B. Wetland data point recorded at the boundary of W08. Based on the presence of all three parameters, this area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)			
	Surface Water (A1)		Water Stained Leaves (B9)		Surface Soil Cracks (B6)
X	High Water Table (A2)		Aquatic Fauna (B13)		Drainage Patterns (B10)
X	Saturation (A3)		Marl Deposits (B15)		Moss Tim Lines (B6)
	Water Marks (B1)		Hydrogen Sulfide Odor (C1)		Dry-Season Water Table (C2)
	Sediment Deposits (B2)		Oxidized Rhizospheres on Living Roots (C3)		Crayfish Burrows (C8)
	Drift Deposits (B3)			Saturation Visible on Aerial Imagery (C9)	
	Algal Mat or Crust (B4)		Presence of Reduced Iron (C4)		Stunted or Stressed Plants (D1)
	Iron Deposits (B5)		Recent Iron Reduction in Tilled Soil (C6)	X	Geomorphic Position (D2)
	Inundation Visible on Aerial Imagery (B7)			Shallow Aquitard (D3)	
		Thin Muck Surface (C7)		Microtopographic Relief (D4)	
	Sparsely Vegetated Concave Surface (B8)		Other (Explain in Remarks)	X	FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes <u> </u> No <u>X</u>	Depth (inches) <u> </u>	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
Water Table Present?	Yes <u>X</u> No <u> </u>	Depth (inches) <u>0</u>	
Saturation Present?	Yes <u>X</u> No <u> </u>	Depth (inches) <u>0</u>	

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
 Topographic maps, aerial imagery, WWI data, WDNR Wetland Indicators data.

Remarks:
 The criterion for wetland hydrology is met. Based on WETS analysis, antecedent hydrologic conditions are within a normal range. However, firefighting equipment testing at the nearby facility has significantly increased the water input to the area. Based on the presence of hydric soils and hydrophytic vegetation criteria, it is anticipated that the criteria for wetland hydrology would be met at this data point under under normal circumstances.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

VEGETATION					Sampling Point: DP23																																			
<u>Tree Stratum</u> Plot size: 30'		Absolute % Cover	Dominant Species	Indicator Status	<p align="center">Dominance Test Worksheet</p> <p>Number of dominant species that are OBL, FACW, or FAC: <u>2</u> (A)</p> <p>Total number of dominant species across all strata: <u>2</u> (B)</p> <p>Percent of dominant species that are OBL, FACW, or FAC: <u>100%</u> (A/B)</p> <p>Prevalence Index Worksheet:</p> <p>Total % cover of:</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td>OBL species</td> <td align="right"><u>106</u></td> <td>x</td> <td><u>1</u></td> <td align="right"><u>106</u></td> </tr> <tr> <td>FACW species</td> <td align="right"><u>1</u></td> <td>x</td> <td><u>2</u></td> <td align="right"><u>2</u></td> </tr> <tr> <td>FAC species</td> <td align="right"><u>0</u></td> <td>x</td> <td><u>3</u></td> <td align="right"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td align="right"><u>0</u></td> <td>x</td> <td><u>4</u></td> <td align="right"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td align="right"><u>0</u></td> <td>x</td> <td><u>5</u></td> <td align="right"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="right"><u>107</u></td> <td></td> <td></td> <td align="right"><u>108</u> (B)</td> </tr> <tr> <td colspan="4"></td> <td align="right">Prevalence Index: <u>1.0</u> (B/A)</td> </tr> </table>	OBL species	<u>106</u>	x	<u>1</u>	<u>106</u>	FACW species	<u>1</u>	x	<u>2</u>	<u>2</u>	FAC species	<u>0</u>	x	<u>3</u>	<u>0</u>	FACU species	<u>0</u>	x	<u>4</u>	<u>0</u>	UPL species	<u>0</u>	x	<u>5</u>	<u>0</u>	Column Totals:	<u>107</u>			<u>108</u> (B)					Prevalence Index: <u>1.0</u> (B/A)
OBL species	<u>106</u>	x	<u>1</u>	<u>106</u>																																				
FACW species	<u>1</u>	x	<u>2</u>	<u>2</u>																																				
FAC species	<u>0</u>	x	<u>3</u>	<u>0</u>																																				
FACU species	<u>0</u>	x	<u>4</u>	<u>0</u>																																				
UPL species	<u>0</u>	x	<u>5</u>	<u>0</u>																																				
Column Totals:	<u>107</u>			<u>108</u> (B)																																				
				Prevalence Index: <u>1.0</u> (B/A)																																				
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50%= 0.0%	20%= 0.0%	<u>0</u>	Total Cover																																					
<u>Shrub Stratum</u> Plot size: 15'																																								
1. _____	_____	_____	_____	_____																																				
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50%= 0.0%	20%= 0.0%	<u>0</u>	Total Cover																																					
<u>Herb Stratum</u> Plot size: 5'																																								
1. <u>Eleocharis acicularis</u>	<u>50</u>	<u>Y</u>	<u>OBL</u>																																					
2. <u>Typha angustifolia</u>	<u>40</u>	<u>Y</u>	<u>OBL</u>																																					
3. <u>Juncus effusus</u>	<u>10</u>	<u>N</u>	<u>OBL</u>																																					
4. <u>Scirpus cyperinus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>																																					
5. <u>Mentha arvensis</u>	<u>1</u>	<u>N</u>	<u>FACW</u>																																					
6. <u>Pericaria punctata</u>	<u>1</u>	<u>N</u>	<u>OBL</u>																																					
7. _____	_____	_____	_____																																					
8. _____	_____	_____	_____																																					
9. _____	_____	_____	_____																																					
10. _____	_____	_____	_____																																					
11. _____	_____	_____	_____																																					
12. _____	_____	_____	_____																																					
50%= 53.5%	20%= 21.4%	<u>107</u>	Total Cover																																					
<u>Woody Vine Stratum</u> Plot size: 30'																																								
1. _____	_____	_____	_____																																					
2. _____	_____	_____	_____																																					
3. _____	_____	_____	_____																																					
4. _____	_____	_____	_____																																					
50%= 0.0%	20%= 0.0%	<u>0</u>	Total Cover																																					

