

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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CONTENTS

1	Introduction	1
2	Statement of qualification	2
3	Background Information	3
	3.1 USGS Topographic Maps	3
	3.2 Contour Maps	3
	3.3 Aerial Imagery	3
	3.4 WDNR Hydrography	4
	3.5 WDNR WWI	4
	3.6 FEMA Floodplain Maps	4
	3.7 USDA NRCS WSS of Marinette County, Wisconsin and WDNR Wetland Indicators	4
4	Methodology	6
5	Survey Results	7
	5.1 Antecedent Precipitation	7
	5.2 Vegetative Communities	7
	5.3 Wetlands	7
	5.4 Waterbodies	10
6	Conclusions	12
7	References	13

TABLES

Table 1.	Soil Map Units within the Environmental Survey Area	5
Table 2.	Wetlands within the Environmental Survey Area	8
Table 3.	Waterbodies within the Environmental Survey Area	1

FIGURES

- 1 Project Location
- 2 Contours
- 3 Historic Aerial Imagery
- 4 WDNR Hydrography and WWI
- 5 NRCS Soils and WDNR Wetland Indicators
- 6 Delineated Wetlands and Waterbodies
- 7 Photograph Locations

APPENDICES

- A Antecedent Precipitation
- B Photographic Log
- C Wetland Determination Data Forms

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**.

WETLAND AND WATERBODY DELINEATION REPORT

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

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:

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

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.

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

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**.

WETLAND AND WATERBODY DELINEATION REPORT

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

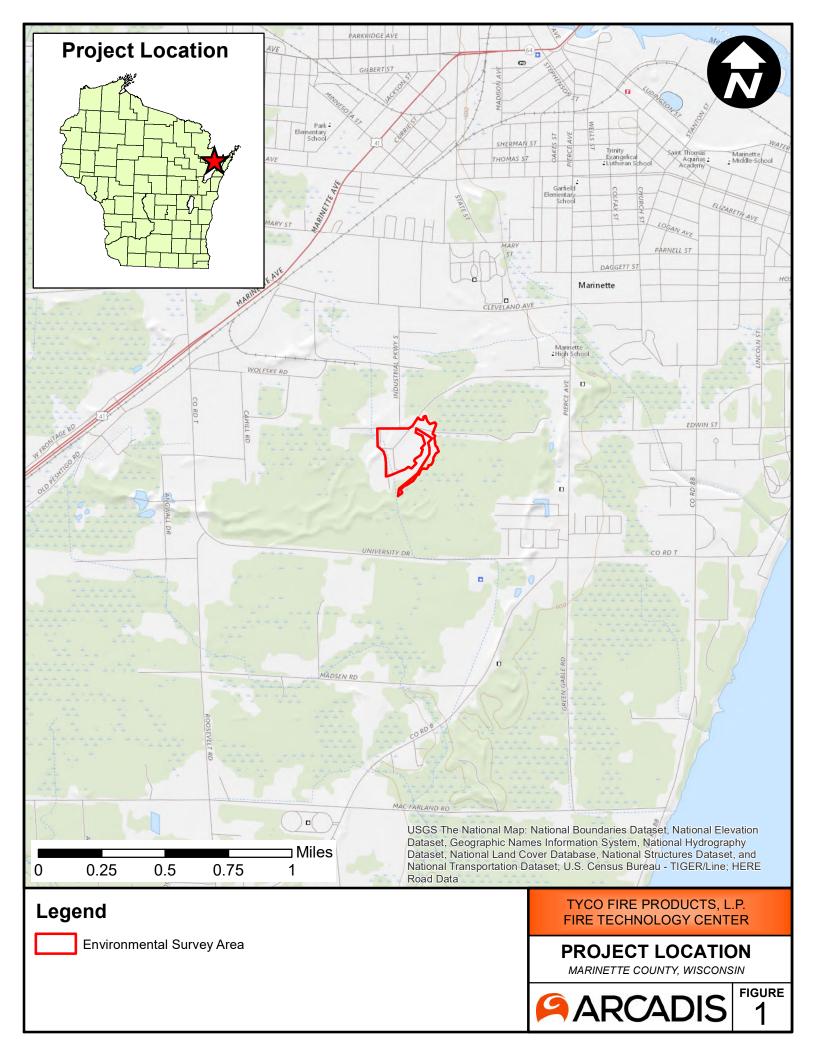
A wetland and waterbody delineation survey was conducted by Arcadis for the proposed project on August 27, September 4, and September 5, 2019. Arcadis identified eight wetlands (totaling 2.17 acres) and one stream (totaling 741 linear feet) within the ESA.

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.

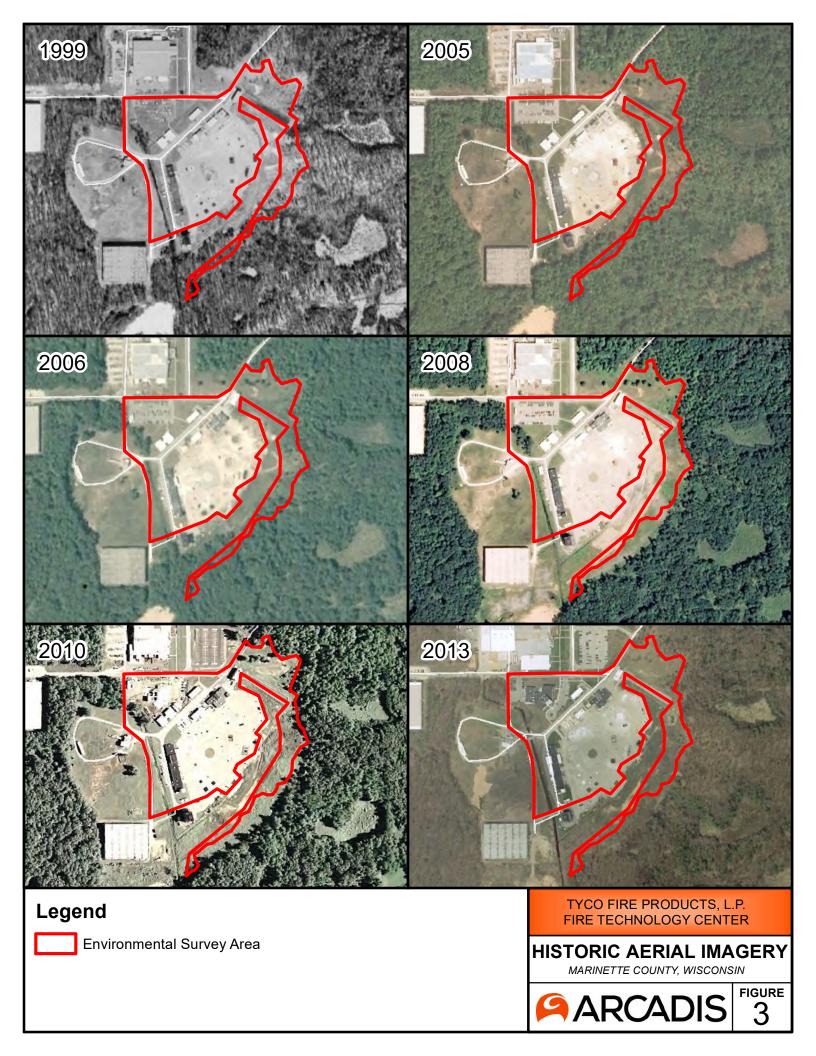
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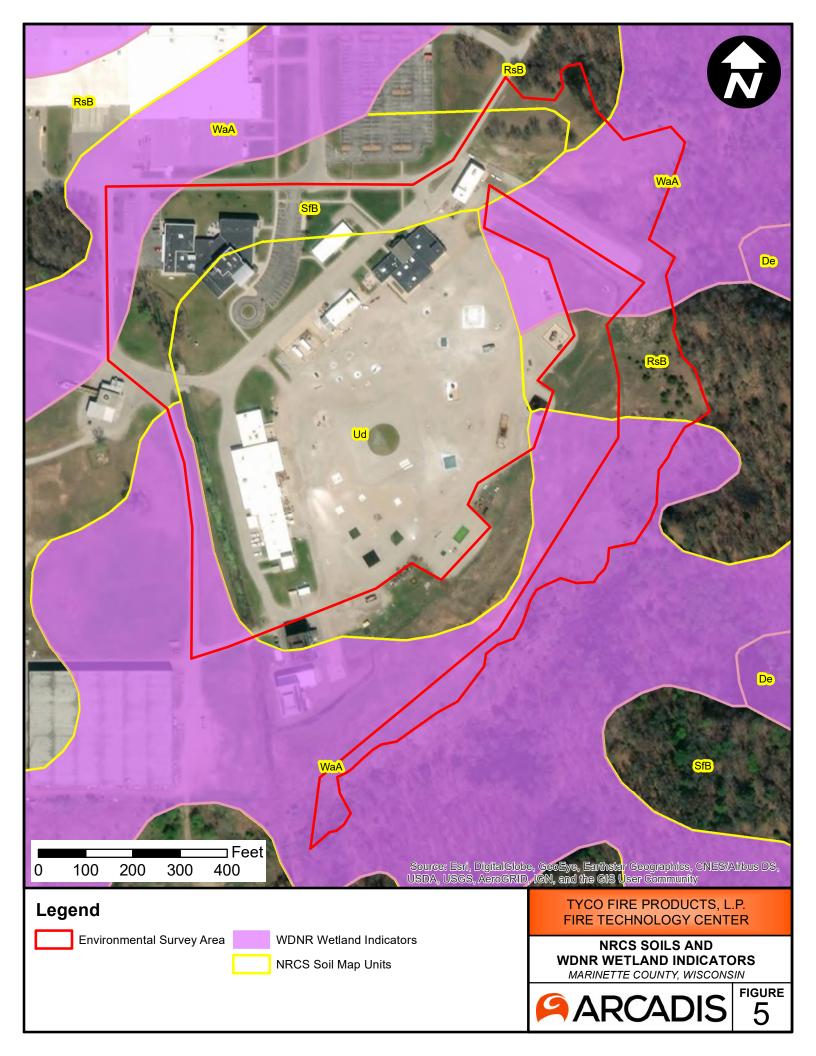
FIGURES



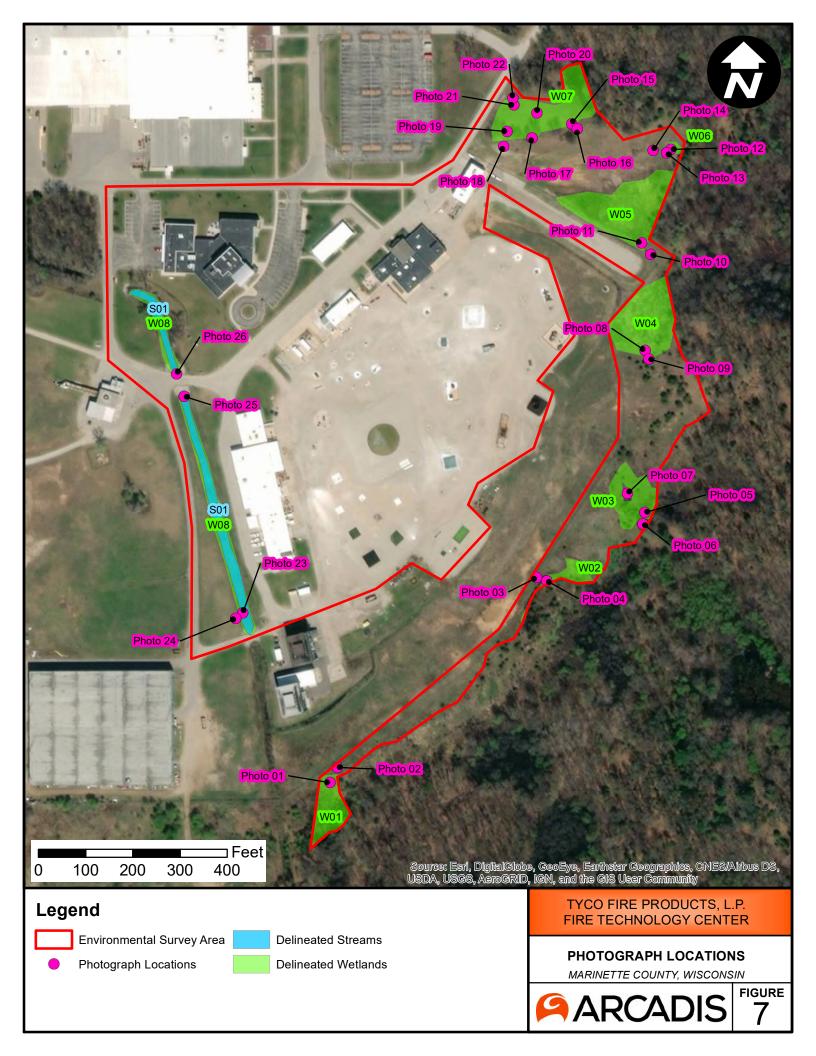












APPENDIX A

Antecedent Precipitation



Table 4. Antecedent Precipitation Data

	cedent Precipitat onth Prior		onth Prior	1st M	1st Month Prior		
Date	Date Precipitation (in.)		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	Т		
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	Т		
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	Т		
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		

Station Name: Marinette, Wisconsin (USC00475091) Date Range = June 1, 2019 - August 31, 2019

M = Missing T = Trace

Table 5. WETS Analysis

	Lor	Long-Term Rainfall Records (from WETS Table)					Site Determination			
Month	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.

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.

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



Table 6. Antecedent Precipitation Data

2/1/1999 2/2/1999 2/3/1999 2/3/1999 2/6/1999 2/6/1999 2/8/1999 2/9/1999 2/10/1999	T 0.13 0.00 0.22 0.00	2nd M Date 3/1/1999 3/2/1999 3/3/1999	Precipitation (in.) 0.00 0.00	1st Mo Date 4/1/1999	Precipitation
2/1/1999 2/2/1999 2/3/1999 2/4/1999 2/5/1999 2/6/1999 2/7/1999 2/8/1999 2/9/1999	T 0.13 0.00 0.22	3/1/1999 3/2/1999	(in.) 0.00		(in.)
2/2/1999 2/3/1999 2/4/1999 2/5/1999 2/6/1999 2/7/1999 2/8/1999 2/9/1999	0.13 0.00 0.22	3/2/1999		4/1/1999	
2/3/1999 2/4/1999 2/5/1999 2/6/1999 2/7/1999 2/8/1999 2/9/1999	0.00 0.22		0.00		0.00
2/4/1999 2/5/1999 2/6/1999 2/7/1999 2/8/1999 2/9/1999	0.22	3/3/1999	0.00	4/2/1999	0.07
2/5/1999 2/6/1999 2/7/1999 2/8/1999 2/9/1999			0.00	4/3/1999	Т
2/6/1999 2/7/1999 2/8/1999 2/9/1999	0.00	3/4/1999	0.00	4/4/1999	0.69
2/7/1999 2/8/1999 2/9/1999		3/5/1999	0.03	4/5/1999	Т
2/8/1999 2/9/1999	0.02	3/6/1999	0.00	4/6/1999	0.35
2/9/1999	0.00	3/7/1999	0.00	4/7/1999	0.30
	0.00	3/8/1999	0.00	4/8/1999	0.00
2/10/1999	0.00	3/9/1999	1.60	4/9/1999	0.20
2/10/1333	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	Т
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

Table 7. WL		ng-Term Rainfall R	ecords (from WETS	Site Determination				
Month	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	X		
	Normal			
	Wet			

Notes:

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

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.

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

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



Table 8 Antecedent Precipitation Data

Table 8. Antecedent Precipitation Data								
3rd M	onth Prior	2nd M	onth Prior	1st Month Prior				
Date	Precipitation (in.)	Date	Precipitation (in.)	Date	Precipitation (in.)			
6/1/2005	М	7/1/2005	Т	8/1/2005	0.00			
6/2/2005	М	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	Т	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

	Long-Term Rainfall Records (from WETS Table)				Site Determination			
Month	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	X
	Normal	
	Wet	

Notes:

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

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.

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

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



Table 10. Antecedent Precipitation Data

	tecedent Precipita onth Prior		onth Prior	1st M	onth 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	Т	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	Т	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	Т	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	Т	8/18/2006	0.00
6/19/2006	Т	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	Т
6/23/2006	0.00	7/23/2006	0.41	8/23/2006	Т
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	Т
6/27/2006	Т	7/27/2006	Т	8/27/2006	Т
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	Т
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

M = Missing T = Trace Table 11. WETS Analysis

	Long-Term Rainfall Records (from WETS Table)				Site Determination			
Month	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.

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.

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

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



Table 12. Antecedent Precipitation Data

	tecedent Precipita onth Prior		onth Prior	1st M	onth 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	Т	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	Т	9/9/2008	Т
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	Т
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	Т
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	Т
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	Т
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

	Long-Term Rainfall Records (from WETS Table)				Site Determination			
Month	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	X
	Normal	
	Wet	

Notes:

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

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.

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

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



Table 14. Antecedent Precipitation Data									
3rd M	onth Prior	2nd M	onth Prior	1st Mo	onth 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	Т	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	Т				
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	Т	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	Т				
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

	Long-Term Rainfall Records (from WETS Table)					Site Determination			
Month	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.

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.

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

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



Table 16. Antecedent Precipitation Data

	able 16. Antecedent Precipita 3rd Month Prior		onth Prior	1st M	onth Prior
Date	Precipitation (in.)	Date	Precipitation (in.)	Date	Precipitation (in.)
3/1/2013	0.00	4/1/2013	Т	5/1/2013	Т
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	Т	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	Т
3/12/2013	0.00	4/12/2013	0.36	5/12/2013	0.20
3/13/2013	Т	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	Т
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	Т
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	Т	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

	Long-Term Rainfall Records (from WETS Table)				Site Determination			
Month	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.

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.

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

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

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



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



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



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



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



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



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



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



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



Fire Technology Center Marinette County, Wisconsin



Photo: 21

Date: 9/5/2019

South

Description:Wetland data point DP21 in W07.

Direction:



Photo: 22

Date: 9/5/2019

Description:

Upland data point DP22 near the boundary of W07.