Hydrophytic Vegetation Indicators:

Rapid Test for Hydrophytic Vegetation

Dominance Test is >50%

Prevalence Index is ≤3.0*

Morphological Adaptations*

Problematic Hydrophytic Vegetation*

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

Definitions of Vegetation Strata:

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

Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1M) 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?

Yes No _____

Remarks: (Include photo numbers here or on a separate sheet.)
The criterion for hydrophytic vegetation is met.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

SOIL	Sampling Point: DP23
-------------	--

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

Depth (inches)	Matrix		Redox Features		Type*	Loc**	Texture	Remarks
	Color	%	Color	%				
0-5	10YR 2/2	98	10YR 4/6	2	C	PL	Loamy Sand	Prominent redox concentrations.
5-20	10YR 4/6	100					Loamy Sand	

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

Hydric Soil Indicators:			Indicators for Problematic Soils	
	Histosol (A1)		Stripped Matrix (S6)	2 cm Muck (A10) (LRR K, L, MLRA 149B)
	Histic Epipedon (A2)		Dark Surface (S7)(LRR R, MLRA 149B)	Coast Prairie Redox (A16)
	Black Histic (A3)		Polyvalve Below Surface (S8) (LRR R, MLRA 149B)	5 cm Mucky Peat (S3) (LRR K, L, R)
	Hydrogen Sulfide (A4)			Dark Surface (S7) (LRR K, L, M)
	Stratified Layers (A5)		Thin Dark Surface (S9)	Polyvalve Below Surface (S8) (LRR K, L)
	Depleted Below Dark Surface (A11)		Loamy Mucky Mineral (F1)	Thin Dark Surface (S9) (LRR K, L)
	Thick Dark Surface (A12)		Loamy Gleyed Matrix (F2)	Iron-Manganese Masses (F12) (LRR K, L, R)
	Sandy Mucky Mineral (S1)		Depleted Matrix (F3)	Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
	Sandy Gleyed Matrix (S4)		Redox Dark Surface (F6)	Red Parent Material (F21)
X	Sandy Redox (S5)		Depleted Dark Surface (F7)	Very Shallow Dark Surface (TF12)
			Redox Depressions (F8)	Other (Explain in Remarks)

<p>Restrictive Layer (if observed)</p> <p>Type: None</p> <p>Depth (inches): </p>	<p>Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
---	--