Direction:North



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



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

Site:	Fire Technology Center	City/County: Marinette Coun	ty	Sampling Date: 8/27/2019							
	ant/Owner: Tyco Fire Products, L		State: WI	<u>-</u>							
			o, Range: Section 13, Towns	ship 30N, Range 23E							
Landfo		pe Local relief (concave,	<u></u>								
Subre	gion(LRR or MLRA): LRR K - North	central Forests Lat. 45.074662° N	Long. 87.643127° W	Datum: WGS 84							
Soil M	ap Unit Name: Wainola loamy fine s	and, 0 to 3 percent slopes									
		te typical for time of year? Yes X									
Are	Vegetation Soil	or Hydrology signific	antly disturbed?								
Are	Vegetation Soil	or Hydrologynatural	ly problematic?								
Are No	Are Normal Circumstances Present? Yes X No (If needed, explain any answers in Remarks)										
SUMN	MARY OF FINDINGS										
	Hydrophytic Vegetation Present?	Yes X No Is the	Sampled Area within a Wet	tland?							
	Hydric Soil Present?	Yes X No Yes	sX No								
	Wetland Hydrology Present?	Yes X No If yes,	optional Wetland Site ID:	W01							
Rema		de la constanta de la constant	. d	and the second second second second							
Photo	01 in Appendix B. Wetland data poir	nt recorded at the boundary of W01. Based o	n the presence of all three pa	arameters, this area is a wetland.							
HYD	ROLOGY										
Wetla	nd Hydrology Indicators:		T								
	Primary Indicators (minimum of c	one is required; check all that apply)	Secondary Indicate	ors (minimum of two required)							
	Surface Water (A1)	Water Stained Leaves (B9)	Surface Soil Crack	(s (B6)							
X	High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns	(B10)							
Х	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)	1,0008 (03)	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	X Geomorphic Posit	ion (D2)							
	Inundation Visible on Aerial	(C6)	Shallow Aquitard (D3)							
	Imagery (B7)	Thin Muck Surface (C7)	Microtopographic								
	Sparsely Vegetated Concave	Other (Explain in Remarks)	X FAC-Neutral Test	(D5)							
	Surface (B8)										
Field	Observations:										
		No X Depth (inches)	Wetland Hydrology Prese								
Water		X No Depth (inches) 11	Yes_	X No							
Satura	ation Present? Yes_	X No Depth (inches) 0									
	, , ,	nonitoring well, aerial photos, previous inspec	ctions), if available:								
	graphic maps, aerial imagery, WWI d	ata, WDNR Wetland Indicators data.									
Rema		Based on WETS analysis, antecedent hydro	agic conditions are within a	normal rango							
THE C	iterior for wettaria riyarology is met.	based on WE13 analysis, antecedent nydro	ogic conditions are within a	normai range.							

VEGE	TATION			Absolute %	Dominant		Sampling Point: DP01
Tree Str	ratum Pic	ot size:	30'	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1							Number of dominant species that are OBL,
2.							FACW, or FAC: 5(A)
3					.		Total number of dominant species across
4							all strata:5(B)
5.							Percent of dominant species that are OBL,
6.							FACW, or FAC:(A/B)
7.	0.00/	200/-	0.00/		Total Cover		Prevalence Index Worksheet:
50%=	0.0% Stratum Plo		= 0.0% 15'	0	Total Cover		Total % cover of: OBL species 60 x 1 60
Shrub S			15	10	V	FAC	<u> </u>
1. ₋ 2.	Rhamnus cathar	llCa		10	Y	FAC	FACW species 20 x 2 40 FAC species 30 x 3 90
2. 3.							FACU species
3. 4.							UPL species 0 x 5 0
5.							Column Totals: 110 (A) 190 (B)
6.							Prevalence Index: 1.7 (B/A)
7.					, -		Hydrophytic Vegetation Indicators:
50%=	5.0%	20%=	= 2.0%	10	Total Cover		Rapid Test for Hydrophytic Vegetation
Herb St		ot size:	5'				x Dominance Test is >50%
	Scirpus cyperinu		<u> </u>	30	Υ	OBL	x Prevalence Index is ≤3.0*
-	Phalaris arundin			20	Υ Υ	FACW	Morphological Adaptations*
-	Persicaria macu			20	Υ	FAC	Problematic Hydrophytic Vegetation*
4.	Persicaria punct	ata		20	Υ	OBL	* Indicators of hydric soil and wetland hydrology must be present,
5.	Lycopus america	anus		10	N		unless disturbed or problematic
6.							Definitions of Vegetation Strata:
7.							Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast
8.							height (DBH), regardless of height
9.							Sapling/shrub - Woody plants less than 3 in. DBH and greater
10.					. .		than or equal to 3.28 ft (1M) tall.
11.							Herb - All herbaceous (non-woody) plants, regardless of size,
12.							and woody plants less than 3.28 ft tall.
50%=	50.0%		= 20.0%	100	Total Cover		Woody Vines - All woody vines greater than 3.28 ft in height.
Woody '	Vine Stratum Plo	ot size:	30'				
1.							-
2.							
3.							Hydrophytic Vegetaion Present?
4.							
50%=	0.0%	20%=	= 0.0%	0	Total Cover		Yes <u>X</u> No
Domark	rs: (Include phote		c horo o	r on a conara	to shoot)		<u> </u>
	s: (Include photo erion for hydroph				e sileet.)		

SOIL											
									Sampling Point:	DP01	
Profile	Description:	(Describe to	o depth	needed to	docume	ent the ir	ndicator	or confirm abse	ence of indicators.)		
	Depth	Matri	Х	Redox Fe	atures						
	(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks		
	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	* Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: PL=Pore Lining, M=Matrix										
Hydric	Soil Indicato	rs:							Indicators for Problem	natic Soils	
	Histosol (A1)				Strippe	ed Matrix	(S6)		2 cm Muck (A10) (LRR K, L	, MLRA 149B)	
	Histic Epiped	on (A2)			Dark S	Surface (S	S7)(LRR	R,MLRA 149B)	Coast Prairie Redox (A16)		
	Black Histic (A3)			Polyvalve Below Surface (S8) (LRR R,			e (S8) (LRR R,	5 cm Mucky Peat (S3) (LRR	k K, L, R)	
	Hydrogen Sul	fide (A4)			MLRA 149B)				Dark Surface (S7) (LRR K,	L, M)	
	Stratified Laye	ers (A5)			Thin D	ark Surfa	ace (S9)		Polyvalve Below Surface (S	8) (LRR K, L)	
	Depleted Belo	ow Dark Surfa	ace (A11)	Loamy	Mucky N	Mineral (F	- 1)	Thin Dark Surface (S9) (LR	R K, L)	
	Thick Dark St	urface (A12)			Loamy Gleyed Matrix (F2)				Iron-Manganese Masses (F	12) (LRR K, L, R)	
Χ	Sandy Mucky	Mineral (S1)			Depleted Matrix (F3)				Mesic Spodic (TA6) (MLRA	144A, 145, 149B)	
	Sandy Gleyed	d Matrix (S4)			Redox	dox Dark Surface (F6)			Red Parent Material (F21)		
	Sandy Redox	(S5)			Deplet	eleted Dark Surface (F7)			Very Shallow Dark Surface (TF12)		
					Redox	Depress	ssions (F8)		Other (Explain in Remarks)		
						1					
Restric	ctive Layer (if	observed)									
	Type:		l	None		_					
Dep	th (inches):					.	Hydri	ic Soil Present?	Yes X No	-	
Remar											
The criterion for hydric soil is met.											

Site:	Fire Technology Center	City/County: N	Marinette County		Sampling Date:	8/27/2019		
	ant/Owner: Tyco Fire Products,	 L.P		State: WI	Sampling Point:			
			ction, Township, Ra	ange: Section 13, Towns	ship 30N, Range 23E			
Landfo	orm (hillslope,terrace,etc.): Summit			,		oe (%): 2%		
	gion(LRR or MLRA): LRR K - North			ong. 87.643122° W				
Soil M	lap Unit Name: Wainola loamy fine s							
	imatic/hydrologic conditions on the s							
Are	Vegetation Soi	I or Hydrology _	significantly	/ disturbed?				
Are	VegetationSoi	or Hydrology	naturally pr	oblematic?				
Are No	ormal Circumstances Present?	Yes X No (If needed, explain a	any answers in Remarks	s)			
SUMN	MARY OF FINDINGS							
	Hydrophytic Vegetation Present?			pled Area within a Wet	land?			
		Yes NoX	s NoX Yes NoX					
	Wetland Hydrology Present?	Yes No_X	If yes, option	onal Wetland Site ID:				
Rema		t == soundary of V	MO4 Based on the	of all throo pare		······································		
Pnoto	02 in Appendix B. Upland data point	recorded at the boundary or v	V01. Based on the	absence of all three para	ameters, this area is a	in upland.		
<u> </u>								
HYDI	ROLOGY							
Wetla	nd Hydrology Indicators:							
	Primary Indicators (minimum of			Secondary Indicato	ors (minimum of two	required)		
<u> </u>	Surface Water (A1)	Water Stained Leaves (B9)	Surface Soil Crack	(S (B6)			
	High Water Table (A2)	Aquatic Fauna (B13)		Drainage Patterns	(B10)			
<u> </u>	Saturation (A3)	Marl Deposits (B15)		Moss Tim Lines (B	,			
<u> </u>	Water Marks (B1)	Hydrogen Sulfide Odor	` '	Dry-Season Water Table (C2)				
<u> </u>	Sediment Deposits (B2)	Oxidized Rhizospheres Roots (C3)	on Living	Crayfish Burrows (C8)				
<u> </u>	Drift Deposits (B3)	<u> </u>		Saturation Visible on Aerial Imagery (C9)				
	Algal Mat or Crust (B4)	Presence of Reduced Ir	` ′	Stunted or Stressed Plants (D1)				
	Iron Deposits (B5)	Recent Iron Reduction in	n Tilled Soil	Geomorphic Positi	on (D2)			
	Inundation Visible on Aerial	(C6)		Shallow Aquitard (D3)				
	Imagery (B7)	Thin Muck Surface (C7)		Microtopographic Relief (D4)				
	Sparsely Vegetated Concave	Other (Explain in Remai	rks)	FAC-Neutral Test	(D5)			
<u> </u>	Surface (B8)							
Field	Observations:							
		No X Depth (i		etland Hydrology Prese				
		No X Depth (i		Yes_	No	X		
Satura	ation Present? Yes_	X No Depth (i	nches) 18					
<u> </u>								
	ibe Recorded Data (stream guage, r	. ,	•	s), if available:				
	graphic maps, aerial imagery, WWI c	lata, WDNR Wetland Indicators	s data.					
Rema			- stacadant budral	==:= conditions are within	narmal rango			
The G	riterion for wetland hydrology is not r	Aet. Based on w∈ro anaiyoio,	antecedent nydron	ogic conditions are within	i a normai range.			

VLGL	TATION	Absolute %	Dominant		Sampling Point: DP02
Tree St	ratum Plot size: 30'	Cover	Species	Indicator Status	Dominance Test Worksheet
1. 2.					Number of dominant species that are OBL, FACW, or FAC: 0 (A)
3. 4.					Total number of dominant species across all strata:1(B)
5. 6.					Percent of dominant species that are OBL, FACW, or FAC: (A/B)
7.					Prevalence Index Worksheet:
50%=	0.0% 20%= 0.0%	0	Total Cover		Total % cover of:
Shrub S	Stratum Plot size: 15'				OBL species0 x10
1.	Rhamnus cathartica	2	N	FAC	FACW species <u>4</u> x 2 <u>8</u>
2.				_	FAC species <u>2</u> x 3 <u>6</u>
3.					FACU species <u>100</u> x 4 <u>400</u>
4.					UPL species0 x 50
5.					Column Totals: 106 (A) 414 (B)
6.					Prevalence Index: 3.9 (B/A)
7.					Hydrophytic Vegetation Indicators:
50%=	1.0% 20%= 0.4%	2	Total Cover		Rapid Test for Hydrophytic Vegetation
Herb St	ratum Plot size: 5'				Dominance Test is >50%
1.	Solidago canadensis	95	Υ	FACU	Prevalence Index is ≤3.0*
2.	Achillea millefolium	5	N	FACU	Morphological Adaptations*
3.	Phragmites australis	2	N	FACW	Problematic Hydrophytic Vegetation*
4. 5.	Symphyotrichum novae-angliae	2	N	FACW	* Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic
6.				-	Definitions of Vegetation Strata:
7.			-		Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast
8.					height (DBH), regardless of height
9.			-		
10.					than or equal to 3.28 ft (1M) tall.
11.				-	 Herb - All herbaceous (non-woody) plants, regardless of size,
12.					and woody plants less than 3.28 ft tall.
50%=	52.0% 20%= 20.8%	104	Total Cover		<u> </u>
	Vine Stratum Plot size: 30'				Woody Vines - All woody vines greater than 3.28 ft in height.
1.					
2.					
3.					Hydrophytic Vegetaion Present?
4.		-		_	
50%=	0.0% 20%= 0.0%	0	Total Cover		YesNoX
	ss: (Include photo numbers here or erion for hydrophytic vegetation is		e sheet.)		

SOIL												
									Sampling Point:	DP02		
Profile	Description:	(Describe to	depth	needed to	docume	ent the ir	ndicator	or confirm abse	nce of indicators.)			
	Depth	Matri	x	Redox Fe	atures		1					
	(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks			
	0-2	10YR 2/2	100					Sandy Loam				
	2-20	10YR 3/1	80					Loamy Sand	Mixed matrix.			
		10YR 4/6	20									
* T	0.0	or D. D. o		4 D. I I		00.0			DI Bookisto M Mari			
* 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												
riyunc	Histosol (A1) Stripped Matr								2 cm Muck (A10) (LRR K, L,			
	Histic Epiped	on (A2)			 		, ,	R MI RA 149R)	Coast Prairie Redox (A16)	MERA 1430)		
	Black Histic (\ /			Dark Surface (S7)(LRR R,MLRA 149B) Polyvalve Below Surface (S8) (LRR R,				5 cm Mucky Peat (S3) (LRR	K I R)		
	Hydrogen Su				MLRA 149B)			0 (00) (2111111,	Dark Surface (S7) (LRR K, L, M)			
	Stratified Lay	\ /			Thin Dark Surface (S9)					Polyvalve Below Surface (S8) (LRR K, L)		
	Depleted Belo		ace (A11)		oamy Mucky Mineral (F1)			Thin Dark Surface (S9) (LRF	, ,		
	Thick Dark S			,	Loamy Gleyed Matrix (F2)				Iron-Manganese Masses (F			
	Sandy Mucky				Depleted Matrix (F3)				Mesic Spodic (TA6) (MLRA			
	Sandy Gleyed				Redox Dark Surface (F6)				Red Parent Material (F21)			
	Sandy Redox	(S5)				eted Dark Surface (F7)			Very Shallow Dark Surface (TF12)			
		,			Redox	Depress	ssions (F8)		Other (Explain in Remarks)	,		
Restric	ctive Layer (if	observed)										
	Type:		l	None								
Dep	th (inches):					-	Hydri	ic Soil Present?	YesNoX			
Remar												
The cri	terion for hydri	ic soil is not n	net.									

Site:	Fire Technology Center	City/County: Ma	rinette County	Sampling I	Date: 8/27/2019			
	ant/Owner: Tyco Fire Products, L		•		Point: DP03			
	igator(s): Ryan Bombeck, Mich		on, Township, Range: So	ection 13, Township 30N, Ra				
Landfo	orm (hillslope,terrace,etc.): Summit							
	gion(LRR or MLRA): LRR K - Northo				atum: WGS 84			
Soil M	lap Unit Name: Wainola loamy fine sa				None			
	imatic/hydrologic conditions on the sit							
Are		or Hydrology						
Are	· · · · · · · · · · · · · · · · · · ·	or Hydrology						
Are No	ormal Circumstances Present?							
		•						
SUMN	MARY OF FINDINGS							
	Hydrophytic Vegetation Present?	Yes NoX	Is the Sampled Ar	ea within a Wetland?				
	Hydric Soil Present?	Yes NoX	s NoX Yes NoX					
	Wetland Hydrology Present?	Yes NoX	If yes, optional We	tland Site ID:				
Rema								
Photo	03 in Appendix B. Upland data point	recorded at the boundary of W0	2. Based on the absence	e of all three parameters, thi	s area is an upland.			
HYD	ROLOGY							
Wetla	nd Hydrology Indicators:							
	Primary Indicators (minimum of o	ne is required; check all that a	apply) Sec	ondary Indicators (minimu	um of two required)			
	Surface Water (A1)	Water Stained Leaves (B9	9) Si	urface Soil Cracks (B6)				
	High Water Table (A2)	Aquatic Fauna (B13)	D	rainage Patterns (B10)				
	Saturation (A3)	Marl Deposits (B15)	М	oss Tim Lines (B6)				
	Water Marks (B1)	Hydrogen Sulfide Odor (C	1) D	ry-Season Water Table (C2)	I .			
	Sediment Deposits (B2)	Oxidized Rhizospheres on	Living C	rayfish Burrows (C8)				
	Drift Deposits (B3)	Roots (C3)	Sa	Saturation Visible on Aerial Imagery (C9)				
	Algal Mat or Crust (B4)	Presence of Reduced Iron	(C4) St	Stunted or Stressed Plants (D1)				
	Iron Deposits (B5)	Recent Iron Reduction in	Filled Soil G	eomorphic Position (D2)				
	Inundation Visible on Aerial	(C6)	SI	Shallow Aquitard (D3)				
	Imagery (B7)	Thin Muck Surface (C7)	М	Microtopographic Relief (D4)				
	Sparsely Vegetated Concave	Other (Explain in Remarks	s) F	FAC-Neutral Test (D5)				
	Surface (B8)							
Field	Observations:							
Surfac	ce Water Present? Yes_	No X Depth (inc	hes) Wetland F	lydrology Present?				
Water	Table Present? Yes_	No X Depth (inc	hes)	Yes	NoX			
Satura	ation Present? Yes_	No X Depth (inc	hes)					
Descr	ibe Recorded Data (stream guage, m	onitoring well, aerial photos, pre	evious inspections), if ava	ailable:				
Topog	graphic maps, aerial imagery, WWI da	ata, WDNR Wetland Indicators of	data.					
Rema								
The cr	riterion for wetland hydrology is not m	et. Based on WETS analysis, ar	ntecedent hydrologic cor	nditions are within a normal r	ange.			

Dominance Test Worksheet ninant species that are OBL, ACW, or FAC: of dominant species across all strata: ninant species that are OBL, ACW, or FAC: of dominant species across all strata: of dominant species deross all strata: of dex Worksheet: cover of: of dominant species across all strata: of dominant species acro
ACW, or FAC: of dominant species across all strata: containing the species across all strata: dominant species that are OBL, ACW, or FAC: cover of: of dominant species across 2 (B) 0% (A/B) dex Worksheet: cover of: of dominant species across 2 (B) 0% (A/B) 15 x 1 0 15 x 2 30
all strata:
ACW, or FAC:
0 x 1 0 15 x 2 30
15 x 2 <u>30</u>
<u> </u>
0 × 3 0
65 x 4 260
26 x 5130
otals: 106 (A) 420 (B)
Prevalence Index: 4.0 (B/A)
egetation Indicators:
Test for Hydrophytic Vegetation
ance Test is >50%
ence Index is ≤3.0*
 ological Adaptations*
matic Hydrophytic Vegetation*
hydric soil and wetland hydrology must be present,
unless disturbed or problematic
Vegetation Strata:
plants 3 in. (7.6cm) or more in diameter at breast
egardless of height
- Woody plants less than 3 in. DBH and greater
3.28 ft (1M) tall.
aceous (non-woody) plants, regardless of size,
nts less than 3.28 ft tall.
All and decided a second of the beight
- All woody vines greater than 3.28 ft in height.
egetaion Present?
euctaion riesent:
egetaton Present:
n -

SOIL											
									Sampling Point:	DP03	
Profile	Description:	(Describe to	depth	needed to d	locume	ent the in	ndicator	or confirm abse	ence of indicators.)	7	
	Depth	Matri	X	Redox Fea	atures						
	(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks		
	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	М	Silt Loam			
* Type	* Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: PL=Pore Lining, M=Matrix										
Hydric	Soil Indicato	rs:		1	1		Indicators for Problem	natic Soils			
	Histosol (A1)					ed Matrix	(S6)		2 cm Muck (A10) (LRR K, L	., MLRA 149B)	
	Histic Epiped	on (A2)			Dark S	Surface (S	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) (LRF	5 cm Mucky Peat (S3) (LRR K, L, R)	
	Hydrogen Sul	fide (A4)			MLRA	149B)			Dark Surface (S7) (LRR K,	L, M)	
	Stratified Laye	ers (A5)			Thin D	ark Surfa	ce (S9)		Polyvalve Below Surface (S	8) (LRR K, L)	
	Depleted Belo	ow Dark Surfa	ace (A11)	Loamy Mucky Mineral (F1)				Thin Dark Surface (S9) (LR	R K, L)	
	Thick Dark St	urface (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	d Matrix (S4)			Redox	Dark Su	rface (F6	5)	Red Parent Material (F21)		
	Sandy Redox	(S5)			Deplet	ed Dark S	Surface ((F7)	Very Shallow Dark Surface (TF12)		
					Redox	Depress	ions (F8)	Other (Explain in Remarks)		
						<u> </u>					
Restric	ctive Layer (if	observed)									
	Type:		ı	None							
Dep	th (inches):						Hydri	c Soil Present?	YesNoX	-	
Remark	ks: terion for hydri	a sail is not m	not								
THE CH	teriori ioi riyuri	C 3011 13 110t 11	ici.								

Site:	Fire Technology Center	City/County: Marinette Cour	ty Sampling Date: 8/27/2019				
	ant/Owner: Tyco Fire Products, I		State: WI Sampling Point: DP04				
			o, Range: Section 13, Township 30N, Range 23E				
Landfo			convex, none): Concave Slope (%): 0%				
	gion(LRR or MLRA): LRR K - North		Long. 87.641419° W Datum: WGS 84				
Soil M	ap Unit Name: Wainola loamy fine s		WWI Classification: None				
			No(If no, explain in the Remarks)				
Are	Vegetation Soil	or Hydrologysignific	antly disturbed?				
Are		or Hydrologynatura	ly problematic?				
Are No	ormal Circumstances Present?	Yes X No (If needed, exp	lain any answers in Remarks)				
SUMM	MARY OF FINDINGS						
	Hydrophytic Vegetation Present?	Yes X No Is the	Sampled Area within a Wetland?				
	Hydric Soil Present?	Yes X No Yes	sX No				
	Wetland Hydrology Present?	Yes X No If yes,	optional Wetland Site ID: W02				
Rema							
Photo	04 in Appendix B. Wetland data poir	nt recorded at the boundary of WU2. Based o	n the presence of all three parameters, this area is a wetland.				
HYDI	ROLOGY						
Wetla	nd Hydrology Indicators:						
	Primary Indicators (minimum of o	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)				
Х	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)	1,0005 (03)	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	X Geomorphic Position (D2)				
	Inundation Visible on Aerial	(C6)	Shallow Aquitard (D3)				
	Imagery (B7)	Thin Muck Surface (C7)	Microtopographic Relief (D4)				
	Sparsely Vegetated Concave	Other (Explain in Remarks)	X FAC-Neutral Test (D5)				
	Surface (B8)						
	Observations:						
		No X Depth (inches)	Wetland Hydrology Present?				
		X No Depth (inches) 4	Yes X No				
Satura	ation Present? Yes_	X No Depth (inches) 0	4				
		nonitoring well, aerial photos, previous inspe	ctions), if available:				
	graphic maps, aerial imagery, WWI d	ata, WDNR Wetland Indicators data.					
Rema		Based on WETS analysis, antecedent hydro	logic conditions are within a normal range				
1110 01	nenon for welland hydrology to met.	Based on WE18 analysis, amesedent nyaro	ogio conditiono are within a normal range.				

	TATION	Absolute %	Dominant		Sampling Point: DP04 Dominance Test Worksheet
Tree St	ratum Plot size: 30'	Cover	Species	Indicator Status	DOMINANCE TEST MOLKSHEET
1. 2.					Number of dominant species that are OBL, FACW, or FAC:(A)
3. 4.					Total number of dominant species across all strata: 2(B)
5. 6.					Percent of dominant species that are OBL, FACW, or FAC: 100% (A/B)
7.					Prevalence Index Worksheet:
50%=	0.0% 20%= 0.0%	0	Total Cover		Total % cover of:
Shrub S	Stratum Plot size: 15'				OBL species 90 x 1 90
1.	Rhamnus cathartica	5	Y	FAC	FACW species0 x20
2.					FAC species10 x330_
3.					FACU species 0 x 4 0
4.					UPL species 0 x 5 0
5.					Column Totals: 100 (A) 120 (B)
6.					Prevalence Index: 1.2 (B/A)
7.					Hydrophytic Vegetation Indicators:
50%=	2.5% 20%= 1.0%	5	Total Cover		Rapid Test for Hydrophytic Vegetation
Herb St	ratum Plot size: 5'				x Dominance Test is >50%
1.	Scirpus cyperinus	85	Υ	OBL	x Prevalence Index is ≤3.0*
2.	Rhamnus cathartica	5	N	FAC	Morphological Adaptations*
3.	Lycopus americanus	5	N	OBL	Problematic Hydrophytic Vegetation*
4. 5.					* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
6.				-	Definitions of Vegetation Strata:
7.	_		-		Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast
8.				•	height (DBH), regardless of height
9.					
10.				•	than or equal to 3.28 ft (1M) tall.
11.				•	 Herb - All herbaceous (non-woody) plants, regardless of size,
12.					and woody plants less than 3.28 ft tall.
50%=	47.5% 20%= 19.0%	95	Total Cover		West Wisses All and Linear standard and Ook in Links
Woody	Vine Stratum Plot size: 30'				Woody Vines - All woody vines greater than 3.28 ft in height.
1.					
2.					
3.					Hydrophytic Vegetaion Present?
4.					, and a second
50%=	0.0% 20%= 0.0%	0	Total Cover		Yes <u>X</u> No
	s: (Include photo numbers here o erion for hydrophytic vegetation is		e sheet.)		

SOIL													
									Sampling Point:	DP04			
Profile	Description:	(Describe to	depth	needed to d	ocume	ent the in	ndicator	or confirm abse	ence of indicators.)				
	Depth	Matri	X	Redox Fea	atures								
	(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks				
	0-5	10YR 2/1	80	10YR 4/6	5	С	М	Sandy Loam Prominent redox concentration					
				10YR 4/1	15	5 D M							
	5-12	10YR 2/1	60	10YR 4/6	2	С	М	Silt Loam	Prominent redox concentrations.				
				10YR 4/2	38	D	М						
	12-20	10YR 4/6	100					Loamy Sand					
* Type	* Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: PL=Pore Lining, M=Matrix												
Hydric	Soil Indicato	rs:		,					Indicators for Problem	natic Soils			
	Histosol (A1)				Strippe	ed Matrix	(S6)		2 cm Muck (A10) (LRR K, L	, MLRA 149B)			
	Histic Epiped	on (A2)			Dark S	Surface (S	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 Su	Ifide (A4)			IVILKA	149B)			Dark Surface (S7) (LRR K, I	_, M)			
	Stratified Lay	ers (A5)			Thin D	ark Surfa	ice (S9)		Polyvalve Below Surface (S	8) (LRR K, L)			
	Depleted Bel	ow Dark Surfa	ace (A11)	Loamy	Mucky N	/lineral (F	-1)	Thin Dark Surface (S9) (LRI	R K, L)			
	Thick Dark S	urface (A12)			Loamy	Gleyed I	Matrix (F	2)	Iron-Manganese Masses (F	12) (LRR K, L, R)			
	Sandy Mucky	Mineral (S1)			Deplet	ed Matrix	(F3)		Mesic Spodic (TA6) (MLRA 144A, 145, 149B)				
	Sandy Gleye	d Matrix (S4)		Х	Redox	Dark Su	rface (F6	5)	Red Parent Material (F21)				
	Sandy Redox	(S5)			Deplet	ed Dark	Surface ((F7)	Very Shallow Dark Surface (TF12)				
					Redox	Depress	ssions (F8)		Other (Explain in Remarks)				
Restric	ctive Layer (if	observed)											
	Type:			None									
Dep	th (inches):						Hydri	ic Soil Present?	YesX No				
Remar		ia aail ia maat											
rne cri	terion for hydr	ic son is met.											

Site:	Fire Technology Center	City/County: N	Marinette County		Sampling Date:	8/27/2019		
	ant/Owner: Tyco Fire Products,	L.P		State: WI	Sampling Point:	DP05		
Investi	igator(s): Ryan Bombeck, Micl	hael Meisenger Sec	ction, Township, Rar	nge: Section 13, Towns	hip 30N, Range 23E			
Landfo	orm (hillslope,terrace,etc.): Toe Slo	ppe Local re	elief (concave, conve	ex, none): Concave	Slop	e (%): <u>0%</u>		
Subre	gion(LRR or MLRA): LRR K - North	ncentral Forests Lat. 45	5.076196° N Lo	ong. <u>87.640585° W</u>	Datum: WG	S 84		
Soil Ma	ap Unit Name: Wainola loamy fine s	sand, 0 to 3 percent slopes		WWI Class	sification: None			
Are cli	matic/hydrologic conditions on the s	ite typical for time of year?	Yes X	No(If no, expla	ain in the Remarks)			
Are		l or Hydrology _						
Are	Vegetation Soi	l or Hydrology _	naturally pro	blematic?				
Are No	ormal Circumstances Present?	Yes X No (If needed, explain ar	ny answers in Remarks	5)			
SHIMN	IARY OF FINDINGS							
301111	Hydrophytic Vegetation Present?	? Yes X No	Is the Samp	led Area within a Wet	land?			
		? Yes X No	•	No	iana:			
1	Wetland Hydrology Present?			al Wetland Site ID:	MO3			
	Wolland Hydrology i rocon.	163 <u>/</u> 110	11 you, op.io.	lai Weliana Olie ID.	7703			
Remar	rke·							
	05 in Appendix B. Wetland data poi	nt recorded at the boundary of	W03. Based on the	presence of all three pa	arameters, this area is	a wetland.		
HYDI	ROLOGY							
	nd Hydrology Indicators:							
	Primary Indicators (minimum of	one is required; check all tha	at apply)	Secondary Indicate	ors (minimum of two	required)		
	Surface Water (A1)	Water Stained Leaves (Surface Soil Crack	•			
Х	High Water Table (A2)	Aquatic Fauna (B13)		Drainage Patterns	(B10)			
Х	Saturation (A3)	Marl Deposits (B15)		Moss Tim Lines (B	` '			
	Water Marks (B1)	Hydrogen Sulfide Odor ((C1)	Dry-Season Water Table (C2)				
	Sediment Deposits (B2)	Oxidized Rhizospheres	on Living	Crayfish Burrows (C8)				
	Drift Deposits (B3)	Roots (C3)		Saturation Visible on Aerial Imagery (C9)				
	Algal Mat or Crust (B4)	Presence of Reduced In	on (C4)	Stunted or Stressed Plants (D1)				
	Iron Deposits (B5)	Recent Iron Reduction in	n Tilled Soil	X Geomorphic Position (D2)				
	Inundation Visible on Aerial	(C6)		Shallow Aquitard (D3)			
	Imagery (B7)	Thin Muck Surface (C7)		Microtopographic I	Relief (D4)			
	Sparsely Vegetated Concave	Other (Explain in Remar	rks)	FAC-Neutral Test	(D5)			
	Surface (B8)	·		 -				
Field (Observations:							
Surfac		No X Depth (ii		land Hydrology Prese	ent?			
Water	Table Present? Yes_	X No Depth (ii	nches) 9	Yes_	X No			
Satura		X No Depth (ii						
Descri	be Recorded Data (stream guage, r	monitoring well, aerial photos, p	orevious inspections), if available:				
Topog	raphic maps, aerial imagery, WWI c	data, WDNR Wetland Indicators	s data.					
Remar								
The cr	iterion for wetland hydrology is met.	Based on WETS analysis, ant	ecedent hydrologic o	conditions are within a r	normal range.			

VEGE	TATION		Absolute %	Dominant		Sampling Point: DP05
Tree St	ratum Plot size:	30'	Cover	Species	Indicator Status	Dominance Test Worksheet
1. 2.						Number of dominant species that are OBL, FACW, or FAC: 3 (A)
3.					-	`` <i>`</i>
4.			· 			Total number of dominant species across all strata:3(B)
5. 6.						Percent of dominant species that are OBL, FACW, or FAC:
7.					<u> </u>	Prevalence Index Worksheet:
50%=	0.0% 209	%= 0.0%	0	Total Cover		Total % cover of:
Shrub S	Stratum Plot size:	15'				OBL species <u>65</u> x 1 <u>65</u>
1.	Rhamnus cathartica		5	Y	FAC	FACW species <u>31</u> x 2 <u>62</u>
2.						FAC species <u>10</u> x 3 <u>30</u>
3.						FACU species0 x40
4.			<u> </u>			UPL species0 x 50
5.						Column Totals: 106 (A) 157 (B)
6.						Prevalence Index: 1.5 (B/A)
7.						Hydrophytic Vegetation Indicators:
50%=	2.5% 209	%= 1.0%	5	Total Cover		Rapid Test for Hydrophytic Vegetation
Herb St	tratum Plot size:	5'				x Dominance Test is >50%
1.	Scirpus cyperinus		50	Υ	OBL	x Prevalence Index is ≤3.0*
2.	Phalaris arundinacea		30	Υ	FACW	Morphological Adaptations*
3.	Lycopus americanus		15	N	OBL	Problematic Hydrophytic Vegetation*
4.	Rhamnus cathartica		5	N	FAC	* Indicators of hydric soil and wetland hydrology must be present,
5.	Solidago gigantea		1	N	FACW	unless disturbed or problematic
6.	V V V					Definitions of Vegetation Strata:
7.						Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast
8.						height (DBH), regardless of height
9.						Sapling/shrub - Woody plants less than 3 in. DBH and greater
10.						than or equal to 3.28 ft (1M) tall.
11.						Herb - All herbaceous (non-woody) plants, regardless of size,
12.						and woody plants less than 3.28 ft tall.
50%=	50.5% 209	%= 20.2%	101	Total Cover		NATIONAL All woods wines greater than 2.29 ft in height
Woody	Vine Stratum Plot size:	30'				Woody Vines - All woody vines greater than 3.28 ft in height.
1.						
2.		<u></u>				1
3.						Hydrophytic Vegetaion Present?
4.						,
50%=	0.0% 209	%= 0.0%	0	Total Cover		Yes <u>X</u> No
	ks: (Include photo numb terion for hydrophytic ve			e sheet.)		

SOIL											
									Sampling Point:	DP05	
Profile	Description:	(Describe to	o depth	needed to d	locume	ent the ir	ndicator	or confirm abse	ence of indicators.)		
	Depth	Matri	х	Redox Fea	tures						
	(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks		
	0-4	10YR 2/2	98	10YR 4/6	2	С	М	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			
* Туре	e: C=Concentra	ation, D=Depl	etion, RI	M=Reduced ∣	Matrix,	CS=Coat	ted Sand	grains **Locati	on: PL=Pore Lining, M=Matrix		
Hydric	Soil Indicato	rs:							Indicators for Problem	natic Soils	
	Histosol (A1)				Strippe	ed Matrix	(S6)		2 cm Muck (A10) (LRR K, L	, MLRA 149B)	
	Histic Epiped	on (A2)			Dark S	Surface (S	S7)(LRR	R,MLRA 149B)	Coast Prairie Redox (A16)		
	Black Histic (A3)					w Surface	e (S8) (LRR R,	5 cm Mucky Peat (S3) (LRR K, L, R)		
	Hydrogen Su	lfide (A4)			MLRA	149B)			Dark Surface (S7) (LRR K, L, M)		
	Stratified Lay	ers (A5)			Thin D	ark Surfa	ace (S9)		Polyvalve Below Surface (S	8) (LRR K, L)	
	Depleted Bel	ow Dark Surfa	ace (A11)	Loamy	Mucky N	Mineral (F	-1)	Thin Dark Surface (S9) (LRI	R K, L)	
	Thick Dark S	urface (A12)			Loamy Gleyed Matrix (F2)				Iron-Manganese Masses (F	12) (LRR K, L, R)	
	Sandy Mucky	Mineral (S1)			Depleted Matrix (F3)				Mesic Spodic (TA6) (MLRA	144A, 145, 149B)	
	Sandy Gleye	d Matrix (S4)			Redox	Dark Su	rface (F6	6)	Red Parent Material (F21)		
Χ	Sandy Redox	(S5)			Deplet	ed Dark	Surface ((F7)	Very Shallow Dark Surface (TF12)		
					Redox	Depress	ions (F8)	Other (Explain in Remarks)		
Restri	ctive Layer (if	observed)									
	Type:			None		-					
Dep	oth (inches):					-	Hydri	c Soil Present?	Yes X No		
—											
Remar	·ks: iterion for hydr	io acil io mot									
THE CH	iteriori ioi riyar	ic soil is friet.									
Ī											

Site: Fire Technology Center	City/County: Marinette Cou	nty	Sampling Date: 8/27/2019			
Applicant/Owner: Tyco Fire Products, L.f.	٥.	State: WI	Sampling Point: DP06			
Investigator(s): Ryan Bombeck, Micha	el Meisenger Section, Townshi	p, Range: Section 13, Town	ship 30N, Range 23E			
Landform (hillslope,terrace,etc.): Back Slop	be Local relief (concave,	convex, none): Convex	Slope (%):2%			
Subregion(LRR or MLRA): LRR K - Northce	entral Forests Lat. 45.076168° N	Long. 87.640598° W	Datum: WGS 84			
Soil Map Unit Name: Wainola loamy fine sar						
Are climatic/hydrologic conditions on the site	typical for time of year? Yes X	(If no, expl	lain in the Remarks)			
	or Hydrologysignific					
Are Vegetation Soil_	or Hydrologynatura	lly problematic?				
Are Normal Circumstances Present?	Yes X No (If needed, exp	olain any answers in Remark	s)			
SUMMARY OF FINDINGS						
Hydrophytic Vegetation Present? `	Yes NoX Is the	Sampled Area within a We	tland?			
Hydric Soil Present? `	Yes No X Ye	s NoX				
Wetland Hydrology Present? `	Yes No X If yes,	optional Wetland Site ID:				
Remarks: Photo 06 in Appendix B. Upland data point re	ecorded at the boundary of W03. Based or	n the absence of all three par	rameters, this area is an upland.			
HYDROLOGY						
Wetland Hydrology Indicators:						
Primary Indicators (minimum of on	e is required; check all that apply)	Secondary Indicat	tors (minimum of two required)			
Surface Water (A1)	Water Stained Leaves (B9)	Surface Soil Crac	ks (B6)			
High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns	s (B10)			
Saturation (A3)	Marl Deposits (B15)	Moss Tim Lines (I	B6)			
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Dry-Season Wate	er Table (C2)			
Sediment Deposits (B2)	Oxidized Rhizospheres on Living	Crayfish Burrows (C8)				
Drift Deposits (B3)	Roots (C3)	Saturation Visible on Aerial Imagery (C9)				
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)	Stunted or Stress	ed Plants (D1)			
Iron Deposits (B5)	Recent Iron Reduction in Tilled Soil	Geomorphic Posi	tion (D2)			
Inundation Visible on Aerial	(C6)	Shallow Aquitard	(D3)			
Imagery (B7)	Thin Muck Surface (C7)	Microtopographic Relief (D4)				
Sparsely Vegetated Concave	Other (Explain in Remarks)	FAC-Neutral Test	(D5)			
Surface (B8)						
Field Observations:						
	No X Depth (inches)	Wetland Hydrology Pres	ent?			
	No X Depth (inches)	Yes	No X			
Saturation Present? Yes	No X Depth (inches)	_				
Describe Recorded Data (stream guage, mo	nitoring well, aerial photos, previous inspe	ctions), if available:				
Topographic maps, aerial imagery, WWI dat	a, WDNR Wetland Indicators data.					
Remarks: The criterion for wetland hydrology is not me	t. Based on WETS analysis, antecedent h	vdrologic conditions are with	in a normal range.			
		,				