Remarks:
The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

Site: Fire Technology Center City/County: Marinette County Sampling Date: 8/27/2019
 Applicant/Owner: Tyco Fire Products, L.P. State: WI Sampling Point: DP24
 Investigator(s): Ryan Bombeck, Michael Meisenger Section, Township, Range: Section 13, Township 30N, Range 23E
 Landform (hillslope,terrace,etc.): Shoulder Slope Local relief (concave, convex, none): Convex Slope (%): 2%
 Subregion(LRR or MLRA): LRR K - Northcentral Forests Lat. 45.075597° N Long. 87.643926° W Datum: WGS 84
 Soil Map Unit Name: Udorthents, loamy, nearly level WWI Classification: None
 Are climatic/hydrologic conditions on the site typical for time of year? Yes X No (If no, explain in the Remarks)
 Are Vegetation Soil or Hydrology significantly disturbed?
 Are Vegetation Soil or Hydrology naturally problematic?
 Are Normal Circumstances Present? Yes X No (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No X **Is the Sampled Area within a Wetland?**
 Hydric Soil Present? Yes No X **Yes** **No** X
 Wetland Hydrology Present? Yes No X If yes, optional Wetland Site ID:

Remarks:
 Photo 24 in Appendix B. Upland data point recorded at the boundary of W08. Based on the absence of all three parameters, this area is an upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
<input type="checkbox"/>	Surface Water (A1)	<input type="checkbox"/>	Water Stained Leaves (B9)
<input type="checkbox"/>	High Water Table (A2)	<input type="checkbox"/>	Aquatic Fauna (B13)
<input type="checkbox"/>	Saturation (A3)	<input type="checkbox"/>	Marl Deposits (B15)
<input type="checkbox"/>	Water Marks (B1)	<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)
<input type="checkbox"/>	Sediment Deposits (B2)	<input type="checkbox"/>	Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/>	Drift Deposits (B3)	<input type="checkbox"/>	Presence of Reduced Iron (C4)
<input type="checkbox"/>	Algal Mat or Crust (B4)	<input type="checkbox"/>	Recent Iron Reduction in Tilled Soil (C6)
<input type="checkbox"/>	Iron Deposits (B5)	<input type="checkbox"/>	Thin Muck Surface (C7)
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/>	Other (Explain in Remarks)
<input type="checkbox"/>	Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/>	
		<input type="checkbox"/>	Surface Soil Cracks (B6)
		<input type="checkbox"/>	Drainage Patterns (B10)
		<input type="checkbox"/>	Moss Tim Lines (B6)
		<input type="checkbox"/>	Dry-Season Water Table (C2)
		<input type="checkbox"/>	Crayfish Burrows (C8)
		<input type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)
		<input type="checkbox"/>	Stunted or Stressed Plants (D1)
		<input type="checkbox"/>	Geomorphic Position (D2)
		<input type="checkbox"/>	Shallow Aquitard (D3)
		<input type="checkbox"/>	Microtopographic Relief (D4)
		<input type="checkbox"/>	FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes <u> </u> No <u>X</u>	Depth (inches) <u> </u>	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Water Table Present?	Yes <u> </u> No <u>X</u>	Depth (inches) <u> </u>	
Saturation Present?	Yes <u> </u> No <u>X</u>	Depth (inches) <u> </u>	

Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:
 Topographic maps, aerial imagery, WWI data, WDNR Wetland Indicators data.

Remarks:
 The criterion for wetland hydrology is not met. Based on WETS analysis, antecedent hydrologic conditions are within a normal range.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

VEGETATION					Sampling Point: DP24																																			
<u>Tree Stratum</u>	Plot size: <u>30'</u>	Absolute % Cover	Dominant Species	Indicator Status	<div style="text-align: right; font-weight: bold; margin-bottom: 10px;">Dominance Test Worksheet</div> 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% (A/B) <div style="font-weight: bold; margin-bottom: 5px;">Prevalence Index Worksheet:</div> Total % cover of: <table style="width: 100%; margin-top: 5px;"> <tr> <td>OBL species</td><td align="right">0</td><td>x</td><td>1</td><td align="right">0</td></tr> <tr> <td>FACW species</td><td align="right">0</td><td>x</td><td>2</td><td align="right">0</td></tr> <tr> <td>FAC species</td><td align="right">0</td><td>x</td><td>3</td><td align="right">0</td></tr> <tr> <td>FACU species</td><td align="right">65</td><td>x</td><td>4</td><td align="right">260</td></tr> <tr> <td>UPL species</td><td align="right">40</td><td>x</td><td>5</td><td align="right">200</td></tr> <tr> <td>Column Totals:</td><td align="right">105 (A)</td><td></td><td></td><td align="right">460 (B)</td></tr> <tr> <td>Prevalence Index:</td><td align="right" colspan="4" style="border: 1px solid black;">4.4 (B/A)</td></tr> </table> <div style="font-weight: bold; margin-bottom: 5px;">Hydrophytic Vegetation Indicators:</div> <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0* <input type="checkbox"/> Morphological Adaptations* <input type="checkbox"/> Problematic Hydrophytic Vegetation* * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic <div style="font-weight: bold; margin-bottom: 5px;">Definitions of Vegetation Strata:</div> Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1M) 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. <div style="font-weight: bold; margin-top: 10px;">Hydrophytic Vegetaion Present?</div> Yes _____ No _____ X _____	OBL species	0	x	1	0	FACW species	0	x	2	0	FAC species	0	x	3	0	FACU species	65	x	4	260	UPL species	40	x	5	200	Column Totals:	105 (A)			460 (B)	Prevalence Index:	4.4 (B/A)			
OBL species	0	x	1	0																																				
FACW species	0	x	2	0																																				
FAC species	0	x	3	0																																				
FACU species	65	x	4	260																																				
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Column Totals:	105 (A)			460 (B)																																				
Prevalence Index:	4.4 (B/A)																																							
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50%= 0.0%	20%= 0.0%	0	Total Cover																																					
<u>Shrub Stratum</u>	Plot size: <u>15'</u>																																							
1. _____																																								
2. _____																																								
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50%= 0.0%	20%= 0.0%	0	Total Cover																																					
<u>Herb Stratum</u>	Plot size: <u>5'</u>																																							
1. <u>Solidago canadensis</u>		60	Y	FACU																																				
2. <u>Bromus inermis</u>		40	Y	UPL																																				
3. <u>Achillea millefolium</u>		5	N	FACU																																				
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50%= 52.5%	20%= 21.0%	105	Total Cover																																					
<u>Woody Vine Stratum</u>	Plot size: <u>30'</u>																																							
1. _____																																								
2. _____																																								
3. _____																																								
4. _____																																								
50%= 0.0%	20%= 0.0%	0	Total Cover																																					

Remarks: (Include photo numbers here or on a separate sheet.)
 The criterion for hydrophytic vegetation is not met.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region v2.0

SOIL	Sampling Point: DP24
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Profile Description: (Describe to depth needed to document the indicator or confirm absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type*	Loc**	Texture	Remarks
	Color	%	Color	%				
0-9	10YR 2/1	100					Sandy Loam	
9-20	10YR 4/6	100					Loamy Sand	

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

Hydric Soil Indicators:	Indicators for Problematic Soils
Histosol (A1)	Stripped Matrix (S6)
Histic Epipedon (A2)	2 cm Muck (A10) (LRR K, L, MLRA 149B)
Black Histic (A3)	Coast Prairie Redox (A16)
Hydrogen Sulfide (A4)	5 cm Mucky Peat (S3) (LRR K, L, R)
Stratified Layers (A5)	Dark Surface (S7) (LRR K, L, M)
Depleted Below Dark Surface (A11)	Polyvalve Below Surface (S8) (LRR R, MLRA 149B)
Thick Dark Surface (A12)	Thin Dark Surface (S9)
Sandy Mucky Mineral (S1)	Loamy Mucky Mineral (F1)
Sandy Gleyed Matrix (S4)	Loamy Gleyed Matrix (F2)
Sandy Redox (S5)	Depleted Matrix (F3)
	Redox Dark Surface (F6)
	Depleted Dark Surface (F7)
	Redox Depressions (F8)
	Other (Explain in Remarks)

Restrictive Layer (if observed)

Type: _____ None _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X _____

Remarks:
The criterion for hydric soil is not met.

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A decorative graphic consisting of three thin orange lines. One line is horizontal, extending across the width of the page. Two other lines are parallel to each other and slanted upwards from left to right, intersecting the horizontal line.