VEGE	TATION		Absolute 9/	Deminant		Sampling Point: DP06				
Tree St	ratum Plot size:	30'	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet				
1.	Quercus velutina		60	Υ Υ	UPL	Number of dominant species that are OBL,				
2.					- 	FACW, or FAC:1(A)				
3.						Total number of dominant species across				
4.				<u> </u>		all strata: 3 (B)				
5.						Percent of dominant species that are OBL,				
6.						FACW, or FAC: <u>33%</u> (A/B)				
7.						Prevalence Index Worksheet:				
50%=	30.0% 20%	%= 12.0%	60	Total Cover		Total % cover of:				
Shrub S	Stratum Plot size:	15'				OBL species0 x10				
1.						FACW species 5 x _ 2 10				
2.						FAC species <u>30</u> x 3 <u>90</u>				
3.						FACU species15 x460				
4.						UPL species105 5				
5.						Column Totals:(A)(B)				
6.						Prevalence Index: 4.4 (B/A)				
7.						Hydrophytic Vegetation Indicators:				
50%=		%= 0.0%	0	Total Cover		Rapid Test for Hydrophytic Vegetation				
Herb St	ratum Plot size:	5'				Dominance Test is >50%				
-	Comptonia peregrina		40	Y	UPL	Prevalence Index is <3.0*				
-	Rhamnus cathartica		30	Y	FAC	Morphological Adaptations*				
-	Pteridium aquilinum		10	N	FACU	Problematic Hydrophytic Vegetation*				
-	Solidago canadensis		5	N	FACU	* Indicators of hydric soil and wetland hydrology must be pre unless disturbed or problematic				
-	Solidago gigantea		5	N	FACW	'				
-	Asclepias syriaca		5	N	UPL	Definitions of Vegetation Strata:				
7.						Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height				
8.										
9.						Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1M) tall.				
10.						 				
11.					_	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.				
12.	47.50/ 200	- 10.0%	95	Total Cover		1				
50%=	47.5% 20% Vine Stratum Plot size:	%= 19.0% 30'	95	Total Cover		Woody Vines - All woody vines greater than 3.28 ft in height.				
1. 2.						1				
2. 3.						Hydrophytic Vegetaion Present?				
3. 4.						nydrophytic vegetaion Fresent:				
50%=	0.0% 20%	%= 0.0%	0	Total Cover		Yes No X				
JU /0=	U.U70 207	0= 0.070		Total Cover		TesNO				
<u> </u>										

SOIL												
									Sampling Point:	DP06		
Profile	Description:	(Describe to	o depth	needed to d	locume	ent the ir	ndicator	or confirm abse	nce of indicators.)			
	Depth	Matri	Х	Redox Fea	atures							
	(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks			
	0-4	10YR 2/1	100					Sandy Loam				
	4-7	10YR 2/1	60	10YR 5/2	40	D	М	Sandy Loam				
	7-20	10YR 4/6	100					Loamy Sand				
* Туре	e: C=Concentra	ation, D=Depl	etion, RN	M=Reduced	Matrix,	CS=Coa	ted Sand	grains **Location	on: PL=Pore Lining, M=Matrix			
Hydric	Soil Indicato	rs:			1				Indicators for Problem	atic Soils		
	Histosol (A1)				Strippe	ed Matrix	(S6)		2 cm Muck (A10) (LRR K, L,	MLRA 149B)		
	Histic Epiped	on (A2)			Dark S	Surface (S	S7)(LRR	R,MLRA 149B)	Coast Prairie Redox (A16)			
	Black Histic (,		w Surface	e (S8) (LRR R,	5 cm Mucky Peat (S3) (LRR	K, L, R)				
	Hydrogen Su	lfide (A4)		MLRA 149B)				Dark Surface (S7) (LRR K, L	Dark Surface (S7) (LRR K, L, M)			
	Stratified Lay	ers (A5)			Thin D	ark Surfa	ace (S9)		Polyvalve Below Surface (St	8) (LRR K, L)		
	Depleted Belo	ow Dark Surfa	ace (A11)	Loamy	Mucky N	Mineral (F	-1)	Thin Dark Surface (S9) (LRF	R K, L)		
	Thick Dark S	urface (A12)			Loamy	Gleyed	Matrix (F	2)	Iron-Manganese Masses (F	12) (LRR K, L, R)		
	Sandy Mucky	Mineral (S1)			Depleted Matrix (F3)				Mesic Spodic (TA6) (MLRA	144A, 145, 149B)		
	Sandy Gleyed	d Matrix (S4)			Redox Dark Surface (F6)				Red Parent Material (F21)			
	Sandy Redox	(S5)			Deplet	ed Dark	Surface ((F7)	Very Shallow Dark Surface (TF12)			
					Redox	Depress	ions (F8)	Other (Explain in Remarks)	Other (Explain in Remarks)		
Restri	ctive Layer (if	observed)										
	Type:		l	None								
Dep	th (inches):						Hydri	c Soil Present?	YesNoX			
Remar												
The cr	iterion for hydri	ic soil is not n	net.									

Site: Fire Technology Center	City/County: Marinette Cou	nty Sampling Date: 8/27/2019			
Applicant/Owner: Tyco Fire Product		State: WI Sampling Point: DP07			
		ip, Range: Section 13, Township 30N, Range 23E			
	·	convex, none): Convex Slope (%): 0%			
Subregion(LRR or MLRA): LRR K - No		Long. 87.640737° W Datum: WGS 84			
The state of the s	e sand, 0 to 3 percent slopes				
		No (If no, explain in the Remarks)			
	Soil or Hydrologysignific				
	Soil or Hydrologynatura				
Are Normal Circumstances Present?	Yes X No (If needed, exp	olain any answers in Remarks)			
SUMMARY OF FINDINGS					
	nt? Yes NoX Is the	Sampled Area within a Wetland?			
		sNoX			
		optional Wetland Site ID:			
Welland Hydrology 1 1030	110 <u>X</u> 11703,	optional Wetland Cite 15.			
Remarks:					
	oint recorded in upland island in W03. Based or	the absence of two out of three parameters, this area is an upland.			
LIVERGLOOV					
HYDROLOGY					
Wetland Hydrology Indicators:					
Primary Indicators (minimum o	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	Crayfish Burrows (C8)			
Drift Deposits (B3)	Roots (C3)	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	Geomorphic Position (D2)			
Inundation Visible on Aerial	(C6)	Shallow Aquitard (D3)			
Imagery (B7)	Thin Muck Surface (C7)	Microtopographic Relief (D4)			
Sparsely Vegetated Concave	Other (Explain in Remarks)	FAC-Neutral Test (D5)			
Surface (B8)					
Field Observations:	·				
Surface Water Present? Ye	s No X Depth (inches)	Wetland Hydrology Present?			
	s No X Depth (inches)	Yes No X			
	s No_X_ Depth (inches)				
oddardion resent.	5 145X Depart (inches)				
Describe Recorded Data (stream guada	e, monitoring well, aerial photos, previous inspe	nctions) it available.			
Topographic maps, aerial imagery, WW		etions), ii available.			
Remarks:	Tuata, WDINI Welland mulcators data.				
	ot met. Based on WETS analysis, antecedent h	ydrologic conditions are within a normal range.			
, , , , , , , , , , , , , , , , , , , ,		,			

Tree Stratum Plot size: 30' 1. Pinus banksiana 2. 3.	Cover 5	Species	Indicator Status	Dominance Test Worksheet				
2. 3.	5		•					
		<u>Y</u>	FACU	Number of dominant species that are OBL, FACW, or FAC: 1(A)				
4				Total number of dominant species across all strata: 4 (B)				
5. 6.				Percent of dominant species that are OBL, FACW, or FAC:				
7				Prevalence Index Worksheet:				
50%= 2.5% 20%= 1.0%	5	Total Cover	l	Total % cover of:				
Shrub Stratum Plot size: 15'				OBL species0 x10				
1				FACW species <u>25</u> x 2 <u>50</u>				
2				FAC species0 x30				
3				FACU species <u>60</u> x 4 <u>240</u>				
4				UPL species <u>25</u> x 5 <u>125</u>				
5.			'	Column Totals: 110 (A) 415 (B)				
6.			'	Prevalence Index: 3.8 (B/A)				
7.			'	Hydrophytic Vegetation Indicators:				
50%= 0.0% 20%= 0.0%	0	Total Cover	'	Rapid Test for Hydrophytic Vegetation				
Herb Stratum Plot size: 5'				Dominance Test is >50%				
1. Solidago canadensis	50	Υ	FACU	Prevalence Index is ≤3.0*				
2. Solidago gigantea	20	Υ	FACW	Morphological Adaptations*				
3. Comptonia peregrina	20	Υ	UPL	Problematic Hydrophytic Vegetation*				
4. Achillea millefolium	5	N	FACU	* Indicators of hydric soil and wetland hydrology must be present,				
5. Phalaris arundinacea	5	N	FACW	unless disturbed or problematic				
6. Asclepias syriaca	5	N	UPL	Definitions of Vegetation Strata:				
7. 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				
10.				than or equal to 3.28 ft (1M) tall.				
11.			-	Herb - All herbaceous (non-woody) plants, regardless of size,				
12.				and woody plants less than 3.28 ft tall.				
50%= 52.5% 20%= 21.0%	105	Total Cover		All and because the account to the beauty				
Woody Vine Stratum Plot size: 30'				Woody Vines - All woody vines greater than 3.28 ft in height.				
1.								
2.			-					
3.			-	Hydrophytic Vegetaion Present?				
4.			-	,				
50%= 0.0% 20%= 0.0%	0	Total Cover		YesNoX				

SOIL											
									Sampling Point:	DP07	
Profile	Description:	(Describe to	o depth	needed to d	locume	ent the ir	ndicator	or confirm abse	ence of indicators.)		
	Depth	Matri	X	Redox Fea	atures						
	(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks		
	0-3	10YR 2/1	98	10YR 4/6	2	С	М	Sandy Loam	Prominent redox concentrations.		
	3-8	10YR 4/2	90	10YR 4/6	10	С	М	Loamy Sand	Prominent redox concentrations.		
	8-20	10YR 4/6	100					Loamy Sand			
* T		tian D. Dani	atian DI	4 Dadward	Matrice	00 0	41 0	l: **!	and DI. Daniel Indian M. Matrice		
	Soil Indicato	•	ellon, Kr	vi=Reduced	warrx,	CS=C0a	ted Sand	grains Locati	on: PL=Pore Lining, M=Matrix Indicators for Problem	natic Soils	
	Histosol (A1) Stripped Ma								2 cm Muck (A10) (LRR K, L,	MLRA 149B)	
	Histic Epiped	on (A2)			Dark S	Surface (S	S7)(LRR	R,MLRA 149B)	Coast Prairie Redox (A16)	,	
	Black Histic (A3)					lve Belov	w Surface	e (S8) (LRR R,	5 cm Mucky Peat (S3) (LRR	K, L, R)	
	Hydrogen Su	lfide (A4)			MLRA	149B)			Dark Surface (S7) (LRR K, L, M)		
	Stratified Lay	ers (A5)			Thin D	ark Surfa	ace (S9)		Polyvalve Below Surface (S8	8) (LRR K, L)	
	Depleted Belo	ow Dark Surfa	ace (A11)	Loamy	Mucky N	Mineral (F	- 1)	Thin Dark Surface (S9) (LRF	R K, L)	
	Thick Dark S	urface (A12)			Loamy	Gleyed	Matrix (F	2)	Iron-Manganese Masses (F	12) (LRR K, L, R)	
	Sandy Mucky	Mineral (S1)			Deplet	ed Matrix	(F3)		Mesic Spodic (TA6) (MLRA	144A, 145, 149B)	
	Sandy Gleyed	d Matrix (S4)			Redox Dark Surface (F6)				Red Parent Material (F21)		
Χ	Sandy Redox	(S5)			Deplet	ed Dark	Surface ((F7)	Very Shallow Dark Surface (TF12)		
					Redox	Depress	ions (F8)	Other (Explain in Remarks)		
Restri	ctive Layer (if	observed)									
	Type:			None							
Dep	th (inches):						Hydri	ic Soil Present?	YesXNo		
Remar	·ks:					I.					
The cr	iterion for hydri	c soil is met.									

Site:	Fire Technology Center	City/County: Marinette	County		Sampling Date:	8/27/2019		
	ant/Owner: Tyco Fire Products, I		•	State: WI				
			wnship, Range	e: Section 13, Towns	ship 30N, Range 23E			
Landfo		pe Local relief (con						
	gion(LRR or MLRA): LRR K - North				Datum: W			
Soil M	ap Unit Name: Rousseau loamy fine	sand, 1 to 6 percent slopes						
		te typical for time of year? Yes						
Are		or Hydrology		<u></u>				
Are	· · · · · · · · · · · · · · · · · · ·	or Hydrology						
Are No		Yes X No (If neede			s)			
SUMN	MARY OF FINDINGS							
	Hydrophytic Vegetation Present?	Yes X No	s the Sample	d Area within a We	tland?			
	Hydric Soil Present?	Yes X No	Yes X	No				
	Wetland Hydrology Present?	Yes X No	f yes, optional	Wetland Site ID:	W04			
Rema		A constant and a large state of MOA B				See a selection		
Pnoto	08 in Appendix B. Wetland data poir	nt recorded at the boundary of W04. Ba	ased on the pre	esence of all three p	arameters, this area	is a wetland.		
HYD	ROLOGY							
Wetla	nd Hydrology Indicators:		ı					
	Primary Indicators (minimum of o	one is required; check all that apply)	Secondary Indicat	ors (minimum of tw	o required)		
	Surface Water (A1)	Water Stained Leaves (B9)		Surface Soil Crac	ks (B6)			
Х	High Water Table (A2)	Aquatic Fauna (B13)		Drainage Patterns	s (B10)			
Х	Saturation (A3)	Marl Deposits (B15)		Moss Tim Lines (F	B6)			
	Water Marks (B1)	Hydrogen Sulfide Odor (C1)		Dry-Season Water Table (C2)				
	Sediment Deposits (B2)	Oxidized Rhizospheres on Living		Crayfish Burrows (C8)				
	Drift Deposits (B3)	Roots (C3)		Saturation Visible on Aerial Imagery (C9)				
	Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)		Stunted or Stress	ed Plants (D1)			
	Iron Deposits (B5)	Recent Iron Reduction in Tilled	Soil X	Geomorphic Posit	tion (D2)			
	Inundation Visible on Aerial	(C6)		Shallow Aquitard (D3)				
	Imagery (B7)	Thin Muck Surface (C7)		Microtopographic Relief (D4)				
	Sparsely Vegetated Concave	Other (Explain in Remarks)	Х	FAC-Neutral Test	(D5)			
	Surface (B8)							
	Observations:							
		No X Depth (inches) _		nd Hydrology Pres				
Water		X No Depth (inches)		Yes	X No			
Satura	ation Present? Yes_	X No Depth (inches)	0					
	, , ,	nonitoring well, aerial photos, previous	inspections), if	f available:				
		ata, WDNR Wetland Indicators data.						
Rema		Based on WETS analysis, antecedent	hydrologic cor	nditions are within a	normal range			
11100	nonerior wouldn't hydrology is illet.	bacca on WETO analysis, antocedent	yarologic coi	ididono die wiliiii a	noma range.			

VLGL	TATION	Absolute %	Dominant		Sampling Point: DP08
Tree St	ratum Plot size: 30'	Cover	Species	Indicator Status	Dominance Test Worksheet
1. 2.					Number of dominant species that are OBL, FACW, or FAC: 1(A)
3. 4.					Total number of dominant species across all strata:1(B)
5. 6.					Percent of dominant species that are OBL, FACW, or FAC: 100% (A/B)
7.					Prevalence Index Worksheet:
50%=	0.0% 20%= 0.0%	0	Total Cover		Total % cover of:
Shrub S	Stratum Plot size: 15'	_			OBL species15 x115_
1.		<u></u>			FACW species <u>91</u> x 2 <u>182</u>
2.					FAC species0 x30
3.					FACU species 0 x 4 0
4.					UPL species 0 x 5 0
5.					Column Totals: 106 (A) 197 (B)
6.					Prevalence Index: 1.9 (B/A)
7.					Hydrophytic Vegetation Indicators:
50%=	0.0% 20%= 0.0%	0	Total Cover	· <u>-</u>	x Rapid Test for Hydrophytic Vegetation
Herb St	ratum Plot size: 5'				x Dominance Test is >50%
1.	Phalaris arundinacea	90	Y	FACW	x Prevalence Index is ≤3.0*
2.	Lycopus americanus	10	N	OBL	Morphological Adaptations*
3.	Scirpus cyperinus	5	N	OBL	Problematic Hydrophytic Vegetation*
4. 5.	Solidago gigantea	1	N	FACW	* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
6.					Definitions of Vegetation Strata:
7. 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
10.					than or equal to 3.28 ft (1M) tall.
11.					 Herb - All herbaceous (non-woody) plants, regardless of size,
12.					and woody plants less than 3.28 ft tall.
50%=	53.0% 20%= 21.2%	106	Total Cover		1
	Vine Stratum Plot size: 30'		10.01.00.0.		Woody Vines - All woody vines greater than 3.28 ft in height.
1.					
2.					
3.					Hydrophytic Vegetaion Present?
4.					Trydrophytio regetation resent.
50%=	0.0% 20%= 0.0%	0	Total Cover		Yes <u>X</u> No
	ss: (Include photo numbers here o erion for hydrophytic vegetation is	•	e sheet.)		

SOIL											
									Sampling Point:	DP08	
Profile	Description:	(Describe to	o depth	needed to d	locume	ent the in	dicator	or confirm abse	ence of indicators.)		
	Depth	Matri	Х	Redox Fea	atures						
	(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks		
	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	С	М	Loamy Sand	Prominent redox concentrations.		
				10YR 5/1	15	D	М				
* Туре	: C=Concentra	ation, D=Depl	etion, RI	/I=Reduced	Matrix,	CS=Coat	ted Sand	l grains **Locati	on: PL=Pore Lining, M=Matrix		
Hydric	Soil Indicato	rs:			1				Indicators for Problem	natic Soils	
	Histosol (A1)				Strippe	ed Matrix	(S6)		2 cm Muck (A10) (LRR K, L,	, MLRA 149B)	
	Histic Epiped	on (A2)			Dark S	Surface (S	87)(LRR	R,MLRA 149B)	Coast Prairie Redox (A16)		
	Black Histic (A3)						v Surface	e (S8) (LRR R,	5 cm Mucky Peat (S3) (LRR K, L, R)		
	Hydrogen Su	lfide (A4)			MLRA	149B)			Dark Surface (S7) (LRR K, L, M)		
	Stratified Lay	ers (A5)			Thin D	ark Surfa	ice (S9)		Polyvalve Below Surface (Sa	8) (LRR K, L)	
	Depleted Bel	ow Dark Surfa	ace (A11)	Loamy	Mucky N	/lineral (F	- 1)	Thin Dark Surface (S9) (LRF	R K, L)	
	Thick Dark S	urface (A12)			Loamy	Gleyed I	Matrix (F	2)	Iron-Manganese Masses (F	12) (LRR K, L, R)	
Χ	Sandy Mucky	/ Mineral (S1)			Deplet	ed Matrix	(F3)		Mesic Spodic (TA6) (MLRA	144A, 145, 149B)	
	Sandy Gleye	d Matrix (S4)			Redox	Dark Su	rface (F6	6)	Red Parent Material (F21)		
	Sandy Redox	(S5)			Deplet	ed Dark	Surface ((F7)	Very Shallow Dark Surface (TF12)		
					Redox	Depress	ions (F8)	Other (Explain in Remarks)		
Restric	tive Layer (if	observed)									
	Type:			None							
Dep	th (inches):						Hydri	ic Soil Present?	Yes X No		
Remar											
The cri	terion for hydr	ic soil is met.									

Site:	Fire Technology Center	City/County: Marine	tte County	Sampling Date: 8/3	27/2019			
Applic	ant/Owner: Tyco Fire Products, L	P.	State:	WI Sampling Point:	DP09			
Investi	igator(s): Ryan Bombeck, Mich	ael Meisenger Section, 7	Township, Range: Section	n 13, Township 30N, Range 23E				
Landfo	orm (hillslope,terrace,etc.): Back Slo	ppe Local relief (co	oncave, convex, none):	Convex Slope (%	%):2%			
Subre	gion(LRR or MLRA): LRR K - Northo	central Forests Lat. 45.0771	10° N Long. <u>87.640</u>	569° W Datum: WGS 84	4			
	ap Unit Name: Rousseau loamy fine							
Are cli	matic/hydrologic conditions on the sit	te typical for time of year?	sX No	(If no, explain in the Remarks)				
Are		or Hydrology						
Are	Vegetation Soil	or Hydrology	_naturally problematic?					
Are No	ormal Circumstances Present?	Yes X No (If need	ded, explain any answers	in Remarks)				
** , , , , , ,								
SUMN	Hydrophytic Vegetation Present?	Voc. No. Y	Is the Sampled Area w	ithin a Watland?				
	Hydrig Soil Procest?		Is the Sampled Area w					
	Hydric Soil Present?	<u> </u>	Yes No	<u></u>				
	Wetland Hydrology Present?	Yes NU	If yes, optional Wetland	Site in:				
Poma	wice.							
Remai Photo		recorded at the boundary of W04. B	Based on the absence of a	all three parameters, this area is an u	pland.			
	00 m/ pponom = 1 = 1 = 1 = 1 = 1	10001404 41 110 22 111 111 11 11		iii tii oo paramotore, aan aan aa aa aa	piaa.			
ΠΛΟΙ	ROLOGY							
Wellai	nd Hydrology Indicators:	ene is required; check all that anni	Second:	ary Indicators (minimum of two rec	~··irod\			
	Primary Indicators (minimum of o Surface Water (A1)	Water Stained Leaves (B9)		e Soil Cracks (B6)	quireu)			
	High Water Table (A2)	Aquatic Fauna (B13)		ge Patterns (B10)				
	Saturation (A3)	Marl Deposits (B15)	i i	Fim Lines (B6)				
	Water Marks (B1)	Hydrogen Sulfide Odor (C1)	1 1	Dry-Season Water Table (C2)				
	Sediment Deposits (B2)	Oxidized Rhizospheres on Livi		sh Burrows (C8)				
	Drift Deposits (B3)	Roots (C3)	, <u> </u>	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	<u> </u>	Geomorphic Position (D2)				
	Inundation Visible on Aerial	(C6)		Shallow Aquitard (D3)				
	Imagery (B7)	Thin Muck Surface (C7)		Microtopographic Relief (D4)				
	Sparsely Vegetated Concave	Other (Explain in Remarks)	1 1	FAC-Neutral Test (D5)				
	Surface (B8)	G (274)		ourar : 551 (25)				
Field (Observations:							
		No X Depth (inches)) Wetland Hydro	ology Present?				
	_	No X Depth (inches)		Yes NoX				
		No X Depth (inches)		· · · · · · · · · · · · · · · · · · ·				
		· · ·	/					
Descri	ibe Recorded Data (stream guage, m	nonitoring well, aerial photos, previou	us inspections), if available	e:				
	raphic maps, aerial imagery, WWI da							
Remai		,						
	riterion for wetland hydrology is not m	et. Based on WETS analysis, antec	edent hydrologic condition	ns are within a normal range.				

VEGE	TATION	^!!:.to 0/	Distribund		Sampling Point: DP09				
Tree St	ratum Plot size: 30'	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet				
1.	Pinus banksiana	15	Υ	FACU	Number of dominant species that are OBL,				
2.					FACW, or FAC:1 (A)				
3.					Total number of dominant species across				
4.				-	all strata: <u>3</u> (B)				
5.					Percent of dominant species that are OBL,				
6.		<u> </u>		<u> </u>	FACW, or FAC: <u>33%</u> (A/B)				
7.					Prevalence Index Worksheet:				
50%=	7.5% 20%= 3.0%	15	Total Cover		Total % cover of:				
Shrub S	Stratum Plot size: 15'	=			OBL species0 x10				
1.	Rhamnus cathartica	10	Y	FAC	FACW species 10 x _ 2 20				
2.					FAC species15 x345_				
3.			-	-	FACU species <u>35</u> x 4 <u>140</u>				
4.			-	-	UPL species				
5.		. .			Column Totals: 130 (A) 555 (B)				
6.		<u> </u>		· -	Prevalence Index: 4.3 (B/A)				
7.		· ———			Hydrophytic Vegetation Indicators:				
50%=	5.0% 20%= 2.0%	10	Total Cover		Rapid Test for Hydrophytic Vegetation				
Herb St					Dominance Test is >50%				
1.	Bromus inermis	60	<u>Y</u>	UPL	Prevalence Index is <3.0*				
	Solidago canadensis	10	N	FACU	Morphological Adaptations*				
3.	Phalaris arundinacea	10	N	FACW	Problematic Hydrophytic Vegetation*				
4.	Comptonia peregrina	10	N	UPL	* Indicators of hydric soil and wetland hydrology must be pre unless disturbed or problematic				
5.	Rhamnus cathartica	<u>5</u>	N N	FAC FACIL	Definitions of Vegetation Strata:				
6. 7.	Pteridium aquilinum Achillea millefolium	5 5	N N	FACU FACU	Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast				
8.	Acrillea millerollum		IN	FACU	height (DBH), regardless of height				
9.		-			Sapling/shrub - Woody plants less than 3 in. DBH and greater				
10.					than or equal to 3.28 ft (1M) tall.				
11.					Herb - All herbaceous (non-woody) plants, regardless of size,				
12.					and woody plants less than 3.28 ft tall.				
50%=	52.5% 20%= 21.0%	105	Total Cover		<u></u>				
	Vine Stratum Plot size: 30'				Woody Vines - All woody vines greater than 3.28 ft in height.				
1.									
2.									
3.					Hydrophytic Vegetaion Present?				
4.									
50%=	0.0% 20%= 0.0%	0	Total Cover	-	YesNoX				
Remark	ks: (Include photo numbers here o	or on a cenarat	a sheet)		<u> </u>				
	erion for hydrophytic vegetation is	•	c sneet.)						

SOIL											
									Sampling Point:	DP09	
Profile	Description:	(Describe to	o depth	needed to d	locume	ent the ir	ndicator	or confirm abse	nce of indicators.)		
	Depth	Matri	х	Redox Fea	atures		•				
	(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks		
	0-4	10YR 2/1	100					Sandy Loam			
	4-7	10YR 2/1	60	10YR 5/2	40	D	М	Sandy Loam			
	7-20	10YR 4/6	100					Loamy Sand			
* Туре	e: C=Concentra	ation, D=Depl	etion, RN	M=Reduced	Matrix,	CS=Coa	ted Sand	grains **Location	on: PL=Pore Lining, M=Matrix		
Hydric	Soil Indicato	rs:			1				Indicators for Problem	atic Soils	
	Histosol (A1)				Strippe	ed Matrix	(S6)		2 cm Muck (A10) (LRR K, L,	MLRA 149B)	
	Histic Epipedon (A2) Dark Surface							R,MLRA 149B)	Coast Prairie Redox (A16)		
	Black Histic (A3)			,		w Surface	e (S8) (LRR R,	5 cm Mucky Peat (S3) (LRR	5 cm Mucky Peat (S3) (LRR K, L, R)	
	Hydrogen Su	lfide (A4)			MLRA	149B)			Dark Surface (S7) (LRR K, L	_, M)	
	Stratified Layers (A5) Thin Dark S								Polyvalve Below Surface (St	8) (LRR K, L)	
	Depleted Below Dark Surface (A11) Loamy Muck							- 1)	Thin Dark Surface (S9) (LRF	R K, L)	
	Thick Dark Surface (A12) Loamy Gleye							2)	Iron-Manganese Masses (F	12) (LRR K, L, R)	
	Sandy Mucky	Mineral (S1)			Deplet	ed Matrix	(F3)		Mesic Spodic (TA6) (MLRA	144A, 145, 149B)	
	Sandy Gleyed	d Matrix (S4)			Redox	Dark Su	rface (F6	6)	Red Parent Material (F21)		
	Sandy Redox	(S5)			Deplet	ed Dark	Surface ((F7)	Very Shallow Dark Surface ((TF12)	
					Redox	Depress	ions (F8)	Other (Explain in Remarks)		
						1					
Restri	ctive Layer (if	observed)									
	Type:		l	None							
Dep	Depth (inches): Hydric Soil Present? YesNoX										
Remar											
The cr	he criterion for hydric soil is not met.										

Site: Fire Technology Center	City/County: Marinette Cour	ty Sampling Date: 8/27/2019			
Applicant/Owner: Tyco Fire Products, L.F	٥.	State: WI Sampling Point: DP10			
Investigator(s): Ryan Bombeck, Michael	el Meisenger Section, Township	o, Range: Section 13, Township 30N, Range 23E			
Landform (hillslope,terrace,etc.): Summit S	lope Local relief (concave,	convex, none): Convex Slope (%): 0%			
Subregion(LRR or MLRA): LRR K - Northce	entral Forests Lat. 45.077716° N	Long. 87.640559° W Datum: WGS 84			
		WWI Classification: None			
Are climatic/hydrologic conditions on the site	typical for time of year? Yes X	(If no, explain in the Remarks)			
Are Vegetation Soil_	or Hydrologysignific	antly disturbed?			
Are Vegetation Soil_	or Hydrologynatura	ly problematic?			
Are Normal Circumstances Present?	Yes X No (If needed, exp	ain any answers in Remarks)			
SUMMARY OF FINDINGS					
Hydrophytic Vegetation Present? `	Yes No <u>X</u> Is the	Sampled Area within a Wetland?			
Hydric Soil Present?	Yes NoX	s NoX			
Wetland Hydrology Present? `	Yes NoX If yes,	optional Wetland Site ID:			
Remarks: Photo 10 in Appendix B. Upland data point re	ecorded 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 on	e 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	Crayfish Burrows (C8)			
Drift Deposits (B3)	Roots (C3)	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	Geomorphic Position (D2)			
Inundation Visible on Aerial	(C6)	Shallow Aquitard (D3)			
Imagery (B7)	Thin Muck Surface (C7)	Microtopographic Relief (D4)			
Sparsely Vegetated Concave	Other (Explain in Remarks)	FAC-Neutral Test (D5)			
Surface (B8)					
Field Observations:					
Surface Water Present? Yes	No X Depth (inches)	Wetland Hydrology Present?			
Water Table Present? Yes	X No Depth (inches) 17	Yes NoX			
	X No Depth (inches) 14	_			
Describe Recorded Data (stream guage, mo	nitoring well, aerial photos, previous inspe	ctions), if available:			
Topographic maps, aerial imagery, WWI dat					
Remarks:					
	t. Based on WETS analysis, antecedent hy	drologic conditions are within a normal range.			

Tree Stratun 1. Pinu 2. 3. 4. 5. 6. 7.	us banksiana	Cover 5	Species Y	Indicator Status	Dominance Test Worksheet
2 3 4 5 6		5	Υ	E 4 O 1 1	
4 5 6				FACU	Number of dominant species that are OBL, FACW, or FAC: 0 (A)
6.					Total number of dominant species across all strata: 4 (B)
7.					Percent of dominant species that are OBL, FACW, or FAC: (A/B)
1			<u> </u>		Prevalence Index Worksheet:
50%=	2.5% 20%= 1.0%	5	Total Cover		Total % cover of:
Shrub Stratu	um Plot size: 15'				OBL species0 x10
1					FACW species 10 x 2
2.					FAC species <u>5</u> x 3 <u>15</u>
3.					FACU species <u>40</u> x 4 <u>160</u>
4.				_	UPL species <u>55</u> x 5 <u>275</u>
5.					Column Totals: 110 (A) 470 (B)
6.					Prevalence Index: 4.3 (B/A)
7.					Hydrophytic Vegetation Indicators:
50%=	0.0% 20%= 0.0%	0	Total Cover		Rapid Test for Hydrophytic Vegetation
Herb Stratur	m Plot size: 5'				Dominance Test is >50%
1. <u>Com</u>	nptonia peregrina	30	Y	UPL	Prevalence Index is ≤3.0*
2. Achi	illea millefolium	20	Υ	FACU	Morphological Adaptations*
3. Bron	mus inermis	20	Υ	UPL	Problematic Hydrophytic Vegetation*
4. Solid	idago gigantea	10	N	FACW	* Indicators of hydric soil and wetland hydrology must be present
5. <u>Solic</u>	idago canadensis	10	N	FACU	unless disturbed or problematic
6. Erige	eron annuus	5	N	FACU	Definitions of Vegetation Strata:
7. <u>Rha</u> i	amnus cathartica	5	N	FAC	Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast
8. <u>Cen</u>	ntaurea stoebe	2	N	UPL	height (DBH), regardless of height
9. <u>Dau</u>	ıcus carota	2	N	UPL	Sapling/shrub - Woody plants less than 3 in. DBH and greater
10. <u>Ascl</u>	lepias syriaca	1	N	UPL	than or equal to 3.28 ft (1M) tall.
11.					Herb - All herbaceous (non-woody) plants, regardless of size,
12.					and woody plants less than 3.28 ft tall.
50%= 5	52.5% 20%= 21.0%	105	Total Cover		Woody Vines - All woody vines greater than 3.28 ft in height.
Woody Vine	e Stratum Plot size: 30'				Though this All woody villed ground than one of this significant
1					
2.					
3					Hydrophytic Vegetaion Present?
4.					
50%=	0.0% 20%= 0.0%	0	Total Cover		YesNoX

SOIL										
									Sampling Point:	DP10
Profile	Description:	(Describe to	depth	needed to d	locume	ent the ir	ndicator	or confirm abse	ence of indicators.)	
	Depth	Matri	х	Redox Fea	atures					
	(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks	
	0-4	10YR 2/1	100					Sandy Loam		
	4-6	10YR 4/2	98	10YR 4/6	2	С	М	Loamy Sand	Prominent redox concentrations.	
	6-20	10YR 4/6	100					Loamy Sand		
* Type:	C=Concentra	tion, D=Depl	etion, RI	/I=Reduced	Matrix,	CS=Coat	ted Sand	grains **Locati	on: PL=Pore Lining, M=Matrix	
Hydric	Soil Indicator	rs:			Т				Indicators for Problem	atic Soils
	Histosol (A1)				Strippe	ed Matrix	(S6)		2 cm Muck (A10) (LRR K, L,	MLRA 149B)
								R,MLRA 149B)	Coast Prairie Redox (A16)	
	Black Histic (/	A3)			,		w Surface	e (S8) (LRR R,	5 cm Mucky Peat (S3) (LRR K, L, R)	
	Hydrogen Sul	fide (A4)			MLRA	149B)			Dark Surface (S7) (LRR K, L, M)	
	Stratified Laye	ers (A5)			Thin D	ark Surfa	ace (S9)		Polyvalve Below Surface (St	8) (LRR K, L)
	Depleted Belo	w Dark Surfa	ace (A11)	Loamy	Mucky N	Mineral (F	- 1)	Thin Dark Surface (S9) (LRF	R K, L)
	Thick Dark Su	urface (A12)			Loamy	Gleyed I	Matrix (F	2)	Iron-Manganese Masses (F	12) (LRR K, L, R)
	Sandy Mucky	Mineral (S1)			Deplet	ed Matrix	(F3)		Mesic Spodic (TA6) (MLRA	144A, 145, 149B)
	Sandy Gleyed	Matrix (S4)			Redox	Dark Su	rface (F6	6)	Red Parent Material (F21)	
	Sandy Redox	(S5)			Deplet	ed Dark	Surface ((F7)	Very Shallow Dark Surface (TF12)	
					Redox	Depress	ions (F8)	Other (Explain in Remarks)	
Restric	tive Layer (if	observed)								
	Туре:		l	None						
Dept	h (inches):						Hydri	ic Soil Present?	YesNoX	
Remark										
The crit	erion for hydri	c soil is not n	net.							

<u> </u>
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 (%):
Landform (hillslope,terrace,etc.): Toe Slope
Soil Map Unit Name: Wainola loamy fine sand, 0 to 3 percent slopes Are climatic/hydrologic conditions on the site typical for time of year? Are Vegetation Soil or Hydrology significantly disturbed? Are Vegetation Soil or Hydrology naturally problematic? Are Normal Circumstances Present? Yes X No flif needed, explain any answers in Remarks) SUMMARY OF FINDINGS Hydrophytic Vegetation Present? Yes X No steam Yes X No flif yes, optional Wetland? Hydrophytic Vegetation Present? Yes X No flif 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) X 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) Cardisa Burrows (C8)
Soil Map Unit Name: Wainola loamy fine sand, 0 to 3 percent slopes 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 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) X 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) Carditish Burrows (C8)
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 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) X 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 Crayfish Burrows (C8)
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) X 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 Crayfish Burrows (C8)
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 Yes X No Yes X No Hydric Soil Present? Yes X No 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) X 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 Rizospheres on Living Crayfish Burrows (C8)
SUMMARY OF FINDINGS Hydrophytic Vegetation Present? Yes X No Is the Sampled Area within a Wetland? Hydric Soil Present? Yes X No If yes, optional Wetland Site ID: W05 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) X Surface Water (A1) X Surface Water (A1) Water Stained Leaves (B9) 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 Crayfish Burrows (C8)
Hydrophytic Vegetation Present? Yes X No Is the Sampled Area within a Wetland? Hydric Soil 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) X Surface Water (A1) X Surface Water (A1) X High Water Table (A2) X Aquatic Fauna (B13) Aquatic Fauna (B13) Drainage Patterns (B10) X Saturation (A3) Marl Deposits (B15) Moss Tim Lines (B6) Water Marks (B1) Secoing Area within a Wetland? Yes X No If yes, optional Wetland Site ID: W05 W05 W05 W05 Secondary Indicators (minimum of two required) Secondary Indicators (minimum of two required) Drainage Patterns (B10) Moss Tim Lines (B6) Water Marks (B1) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Sediment Deposits (B2) Oxidized Rhizospheres on Living Drains (C3) Crayfish Burrows (C8)
Hydrophytic Vegetation Present? Yes X No Is the Sampled Area within a Wetland? Hydric Soil 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) X Surface Water (A1) X Surface Water (A1) X High Water Table (A2) X Aquatic Fauna (B13) Aquatic Fauna (B13) Drainage Patterns (B10) X Saturation (A3) Marl Deposits (B15) Moss Tim Lines (B6) Water Marks (B1) Drainage Patterns (C3) Sediment Deposits (B2) Oxidized Rhizospheres on Living Drays (C3) Crayfish Burrows (C8)
Hydric Soil 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) X Surface Water (A1) X Surface Water (A1) Water Stained Leaves (B9) X High Water Table (A2) X Saturation (A3) Aquatic Fauna (B13) Aquatic Fauna (B13) Moss Tim Lines (B6) Water Marks (B1) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) Oxidized Rhizospheres on Living Proofs (C3) Proofs (C3)
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) X 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 Crayfish Burrows (C8)
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) X 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) Sediment Deposits (B2) Prote (C3) Prote (C3)
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) X Surface Water (A1) Water Stained Leaves (B9) X High Water Table (A2) Aquatic Fauna (B13) X Saturation (A3) Water Marks (B1) Water Marks (B1) Sediment Deposits (B2) Photo 11 in Appendix B. Wetland the presence of all three parameters, this area is a wetland. Secondary Indicators (minimum of two required) Secondary Indicators (minimum of two required) Durface Soil Cracks (B6) Drainage Patterns (B10) Moss Tim Lines (B6) Dry-Season Water Table (C2) Crayfish Burrows (C8)
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) X Surface Water (A1) X High Water (A2) X High Water Table (A2) X Saturation (A3) Marl Deposits (B15) Water Marks (B1) Sediment Deposits (B2) Aquatic Fauna (B13) Drainage Patterns (B10) Moss Tim Lines (B6) Dry-Season Water Table (C2) Crayfish Burrows (C8)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) X Surface Water (A1) High Water Table (A2) X Saturation (A3) Marl Deposits (B15) Water Marks (B1) Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Tim Lines (B6) Dry-Season Water Table (C2) Sediment Deposits (B2) Oxidized Rhizospheres on Living Profes (C3)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) X Surface Water (A1) X High Water Table (A2) X Saturation (A3) Marl Deposits (B15) Water Marks (B1) Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Tim Lines (B6) Water Marks (B1) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) Oxidized Rhizospheres on Living Proote (C3)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) X Surface Water (A1) X High Water Table (A2) X Saturation (A3) Marl Deposits (B15) Water Marks (B1) Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Tim Lines (B6) Water Marks (B1) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) Oxidized Rhizospheres on Living Proote (C3)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) X Surface Water (A1) X High Water Table (A2) X Saturation (A3) Marl Deposits (B15) Water Marks (B1) Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Tim Lines (B6) Water Marks (B1) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) Oxidized Rhizospheres on Living Proote (C3)
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X 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 Crayfish Burrows (C8)
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
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 Proofs (C3)
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Sediment Deposits (B2) Oxidized Rhizospheres on Living Crayfish Burrows (C8)
Poots (C3)
Drift Deposits (B3) Drift Deposits (B3) I 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 X Geomorphic Position (D2) (C6) C6) C70 C7
Indication (State on Actial Strainow Aquitate (D3)
Thirt widek Surface (CT) inicrotopographic Relief (D4)
Sparsely Vegetated Concave Other (Explain in Remarks) X FAC-Neutral Test (D5) Surface (B8)
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.
Topographic maps, aerial imagery, WWI data, WDNR Wetland Indicators data. Remarks:
Topographic maps, aerial imagery, WWI data, WDNR Wetland Indicators data.

VEGE	TATION			^ L a aluta 0/	Deminant		Sampling Point: DP11				
Tree St	<u>ratum</u> Pl	ot size:	30'	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet				
1.							Number of dominant species that are OBL,				
2. 3.							FACW, or FAC:4(A)				
4.						· 	Total number of dominant species across all strata:4(B)				
5. 6.							Percent of dominant species that are OBL, FACW, or FAC: 100% (A/B)				
7.							Prevalence Index Worksheet:				
50%=	0.0%	20%=	= 0.0%	0	Total Cover		Total % cover of:				
Shrub S	Stratum Pl	ot size:	15'	. 			OBL species				
1.	Rhamnus catha	rtica		5	Υ	FAC	FACW species 30 x 2 60				
2.						· ·	FAC species 5 x 3 15				
3.							FACU species 0 x 4 0				
4.							UPL species 0 x 5 0				
5.							Column Totals: 105 (A) 145 (B)				
6.							Prevalence Index: 1.4 (B/A)				
7.						. —	Hydrophytic Vegetation Indicators:				
50%=	2.5%	20%=	= 1.0%	5	Total Cover		Rapid Test for Hydrophytic Vegetation				
Herb St		ot size:	5'				x Dominance Test is >50%				
	Juncus effusus			40	Υ	OBL	x Prevalence Index is ≤3.0*				
•	Scirpus cyperin	us		30	Υ Υ	OBL	Morphological Adaptations*				
'	Phalaris arundir			20	Y	FACW	Problematic Hydrophytic Vegetation*				
	Phragmites aus			5	N	FACW	* Indicators of hydric soil and wetland hydrology must be present,				
5.	Verbena hastata					· ·	unless disturbed or problematic				
6.			,				Definitions of Vegetation Strata:				
7.							Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast				
8.							height (DBH), regardless of height				
9.					_		Sapling/shrub - Woody plants less than 3 in. DBH and greater				
10.							than or equal to 3.28 ft (1M) tall.				
11.							Herb - All herbaceous (non-woody) plants, regardless of size,				
12.					_		and woody plants less than 3.28 ft tall.				
50%=	50.0%	20%=	= 20.0%	100	Total Cover		184				
Woody	Vine Stratum Pl	ot size:	30'				Woody Vines - All woody vines greater than 3.28 ft in height.				
1.											
2.											
3.					_		Hydrophytic Vegetaion Present?				
4.							1,7,3,7,7,7,7,7,7,7,7,7,7,7,7,7,7,7,7,7,				
50%=	0.0%	20%=	= 0.0%	0	Total Cover		Yes <u>X</u> No				
	s: (Include phote erion for hydropl				e sheet.)						

SOIL											
									Sampling Point:	DP11	
Profile	Description:	(Describe to	o depth	needed to d	locume	ent the ir	ndicator	or confirm abse	ence of indicators.)		
	Depth	Matri	х	Redox Fea	atures						
	(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks		
	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	С	М	Loamy Sand	Prominent redox concentrations.		
1				10YR 5/1	15	D	М				
* Type	: C=Concentra	ation, D=Depl	etion, RI	M=Reduced	Matrix,	CS=Coat	ted Sand	l grains **Locati	on: PL=Pore Lining, M=Matrix		
Hydric	Soil Indicato	rs:			•				Indicators for Problem	atic Soils	
	Histosol (A1)				Strippe	ed Matrix	(S6)		2 cm Muck (A10) (LRR K, L	MLRA 149B)	
	Histic Epipedon (A2) Dark Surface							R,MLRA 149B)	Coast Prairie Redox (A16)		
	Black Histic (A3)			-		w Surface	e (S8) (LRR R,	5 cm Mucky Peat (S3) (LRR K, L, R)		
	Hydrogen Su	Ifide (A4)			MLRA	149B)			Dark Surface (S7) (LRR K, I	_, M)	
	Stratified Lay	ers (A5)			Thin D	ark Surfa	ace (S9)		Polyvalve Below Surface (S	8) (LRR K, L)	
	Depleted Bel	ow Dark Surfa	ace (A11)	Loamy	Mucky N	Mineral (F	- 1)	Thin Dark Surface (S9) (LRI	R K, L)	
	Thick Dark S	urface (A12)			Loamy	Gleyed I	Matrix (F	2)	Iron-Manganese Masses (F	12) (LRR K, L, R)	
Χ	Sandy Mucky	/ Mineral (S1)			Deplet	ed Matrix	(F3)		Mesic Spodic (TA6) (MLRA	144A, 145, 149B)	
	Sandy Gleye	d Matrix (S4)			Redox	Dark Su	rface (F6	6)	Red Parent Material (F21)		
	Sandy Redox	(S5)			Deplet	ed Dark	Surface	(F7)	Very Shallow Dark Surface (TF12)		
					Redox	Depress	ions (F8)	Other (Explain in Remarks)		
Restric	ctive Layer (if	observed)									
	Type:			None							
Dep	th (inches):						Hydri	ic Soil Present?	Yes X No		
Remar	ks: terion for hydr	io acil io mot									
THE CH	teriori ioi riyar	ic soil is friet.									
Ī											
Ī											
ì											

Applicant/Owner:	Site:	Fire Technology Center	City/Cou	nty: Marinette County	у	Sampling Date:	9/4/2019		
Landform (hillslope,terrace,etc.): Depression			s, L.P.		State: Wi				
Landform (hillslope, terrace, etc.): Depression	Invest	igator(s): Ryan Bombeck, Mi	ichael Meisenger	Section, Township,	, Range: Section 12	2, Township 30N, Range 23E			
Soil Map Unit Name: Wainola loamy fine sand, 0 to 3 percent slopes Are climatichydrologic 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 Fit yes, optional Wetland? Hydrophytic Vegetation Present? Yes X No Fit 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) Surface Water (A1) Water Stained Leaves (89) Surface Soil Cracks (86) X Saturation (A3) Mart Deposits (B15) Drainage Patterns (B10) X Saturation (A3) Mart Deposits (B15) Moss Tim Lines (B6) Water Marks (B1) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Craylish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Sparsely Vegetated Concave Surface (B8) Thin Muck Surface (C7) Micropographic Relief (D4) Sparsely Vegetated Concave Surface (B8) Thin Remarks) X FAC-Neutral Test (D5) Field Observations: Surface Water Fresent? Yes X No Depth (inches) On Depth (inches) O					onvex, none): Co	oncave Slo	ope (%):0%		
Soil Map Unit Name: Wainola loamy fine sand, 0 to 3 percent slopes 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 Fit yes X No Fit yes X No Fit yes Yes X No Fit yes Yes X No Fit yes, optional Wetland? Hydrophytic Vegetation Present? Yes X No Fit 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) Surface Water (A1) Water Stained Leaves (89) Surface Soil Cracks (86) X High Water Table (A2) Aqualic Fauna (B13) Drainage Patterns (B10) X Saturation (A3) Mart Deposits (B15) Moss Tim Lines (B6) Water Marks (B1) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Sediment Deposits (B3) Roots (C3) Statutation Visible on Aerial Imagery (C9) Find Observations: Surface Water (A1) Recent Iron Reduction in Tilled Soil (C6) Shallow Aquifation (D3) Water Table Present? Yes X No Depth (inches) Metal Hydrology Present? Field Observations: Surface Water Present? Yes X No Depth (inches) Metal Hydrology Present? Yes X No Depth (inches) Dept	Subre	gion(LRR or MLRA): LRR K - Nor	thcentral Forests La	at. 45.078329° N	Long. 87.640400				
Are Vegetation Soil or Hydrology alignificantly disturbed? Are Vegetation Soil or Hydrology anaturally problematic? Are Normal Circumstances Present? Yes X No If needed, explain any answers in Remarks) SUMMARY OF FINDINGS Hydrophytic Vegetation Present? Yes X No If set the Sampled Area within a Wetland? Hydrocopy Present? Yes X No If yes, optional Wetland Site ID: Wo6 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) 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) Mari Deposits (B15) Moss Tim Lines (B6) Water Marks (B1) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Sediment Deposits (B3) Roots (C3) Saturation Visible on Aerial Imagery (C9) Inundation Visible on Aerial Imagery (B7) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Ves X No Depth (inches) Wetland Hydrology Present? Ves X No Depth (inches) 9 Yes X No Metland Hydrology Present? Ves X No Depth (inches) 9 Yes X No Metland Hydrology Present? Ves X No Depth (inches) 9 Yes X No Metland Hydrology Present? Ves X No Depth (inches) 9 Yes X No Metland Hydrology Present? Ves X No Depth (inches) 9 Yes X No Metland Hydrology Present? Ves X No Depth (inches) 9 Yes X No Metland Hydrology Present? Yes X No Depth (inches) 9 Yes X No Metland Hydrology Present?									
Are Vegetation Soil or Hydrology alignificantly disturbed? Are Vegetation Soil or Hydrology anaturally problematic? Are Normal Circumstances Present? Yes X No If needed, explain any answers in Remarks) SUMMARY OF FINDINGS Hydrophytic Vegetation Present? Yes X No If set the Sampled Area within a Wetland? Hydrocopy Present? Yes X No If yes, optional Wetland Site ID: Wo6 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) 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) Mari Deposits (B15) Moss Tim Lines (B6) Water Marks (B1) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Sediment Deposits (B3) Roots (C3) Saturation Visible on Aerial Imagery (C9) Inundation Visible on Aerial Imagery (B7) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Ves X No Depth (inches) Wetland Hydrology Present? Ves X No Depth (inches) 9 Yes X No Metland Hydrology Present? Ves X No Depth (inches) 9 Yes X No Metland Hydrology Present? Ves X No Depth (inches) 9 Yes X No Metland Hydrology Present? Ves X No Depth (inches) 9 Yes X No Metland Hydrology Present? Ves X No Depth (inches) 9 Yes X No Metland Hydrology Present? Ves X No Depth (inches) 9 Yes X No Metland Hydrology Present? Yes X No Depth (inches) 9 Yes X No Metland Hydrology Present?	Are cli	matic/hydrologic conditions on the	site typical for time of year	? Yes X	No(If	no, explain in the Remarks)			
Are Normal Circumstances Present? Yes X No (If needed, explain any answers in Remarks) SUMMARY OF FINDINGS Hydrophytic Vegetation Present? Yes X No If yes, optional Wetland? Hydrocogy 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) Surface Water (A1) Water Stalined Leaves (B9) Surface Soil Cracks (B6) X High Water Table (A2) Aquatic Fauna (B13) Drivance Soil Cracks (B6) Water Marks (B1) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Sediment Deposits (B2) Oxidized Rhizospheres on Living Caryfish Burrows (C3) Sustration (N3) Roots (C3) Saturation (Visible on Aerial Imagery (C3) Inundation Visible on Aerial Imagery (B7) Inundation Visible on Aerial Imagery (B7) Field Observations: Surface Water Present? Yes X No Depth (inches) 9 Sutratration Present? Yes X No Depth (inches) 9 Sutratration Present? Yes X No Depth (inches) 0									
Hydrophytic Vegetation Present? Yes X No Yetland Hydrology Present? Yes X No Yetland 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) 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) Saturation Visible on Aerial Imagery (C9) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Iron Deposits (B3) Recent Iron Reduction in Tilled Soil (C6) Shallow Aquitard (D3) Imagery (B7) Thin Muck Surface (C7) Microtopographic Relief (D4) Sparsely Vegetated Concave Surface (Water Present? Yes No Depth (inches) Material Present? Yes No Depth (inches) House Advanced Hydrology Present? Water Table Present? Yes No Depth (inches) House Advanced Hydrology Present? Water Table Present? Yes No Depth (inches) House Advanced Hydrology Present? Water Table Present? Yes No Depth (inches) House Advanced Hydrology Present?	Are	Vegetation So	oil or Hydrold	gynaturally	y problematic?				
Hydrophytic Vegetation Present? Yes X No Is the Sampled Area within a Wetland? Hydric Soil 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) 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) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (B7) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Microtopographic Relief (D4) Sparsely Vegetated Concave Surface (B8) No X Depth (inches) Metal Hydrology Present? Field Observations: Surface Water Present? Yes X No Depth (inches) 9 Saturation Present? Yes X No Depth (inches) 9 Yes X No Depth (inches) 1	Are No	ormal Circumstances Present?	Yes X No	(If needed, expla	ain any answers in I	Remarks)			
Hydric Soil 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) 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 Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) Oxidized Rhizospheres on Living Crayfish Burrows (C8) Drift Deposits (B3) Roots (C3) Saturation Visible on Aerial Imagery (C9) Inon Deposits (B5) Recent Iron Reduction in Tilled Soil (C6) Shallow Aquitard (D3) Imagery (B7) Thin Muck Surface (C7) Microtopographic Relief (D4) Sparsely Vegetated Concave Surface (C7) Microtopographic Relief (D4) Sparsely Vegetated Concave Surface Water Present? Yes X No Depth (inches) 9 Saturation Present? Yes X No Depth (inches) 9	SUMN	IARY OF FINDINGS							
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) 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) Drift Deposits (B2) Drift Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Iron Deposits (B5) Recent Iron Reduction in Tilled Soil Imagery (B7) Thin Muck Surface (C7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Water Table (National Internation (National International I					ampled Area with	in a Wetland?			
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) Surface Water (A1) Water Stained Leaves (B9) X High Water Table (A2) Aquatic Fauna (B13) Water Marks (B1) Water Marks (B1) Drift Deposits (B2) Oxidized Rhizospheres on Living Drift Deposits (B3) Roots (C3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No Depth (inches) Wetland Hydrology Present? Yes No Depth (inches) Yes No Depth (inches) Yes No Depth (inches) Wetland Hydrology Present? Yes No Depth (inches) Yes No Depth (inches) Yes No Depth (inches) Yes No Depth (inches) Yes No Saturation Present?		Hydric Soil Present	it? Yes X No	Yes	X No				
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) 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) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Recent Iron Reduction in Tilled Soil Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes X No Depth (inches) Saturation Present? Yes X No Depth (inches) Yes X No Depth (inches) Secondary Indicators (minimum of two required) Secondary Indicators (minimum of two required) Secondary Indicators (minimum of two required) Surface (B8) Surface Soil Cracks (B6) Surface (B1) Moss Tim Lines (B6) Driv: Season Water Table (C2) Craylish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Saturation Visible on Aerial Imagery (C9) X Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) X FAC-Neutral Test (D5) Field Observations: Surface Water Present? Yes X No Depth (inches)		Wetland Hydrology Present	it? Yes X No	If yes, o	ptional Wetland Site	te ID: W06			
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) 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) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Recent Iron Reduction in Tilled Soil Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes X No Depth (inches) Saturation Present? Yes X No Depth (inches) Yes X No Depth (inches) Secondary Indicators (minimum of two required) Secondary Indicators (minimum of two required) Secondary Indicators (minimum of two required) Surface (B8) Surface Soil Cracks (B6) Surface (B1) Moss Tim Lines (B6) Driv: Season Water Table (C2) Craylish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Saturation Visible on Aerial Imagery (C9) X Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) X FAC-Neutral Test (D5) Field Observations: Surface Water Present? Yes X No Depth (inches)	<u> </u>					_			
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) Roots (C3) Saturation Visible on Aerial Imagery (C9) Iron Deposits (B5) Recent Iron Reduction in Tilled Soil (C6) X Geomorphic Position (D2) Inundation Visible on Aerial Imagery (B7) 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 No Depth (inches) 9 Yes X No Saturation Present? Yes X No Depth (in			oint recorded at the bounda	ary of W06. Based on	the presence of all	Il three parameters, this area	is a wetland.		
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) Roots (C3) Saturation Visible on Aerial Imagery (C9) Iron Deposits (B5) Recent Iron Reduction in Tilled Soil (C6) X Geomorphic Position (D2) Inundation Visible on Aerial Imagery (B7) 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 No Depth (inches) 9 Saturation Present? Yes X No Depth (inches) 9 Yes X No Depth (inches) 0	HYDI	ROLOGY							
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) 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) Shallow Aquitard (D3) Microtopographic Relief (D4) Sparsely Vegetated Concave Surface (B8) X FAC-Neutral Test (D5) Field Observations: Surface Water Present? Yes X No Depth (inches) 9 Saturation Present? Yes X No Depth (inches) 0	Wetla	nd Hydrology Indicators:							
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) Roots (C3) Saturation Visible on Aerial Imagery (C9) Iron Deposits (B5) Recent Iron Reduction in Tilled Soil (C6) X Geomorphic Position (D2) Inundation Visible on Aerial Imagery (B7) 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 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		Primary Indicators (minimum of	f one is required; check a	ıll that apply)	Secondary	Indicators (minimum of tw	o required)		
X Saturation (A3)		Surface Water (A1)	Water Stained Lea	ives (B9)	Surface S	Soil Cracks (B6)			
Water Marks (B1)	Х	High Water Table (A2)	Aquatic Fauna (B1	3)	Drainage	Patterns (B10)			
Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Water Table Present? Yes X No Depth (inches) Drift Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) 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) Wetland Hydrology Present? Wetland Hydrology Present? Yes X No Depth (inches) 9 Yes X No Depth (inches) 0	Х	Saturation (A3)	Marl Deposits (B15	5)	Moss Tim	Lines (B6)			
Drift Deposits (B3)		Water Marks (B1)	Hydrogen Sulfide (Odor (C1)	Dry-Seaso	on Water Table (C2)			
Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes X No Depth (inches) Saturation Visible of Aerial Imagery (C9) Stunted or Stressed Plants (D1) X Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) X FAC-Neutral Test (D5) Wetland Hydrology Present? Wetland Hydrology Present? Yes X No Depth (inches) 9 Saturation Present? Yes X No Depth (inches) 0	<u> </u>	Sediment Deposits (B2)	<u> </u>	eres on Living	Crayfish B	Burrows (C8)			
Iron Deposits (B5)	<u> </u>	Drift Deposits (B3)	Roots (C3)		Saturation Visible on Aerial Imagery (C9)				
Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No Depth (inches) Wetland Hydrology Present? Water Table Present? Yes X	<u> </u>	Algal Mat or Crust (B4)	Presence of Reduc	ced Iron (C4)	` ´				
Inditidation Visible off Aerial Imagery (B7) Thin Muck Surface (C7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Depth (inches) Wetland Hydrology Present? Water Table Present? Yes X No Depth (inches) 9 Saturation Present? Yes X No Depth (inches) 0		Iron Deposits (B5)		tion in Tilled Soil	X Geomorph	hic Position (D2)			
Sparsely Vegetated Concave Surface (B8) Concave Surface (B8) Concave Surface (B8) Concave Surface (B8) Concave Surface (B8) X FAC-Neutral Test (D5)			(C6)		Shallow A	Aquitard (D3)			
Surface (B8) Field Observations: Surface Water Present? Yes No X Depth (inches) Wetland Hydrology Present? Water Table Present? Yes X No Depth (inches) 9 Saturation Present? Yes X No Depth (inches) 0	<u> </u>	Imagery (B7)	Thin Muck Surface	; (C7)	Microtopographic Relief (D4)				
Field Observations: Surface Water Present? Yes No X Depth (inches) Wetland Hydrology Present? Water Table Present? Yes X No Depth (inches) 9 Saturation Present? Yes X No Depth (inches) 0			Other (Explain in R	lemarks)	X FAC-Neut	tral Test (D5)			
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		Surface (B8)			<u> </u>				
Water Table Present? Yes X No Depth (inches) 9 Yes X No Saturation Present? Yes X No Depth (inches) 0	Field (Observations:							
Saturation Present? Yes X No Depth (inches) 0	Surfac				Wetland Hydrolo	gy Present?			
	Water	Table Present? Yes	3X No De	pth (inches) 9		Yes X No			
Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available:	Satura	tion Present? Yes	SX No De	pth (inches) 0					
	Descri	be Recorded Data (stream guage,	, monitoring well, aerial pho	otos, previous inspect	tions), if available:				
Topographic maps, aerial imagery, WWI data, WDNR Wetland Indicators data.	Topog	raphic maps, aerial imagery, WWI	data, WDNR Wetland Indi	cators data.					
Remarks: The criterion for wetland hydrology is met. Based on WETS analysis, antecedent hydrologic conditions are within a normal range.			et. Based on WETS analysis	s, antecedent hydrolc	ogic conditions are v	within a normal range.			

VEGE	TATION			Absolute %	Dominant		Sampling Point: DP12				
Tree St	<u>ratum</u> P	lot size:	30'	Cover	Species	Indicator Status	Dominance Test Worksheet				
1. 2.							Number of dominant species that are OBL, FACW, or FAC:(A)				
3. 4.							Total number of dominant species across all strata:2(B)				
5. 6.							Percent of dominant species that are OBL, FACW, or FAC: 100% (A/B)				
7.							Prevalence Index Worksheet:				
50%=	0.0%	20%=	= 0.0%	0	Total Cover		Total % cover of:				
Shrub S	Stratum P	lot size:	15'				OBL species0 x10				
1.	Rhamnus catha	artica		5	Y	FAC	FACW species <u>90</u> x 2 <u>180</u>				
2.							FAC species10 x330				
3.							FACU species <u>5</u> x 4 <u>20</u>				
4.							UPL species0 x50				
5.							Column Totals: 105 (A) 230 (B)				
6.							Prevalence Index: 2.2 (B/A)				
7.							Hydrophytic Vegetation Indicators:				
50%=	2.5%	20%=	= 1.0%	5	Total Cover		Rapid Test for Hydrophytic Vegetation				
Herb St	ratum P	lot size:	5'				x Dominance Test is >50%				
1.	Phalaris arundi	nacea		80	Υ	FACW	x Prevalence Index is ≤3.0*				
2.	Solidago gigani	tea		10	N	FACW	Morphological Adaptations*				
3.	Solidago canad	lensis		5	N	FACU	Problematic Hydrophytic Vegetation*				
4. 5.	4. Persicaria maculosa			5	N	FAC	* Indicators of hydric soil and wetland hydrology must be prounless disturbed or problematic				
6.						-	Definitions of Vegetation Strata:				
7.						· -	Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast				
8.					-	-	height (DBH), regardless of height				
9.						· -					
10.							than or equal to 3.28 ft (1M) tall.				
11.							 Herb - All herbaceous (non-woody) plants, regardless of size,				
12.					-	-	and woody plants less than 3.28 ft tall.				
50%=	50.0%	20%=	= 20.0%	100	Total Cover	-					
	Vine Stratum P		30'				Woody Vines - All woody vines greater than 3.28 ft in height.				
1.											
2.											
3.							Hydrophytic Vegetaion Present?				
4.					-	-	injuroprijus rogotalom rodom.				
50%=	0.0%	20%=	= 0.0%	0	Total Cover		Yes <u>X</u> No				
	ss: (Include photerion for hydrop				e sheet.)		1				

SOIL	SOIL												
									Sampling Point:	DP12			
Profile	Description:	(Describe to	depth	needed to c	locume	ent the ir	ndicator	or confirm abse	ence of indicators.)				
	Depth	Matri	X	Redox Fea	atures		,						
	(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks				
	0-3	10YR 3/3	100					Loamy Sand					
	3-20	10YR 2/2	80	10YR 4/6	20	С	М	Sandy Loam	Prominent redox concentrations.				
		•	etion, RN	/I=Reduced	Matrix,	CS=Coa	ted Sand	I grains **Locati	on: PL=Pore Lining, M=Matrix				
Hydric	Soil Indicato	rs:			I				Indicators for Problem				
	Histosol (A1)					ed Matrix			2 cm Muck (A10) (LRR K, L,	, MLRA 149B)			
	Histic Epipedon (A2) Dark Surface							R,MLRA 149B)	Coast Prairie Redox (A16)				
	Black Histic (A3) Polyvalve Bel MLRA 149B)							e (S8) (LRR R,	5 cm Mucky Peat (S3) (LRR	K, L, R)			
	Hydrogen Sul	lfide (A4)			MLRA	149B)			Dark Surface (S7) (LRR K, L, M)				
	Stratified Laye	ers (A5)			Thin D	ark Surfa	ace (S9)		Polyvalve Below Surface (Sa	8) (LRR K, L)			
	Depleted Belo	ow Dark Surfa	ace (A11)	Loamy	Mucky N	Mineral (F	- 1)	Thin Dark Surface (S9) (LRF	R K, L)			
	Thick Dark Su	urface (A12)			Loamy	Gleyed	Matrix (F	2)	Iron-Manganese Masses (F	12) (LRR K, L, R)			
	Sandy Mucky	Mineral (S1)			Deplet	ed Matrix	(F3)		Mesic Spodic (TA6) (MLRA	144A, 145, 149B)			
	Sandy Gleyed	d Matrix (S4)		Х	Redox	Dark Su	rface (F6	6)	Red Parent Material (F21)				
	Sandy Redox	(S5)			Deplet	ed Dark	Surface ((F7)	Very Shallow Dark Surface (TF12)				
					Redox	Depress	ions (F8)	Other (Explain in Remarks)				
Restric	ctive Layer (if	observed)											
	Type:		1	None		I							
Dep	th (inches):					.	Hydri	ic Soil Present?	YesX No				
Remar													
The cri	terion for hydri	c soil is met.											

Site:	Fire Technology Center	_ City/County: N	Narinette County		Sampling Date:	9/4/2019		
	cant/Owner: Tyco Fire Products, L	 P.		State: WI				
	tigator(s): Ryan Bombeck, Micha		tion, Township, Ra	inge: Section 12, Towns	ship 30N, Range 23E			
Landf	form (hillslope,terrace,etc.): Back Slo					pe (%):1%		
Subre	egion(LRR or MLRA): LRR K - Northo			ong. 87.640438° W				
Soil M	Map Unit Name: Wainola loamy fine sa							
	limatic/hydrologic conditions on the sit							
Are	Vegetation Soil	or Hydrology	significantly	disturbed?				
Are	Vegetation Soil	or Hydrology _	naturally pro	oblematic?				
Are N	Iormal Circumstances Present?	Yes X No (lf needed, explain a	any answers in Remarks	3)			
SUMN	MARY OF FINDINGS							
	Hydrophytic Vegetation Present?	Yes NoX	Is the Sam	pled Area within a Wet	tland?			
	Hydric Soil Present?	Yes NoX	Yes	NoX				
	Wetland Hydrology Present?	Yes NoX	If yes, option	nal Wetland Site ID:				
Rema						. ,		
Photo	o 10 in Appendix B. Upland data point	recorded at the boundary of W	√06. Based on the a	absence of all three para	ameters, this area is a	ın upland.		
<u> </u>								
HYD	ROLOGY							
Wetla	and Hydrology Indicators:							
	Primary Indicators (minimum of o	ne is required; check all tha	t apply)	Secondary Indicate	ors (minimum of two	required)		
<u> </u>	Surface Water (A1)	Water Stained Leaves (E	B9)	Surface Soil Crack	ks (B6)			
<u> </u>	High Water Table (A2)	Aquatic Fauna (B13)		Drainage Patterns	(B10)			
<u> </u>	Saturation (A3)	Marl Deposits (B15)		Moss Tim Lines (E	36)			
<u> </u>	Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Dry-Season Water	r Table (C2)			
<u> </u>	Sediment Deposits (B2)	Oxidized Rhizospheres of	on Living	Crayfish Burrows (C8)				
<u> </u>	Drift Deposits (B3)	Roots (C3)		Saturation Visible on Aerial Imagery (C9)				
<u> </u>	Algal Mat or Crust (B4)	Presence of Reduced Iro	on (C4)	Stunted or Stresse	ed Plants (D1)			
	Iron Deposits (B5)	Recent Iron Reduction in	n Tilled Soil	Geomorphic Positi	ion (D2)			
	Inundation Visible on Aerial	(C6)		Shallow Aquitard ((D3)			
<u> </u>	Imagery (B7)	Thin Muck Surface (C7)		Microtopographic Relief (D4)				
	Sparsely Vegetated Concave	Other (Explain in Remar	ks)	FAC-Neutral Test	(D5)			
<u> </u>	Surface (B8)							
Field	Observations:					ļ		
Surfac		No X Depth (ir	· 	tland Hydrology Prese	ent?			
Water		No X Depth (ir		Yes_	No	X		
Satura	ation Present? Yes	No X Depth (ir	nches)					
<u> </u>								
Descr	ribe Recorded Data (stream guage, m	onitoring well, aerial photos, p	revious inspections	s), if available:				
Τορος	graphic maps, aerial imagery, WWI da	ata, WDNR Wetland Indicators	data.					
Rema		S NETO analysis	to the deal	the second second second				
The ci	riterion for wetland hydrology is not m	et. Based on WE15 analysis,	antecedent nyaroic	ogic conditions are within	n a normal range.			

	TATION	Absolute %	Dominant		Sampling Point: DP13
Tree St	ratum Plot size: 30'	Cover	Species	Indicator Status	Dominance Test Worksheet
1. 2.					Number of dominant species that are OBL, FACW, or FAC: 0 (A)
3. 4.		· ·			Total number of dominant species across all strata: 2(B)
5. 6.		· ·			Percent of dominant species that are OBL, FACW, or FAC: 0% (A/B)
7.					Prevalence Index Worksheet:
50%=	0.0% 20%= 0.0%	0	Total Cover		Total % cover of:
Shrub S	Stratum Plot size: 15'	-			OBL species0 x10
1.		. <u> </u>			FACW species <u>16</u> x 2 <u>32</u>
2.					FAC species 0 x 3 0
3.					FACU species <u>52</u> x 4 <u>208</u>
4.					UPL species 35 x 5 175
5.				, <u> </u>	Column Totals: 103 (A) 415 (B)
6.					Prevalence Index: 4.0 (B/A)
7.					Hydrophytic Vegetation Indicators:
50%=	0.0% 20%= 0.0%	0	Total Cover		Rapid Test for Hydrophytic Vegetation
Herb St	ratum Plot size: 5'				Dominance Test is >50%
1.	Bromus inermis	35	Υ	UPL	Prevalence Index is ≤3.0*
-	Schizachyrium scoparium	35	Υ Υ	FACU	Morphological Adaptations*
-	Solidago canadensis	15	N	FACU	Problematic Hydrophytic Vegetation*
-	Solidago gigantea	15	N	FACW	* Indicators of hydric soil and wetland hydrology must be present
-	Achillea millefolium	2	N	FACU	unless disturbed or problematic
6.	Symphyotrichum novae-angliae	1	N	FACW	Definitions of Vegetation Strata:
7. 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
10.					than or equal to 3.28 ft (1M) tall.
11.					 Herb - All herbaceous (non-woody) plants, regardless of size,
40			, -		and woody plants less than 3.28 ft tall.
12. 50%=	51.5% 20%= 20.6%	103	Total Cover		
	Vine Stratum Plot size: 30'	100	Total Gover		Woody Vines - All woody vines greater than 3.28 ft in height.
1.					
2.		•			1
-		•			Hydrophytic Vegetaion Present?
3.					Inydrophytic vegetalon Fresent:
4.	200/ 200/ 0.00/		Tatal Cover		. You No Y
50%=	0.0% 20%= 0.0%	0	Total Cover		YesNoX
	ss: (Include photo numbers here o		e sheet.)		1

SOIL											
									Sampling Point:	DP13	
Profile	Description:	(Describe to	depth	needed to d	locume	ent the ir	ndicator	or confirm abse	ence of indicators.)	1	
	Depth	Matri	X	Redox Fea	atures						
	(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks		
	0-6	10YR 4/3	100					Loamy Sand	Gravelly.		
	6-20	10YR 2/2	80	10YR 4/6	20	С	М	Sandy Loam	Prominent redox concentrations.		
* Type	: C=Concentra	ation. D=Depl	etion. RN	/l=Reduced	Matrix.	CS=Coa	ted Sand	grains **Locati	on: PL=Pore Lining, M=Matrix		
	Soil Indicato		,		,			9	Indicators for Problem	natic Soils	
	Histosol (A1)				Strippe	ed Matrix	(S6)		2 cm Muck (A10) (LRR K, L	, MLRA 149B)	
	Histic Epiped	on (A2)			Dark S	urface (S	S7)(LRR	R,MLRA 149B)	Coast Prairie Redox (A16)	·	
	Black Histic (A3)			Polyva	lve Belov	w Surface	e (S8) (LRR R,	5 cm Mucky Peat (S3) (LRR	! K, L, R)	
	Hydrogen Sul	fide (A4)			MLRA	149B)			Dark Surface (S7) (LRR K, I	L, M)	
	Stratified Laye	ers (A5)			Thin D	ark Surfa	ace (S9)		Polyvalve Below Surface (S8) (LRR K, L)		
	Depleted Belo	ow Dark Surfa	ace (A11)	Loamy	Mucky N	/lineral (F	⁻ 1)	Thin Dark Surface (S9) (LRI	R K, L)	
	Thick Dark Su	urface (A12)			Loamy	Gleyed	Matrix (F	2)	Iron-Manganese Masses (F	12) (LRR K, L, R)	
	Sandy Mucky	Mineral (S1)			Deplet	ed Matrix	(F3)		Mesic Spodic (TA6) (MLRA	144A, 145, 149B)	
	Sandy Gleyed	d Matrix (S4)			Redox	Dark Su	rface (F6	5)	Red Parent Material (F21)		
	Sandy Redox	(S5)			Deplet	ed Dark	Surface (F7)	Very Shallow Dark Surface (TF12)		
					Redox	Depress	ions (F8)	Other (Explain in Remarks)		
Restric	tive Layer (if	observed)									
	Type:		1	None							
Dept	th (inches):						Hydri	c Soil Present?	YesNoX		
Remark The crit	ks: terion for hydri	c soil is not n	net.								

Site: Fire Technology Center	City/County: Ma	arinette County	Samplin	ng Date: 9/4/2019			
Applicant/Owner: Tyco Fire Product	s, L.P.			ng Point: DP14			
·		ion, Township, Range: S	Section 12, Township 30N,	Range 23E			
Landform (hillslope,terrace,etc.): Back		_		Slope (%):1%			
Subregion(LRR or MLRA): LRR K - No			37.640549° W				
Soil Map Unit Name: Wainola loamy fin							
Are climatic/hydrologic conditions on the							
Are Vegetation S	Soil or Hydrology	significantly distur	bed?				
Are VegetationS	Soil or Hydrology	naturally problema	atic?				
Are Normal Circumstances Present?	Yes X No (If	needed, explain any an	swers in Remarks)				
SUMMARY OF FINDINGS							
Hydrophytic Vegetation Preser		· ·	Area within a Wetland?				
	nt? Yes NoX		No X				
Wetland Hydrology Preser	nt? Yes NoX	If yes, optional We	etland Site ID:				
Remarks: Photo 14 in Appendix B. Upland data po	oint recorded in small area with ohe	served hydronhytic vege	tation Rased on the abser	ace of two out of three			
parameters, this area is an upland.	JIII I I GOOTUGU III SIITAII AFGA WIAF GOO	served riyaropriyao vogo	Idlion. Dasou on the about	ICE OF TWO OUT OF THESE			
LIVEROLOGY							
HYDROLOGY							
Wetland Hydrology Indicators:							
	of one is required; check all that		econdary Indicators (mini	mum of two requirea)			
Surface Water (A1)	Water Stained Leaves (B		Surface Soil Cracks (B6)				
High Water Table (A2)	Aquatic Fauna (B13)		Orainage Patterns (B10)				
Saturation (A3)	Marl Deposits (B15)		Moss Tim Lines (B6)	201			
Water Marks (B1)	Hydrogen Sulfide Odor (C		Ory-Season Water Table (C	52)			
Sediment Deposits (B2)	Oxidized Rhizospheres of Roots (C3)		Crayfish Burrows (C8)				
Drift Deposits (B3)	 ` '		Saturation Visible on Aerial Imagery (C9)				
Algal Mat or Crust (B4)	Presence of Reduced Iron	` ′ _	Stunted or Stressed Plants	(D1)			
Iron Deposits (B5)	Recent Iron Reduction in (C6)		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 Remark	<u>s) </u> t	FAC-Neutral Test (D5)				
Field Observations:							
	No V Donth (in	ohaa\ Watland	Hydrology Present?				
	es No X Depth (inc			No. V			
	es X No Depth (inc		169	NoX			
Saturation Present? Ye	es X No Depth (inc	nes) <u>14</u>					
Describe Recorded Data (stream guage		evious inspections) if a	vailable:				
Topographic maps, aerial imagery, WW			/allable.				
Remarks:	Tudia, WDINI Welland maloatoro	uaia.					
The criterion for wetland hydrology is no	ot met. Based on WETS analysis, a	antecedent hydrologic co	onditions are within a norma	al range.			
				-			

V	TATION	Absolute %	Dominant		Sampling Point: DP14 Dominance Test Worksheet
Tree St	ratum Plot size: 30'	Cover	Species	Indicator Status	DOMINANCE TEST WORKSHEEL
1. 2.					Number of dominant species that are OBL, FACW, or FAC: 1(A)
3. 4.			• '-		Total number of dominant species across all strata:2(B)
5. 6.					Percent of dominant species that are OBL, FACW, or FAC: 50% (A/B)
7.			· -		Prevalence Index Worksheet:
50%=	0.0% 20%= 0.0%	0	Total Cover		Total % cover of:
Shrub S	Stratum Plot size: 15'				OBL species55 x155_
1.			· -		FACW species 10 x 20
2.					FAC species1 x33
3.					FACU species 20 x 4 80
4.					UPL species <u>15</u> x 5 <u>75</u>
5.					Column Totals: 101 (A) 233 (B)
6.					Prevalence Index: 2.3 (B/A)
7.					Hydrophytic Vegetation Indicators:
50%=	0.0% 20%= 0.0%	0	Total Cover		Rapid Test for Hydrophytic Vegetation
Herb S	ratum Plot size: 5'				Dominance Test is >50%
1.	Scirpus cyperinus	40	Υ	OBL	x Prevalence Index is <3.0*
2.	Solidago canadensis	20	Y	FACU	Morphological Adaptations*
3.	Juncus effusus	15	N	OBL	Problematic Hydrophytic Vegetation*
4.	Bromus inermis	15	N	UPL	* Indicators of hydric soil and wetland hydrology must be present,
5.	Phalaris arundinacea	10	N	FACW	unless disturbed or problematic
6.	Equisetum arvense	1	N	FAC	Definitions of Vegetation Strata:
7. 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.					, ,
11.		-			Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
12.	E0 E9/ 200/ 20 20/	101	Total Cover		
50%= Woody	50.5% 20%= 20.2% Vine Stratum Plot size: 30'	101	Total Cover		Woody Vines - All woody vines greater than 3.28 ft in height.
1.					
2.					
3.					Hydrophytic Vegetaion Present?
4.					
50%=	0.0% 20%= 0.0%	0	Total Cover		Yes X No
Remarl	ss: (Include photo numbers here o erion for hydrophytic vegetation is	r on a separat	•		

SOIL															
									Sampling Point:	DP14					
Profile	Description:	(Describe to	depth	needed to d	locume	ent the in	ndicator	or confirm abse	nce of indicators.)						
	Depth	Matri	х	Redox Fea	atures		1								
	(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks						
	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	С	PL	Loamy Sand	Faint redox concentrations.						
	12-20	10YR 2/1	100					Sandy Loam							
* Type	* 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														
Hydric	Hydric Soil Indicators: Indicators for Problematic Soils Histosol (A1) Stripped Matrix (S6) 2 cm Muck (A10) (LRR K, L, MLRA 149B)														
	Histosol (A1)				Strippe	ed Matrix	(S6)		2 cm Muck (A10) (LRR K, L,	, MLRA 149B)					
	Histic Epiped	on (A2)			Dark S	Surface (S	S7)(LRR	R,MLRA 149B)	Coast Prairie Redox (A16)						
	Black Histic (A3)					w Surface	e (S8) (LRR R,	5 cm Mucky Peat (S3) (LRR K, L, R)						
	Hydrogen Su	Ifide (A4)			MLRA	149B)			Dark Surface (S7) (LRR K, L	_, M)					
	Stratified Lay	ers (A5)			Thin D	ark Surfa	ace (S9)		Polyvalve Below Surface (Sa	8) (LRR K, L)					
	Depleted Bel	ow Dark Surfa	ace (A11)	Loamy	Mucky N	Mineral (F	-1)	Thin Dark Surface (S9) (LRF	R K, L)					
	Thick Dark S	urface (A12)			Loamy	Gleyed I	Matrix (F	2)	Iron-Manganese Masses (F	12) (LRR K, L, R)					
	Sandy Mucky	Mineral (S1)			Deplet	ed Matrix	(F3)		Mesic Spodic (TA6) (MLRA	144A, 145, 149B)					
	Sandy Gleye	d Matrix (S4)			Redox	Dark Su	rface (F6	5)	Red Parent Material (F21)						
	Sandy Redox	(S5)			Deplet	ed Dark	Surface	(F7)	Very Shallow Dark Surface (TF12)						
					Redox	Depress	ions (F8)	Other (Explain in Remarks)						
Doctric	ctive Layer (if	obcomrod)													
resuit	Type:	observeu)		None											
Den	th (inches):			NOTIC			Hydri	ic Soil Present?	Yes No X						
Бср	ur (monos).						Hydri	ic con i resent :	163 <u>NO X</u>						
Remarl	ks:					1									
	terion for hydr	ic soil is not n	net.												

Site:	Fire Technology Center	City/County: Ma	arinette County		Sampling Date:	9/5/2019	
	cant/Owner: Tyco Fire Products,	L.P			Sampling Point:		
	·		on, Township, R	ange: Section 12, Towns	hip 30N, Range 23E		
Landfo	orm (hillslope,terrace,etc.): Toe Slo		ef (concave, con	vex, none): Concave	Slop	oe (%): 0%	
Subre	gion(LRR or MLRA): LRR K - North	central Forests Lat. 45.0)78472° N	Long. 87.641216° W	Datum: WG	S 84	
Soil M	lap Unit Name: Rousseau loamy fine						
	imatic/hydrologic conditions on the s						
Are	Vegetation Soil	or Hydrology	significantl	y disturbed?			
Are	Vegetation Soil	or Hydrology	naturally p	roblematic?			
Are No	ormal Circumstances Present?	Yes X No (If	needed, explain	any answers in Remarks)		
SUMN	MARY OF FINDINGS						
00	Hydrophytic Vegetation Present?	Yes X No	Is the San	npled Area within a Wet	land?		
l	Hydric Soil Present?			X No	iuria.	ļ	
	Wetland Hydrology Present?			onal Wetland Site ID: V	N07	ļ	
	Tronularly along, Treatment	100	11 y 00, 0 _F		101		
Rema Photo	rks: 15 in Appendix B. Wetland data poil	nt recorded at the boundary of W	√07. Based on th	e presence of all three pa	arameters, this area is	s a wetland.	
HYDI	ROLOGY						
Wetla	nd Hydrology Indicators:						
	Primary Indicators (minimum of			Secondary Indicato	ors (minimum of two	required)	
Х	Surface Water (A1)	Water Stained Leaves (B	9)	Surface Soil Crack	:s (B6)		
Х	High Water Table (A2)	Aquatic Fauna (B13)		Drainage Patterns	(B10)		
Х	Saturation (A3)	Marl Deposits (B15)		Moss Tim Lines (B	66)		
	Water Marks (B1)	Hydrogen Sulfide Odor (C	21)	Dry-Season Water Table (C2)			
<u> </u>	Sediment Deposits (B2)	Oxidized Rhizospheres or	n Living	Crayfish Burrows (C8)		
<u> </u>	Drift Deposits (B3)	Roots (C3)		Saturation Visible on Aerial Imagery (C9)			
	Algal Mat or Crust (B4)	Presence of Reduced Iron	n (C4)	Stunted or Stressed Plants (D1)			
	Iron Deposits (B5)	Recent Iron Reduction in	Tilled Soil	X Geomorphic Position	on (D2)		
	Inundation Visible on Aerial	(C6)		Shallow Aquitard (I	D3)		
	Imagery (B7)	Thin Muck Surface (C7)		Microtopographic F	Relief (D4)		
	Sparsely Vegetated Concave Surface (B8)	Other (Explain in Remark	s)	X FAC-Neutral Test ((D5)		
Field '	Observations:						
		X No Depth (inc	ches) 1 W	etland Hydrology Prese	ent?		
		X No Depth (inc			XNo		
		X No Depth (inc					
Descri	ibe Recorded Data (stream guage, r		evious inspection	ns), if available:			
Topog	graphic maps, aerial imagery, WWI d	lata, WDNR Wetland Indicators	data.				
Rema The cr	rks: riterion for wetland hydrology is met.	Based on WETS analysis, anter	cedent hydrologid	c conditions are within a n	normal range.		

VEGE	TATION			Absolute %	Dominant		Sampling Point: DP15
Tree Str	ratum_	Plot size:	30'	Cover	Species	Indicator Status	Dominance Test Worksheet
1. 2.							Number of dominant species that are OBL, FACW, or FAC: 1 (A)
3. 4.							Total number of dominant species across all strata: 1 (B)
5. 6.							Percent of dominant species that are OBL, FACW, or FAC: 100% (A/B)
7.							Prevalence Index Worksheet:
50%=	0.0%	20%=	= 0.0%	0	Total Cover		Total % cover of:
Shrub S	Stratum_	Plot size:	15'				OBL species <u>90</u> x 1 <u>90</u>
1							FACW species <u>10</u> x 2 <u>20</u>
2.					· <u></u>		FAC species0 x30
3.							FACU species <u>0</u> x 4 <u>0</u>
4.							UPL species0 x50
5.							Column Totals: 100 (A) 110 (B)
6.							Prevalence Index: 1.1 (B/A)
7.							Hydrophytic Vegetation Indicators:
50%=	0.0%	20%=	= 0.0%	0	Total Cover		x Rapid Test for Hydrophytic Vegetation
Herb St	<u>ratum</u>	Plot size:	5'				x Dominance Test is >50%
1.	Scirpus cype	erinus		90	Y	OBL	x Prevalence Index is ≤3.0*
-	Phalaris aru			5	N	FACW	Morphological Adaptations*
-	Solidago gig			5	N	FACW	Problematic Hydrophytic Vegetation*
4. <u> </u>							* Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic
6.						-	Definitions of Vegetation Strata:
7.					·		Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast
8.							height (DBH), regardless of height
9.					·		Sapling/shrub - Woody plants less than 3 in. DBH and greater
10.					-		than or equal to 3.28 ft (1M) tall.
11.							Herb - All herbaceous (non-woody) plants, regardless of size,
12.							and woody plants less than 3.28 ft tall.
50%=	50.0%	20%=	= 20.0%	100	Total Cover		
	Vine Stratum		30'	100	Total 00.5.		Woody Vines - All woody vines greater than 3.28 ft in height.
1.		1 101 3120.					
2.					-		
3.							Hydrophytic Vegetaion Present?
4.							Inyurophytic vegetalon Fresent:
4. 50%=	0.0%	20%-	= 0.0%	0	Total Cover	-	Yes X No
3070=	0.070	2070-	. 0.070		Total Gover		
		hoto number		r on a separat met.	e sheet.)		

SOIL															
									Sampling Point:	DP15					
Profile	Description:	(Describe to	o depth	needed to d	locume	ent the in	ndicator	or confirm abse	ence of indicators.)						
	Depth	Matri	Х	Redox Fea	atures										
	(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	С	PL	Loamy Sand	Prominent redox concentrations.						
	10-20	10YR 4/2	95	10YR 5/8	5	С	М	Loamy Sand	Prominent redox concentrations.						
* Type:	* 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														
Hydric	Soil Indicato	rs:		T	1				Indicators for Probler	natic Soils					
	Histosol (A1)				Strippe	ed Matrix	(S6)		2 cm Muck (A10) (LRR K, L	., MLRA 149B)					
	Histic Epiped	on (A2)			Dark S	Surface (S	S7)(LRR	R,MLRA 149B)	Coast Prairie Redox (A16)						
	Black Histic (A3)			,		w Surface	e (S8) (LRR R,	5 cm Mucky Peat (S3) (LRF	R K, L, R)					
	Hydrogen Sul	fide (A4)			MLRA	149B)			Dark Surface (S7) (LRR K, L, M)						
	Stratified Laye	ers (A5)			Thin D	ark Surfa	ace (S9)		Polyvalve Below Surface (S	8) (LRR K, L)					
Χ	Depleted Belo	w Dark Surfa	ace (A11)	Loamy	Mucky N	Mineral (F	- 1)	Thin Dark Surface (S9) (LR	R K, L)					
	Thick Dark St	urface (A12)			Loamy	Gleyed I	Matrix (F	2)	Iron-Manganese Masses (F	12) (LRR K, L, R)					
	Sandy Mucky	Mineral (S1)			Deplet	eted Matrix (F3)			Mesic Spodic (TA6) (MLRA	144A, 145, 149B)					
	Sandy Gleyed	Matrix (S4)			Redox	Dark Surface (F6)			Red Parent Material (F21)						
Х	Sandy Redox	(S5)			Deplet	ed Dark	Surface	(F7)	Very Shallow Dark Surface (TF12)						
					Redox	Depress	ions (F8)	Other (Explain in Remarks)						
Restric	tive Layer (if	observed)													
	Type:		ı	None											
Dept	th (inches):					•	Hydri	ic Soil Present?	Yes X No	-					
Remark		9													
i ne crii	terion for hydri	c soil is met.													

Site: Fire Technology Center	City/County: Marinette Cour	nty Sampling Date: 9/5/2019			
Applicant/Owner: Tyco Fire Products, L.P.	Only/County: Marinette Cour	State: WI Sampling Point: DP16			
Investigator(s): Ryan Bombeck, Michael	Moisonger Section Township				
		p, Range: Section 12, Township 30N, Range 23E convex, none): Convex Slope (%): 2%			
Subregion(LRR or MLRA): LRR K - Northcent		Long. <u>87.641191° W</u> Datum: <u>WGS 84</u>			
Soil Map Unit Name: Rousseau loamy fine san					
		No(If no, explain in the Remarks)			
	or Hydrologysignific				
	or Hydrologynatura				
Are Normal Circumstances Present? Yes	s X No (If needed, exp	lain any answers in Remarks)			
SUMMARY OF FINDINGS					
Hydrophytic Vegetation Present? Yes		Sampled Area within a Wetland?			
Hydric Soil Present? Yes		s NoX			
Wetland Hydrology Present? Yes	s NoX	optional Wetland Site ID:			
Remarks:	and the first transfer of WOZ. Bossel or	de la companya del companya de la companya del companya de la comp			
Photo 16 in Appendix B. Opland data point reco	orded at the boundary of WU7. Based or	the absence of all three parameters, this area is an upland.			
HYDROLOGY					
Wetland Hydrology Indicators:					
Primary Indicators (minimum of one i	s 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	Crayfish Burrows (C8)			
Drift Deposits (B3)	Roots (C3)	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	Geomorphic Position (D2)			
Inundation Visible on Aerial	(C6)	Shallow Aquitard (D3)			
Imagery (B7)	Thin Muck Surface (C7)	Microtopographic Relief (D4)			
Sparsely Vegetated Concave	Other (Explain in Remarks)	FAC-Neutral Test (D5)			
Surface (B8)	(=,	, , , , , , , , , , , , , , , , , , , ,			
Field Observations:					
	No X Depth (inches)	Wetland Hydrology Present?			
	No X Depth (inches)	7			
	No X Depth (inches)	Yes NoX			
Saturation Fresent?	NoXDeptil (iliches)	-			
Describe Descrided Date (atreem guess monitor	oring wall porial photos provious isono	etions) if availables			
Describe Recorded Data (stream guage, monit		ctions), if available:			
Topographic maps, aerial imagery, WWI data,	WDNR Wetland Indicators data.				
Remarks: The criterion for wetland hydrology is not met. I	Based on WETS analysis, antecedent by	drologic conditions are within a normal range			
The state of the s	analysis, amossasii ii	, =====================================			

	TATION		Absolute %	Dominant		Sampling Point: DP16
Tree St	ratum Plot size:	30'	Cover	Species	Indicator Status	Dominance Test Worksheet
1. 2.						Number of dominant species that are OBL, FACW, or FAC: 0 (A)
3. 4.				• •		Total number of dominant species across all strata:1(B)
5. 6.						Percent of dominant species that are OBL, FACW, or FAC: (A/B)
7.						Prevalence Index Worksheet:
50%=	0.0% 20%=	0.0%	0	Total Cover		Total % cover of:
Shrub S	Stratum Plot size:	15'				OBL species1 x11
1.						FACW species0 x20
2.						FAC species5 x315
3.						FACU species 95 x 4 380
4.						UPL species 0 x 5 0
5.						Column Totals: 101 (A) 396 (B)
6.						Prevalence Index: 3.9 (B/A)
7.						Hydrophytic Vegetation Indicators:
50%=	0.0% 20%=	0.0%	0	Total Cover		Rapid Test for Hydrophytic Vegetation
Herb St	ratum Plot size:	5'				Dominance Test is >50%
1.	Schizachyrium scoparium		80	Υ	FACU	Prevalence Index is ≤3.0*
-	0 " 1		15	N	FACU	Morphological Adaptations*
-	Equisetum arvense		5	N	FAC	Problematic Hydrophytic Vegetation*
4. 5.	Scirpus cyperinus		1	N	OBL	* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
6.						Definitions of Vegetation Strata:
7.						Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast
8.						height (DBH), regardless of height
9.						 Sapling/shrub - Woody plants less than 3 in. DBH and greater
10.						than or equal to 3.28 ft (1M) tall.
11.						
12.						and woody plants less than 3.28 ft tall.
50%=	50.5% 20%=	20.2%	101	Total Cover		
		30'	101	10101 00101		Woody Vines - All woody vines greater than 3.28 ft in height.
1.						
2.						1
-						Hydrophytic Vegetaion Present?
3. 4						Inydrophytic vegetalon Fresent:
4.	0.00/ 200/-	0.00/		Total Cover		. You No Y
50%=	0.0% 20%=	0.0%	0	Total Cover		YesNoX
	s: (Include photo numbers erion for hydrophytic veget			e sheet.)		,

SOIL														
									Sampling Point:	DP16				
Profile	Description:	(Describe to	o depth	needed to d	docume	ent the ir	ndicator	or confirm abse	nce of indicators.)					
	Depth	Matri	Х	Redox Fea	atures									
	(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks					
	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							ļ				
* Type	: C=Concentra	ation, D=Depl	etion, RI	M=Reduced	Matrix,	CS=Coa	ted Sand	grains **Location	on: PL=Pore Lining, M=Matrix					
Hydric	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)														
	Histic Epiped	on (A2)			Dark S	Surface (S	S7)(LRR	R,MLRA 149B)	Coast Prairie Redox (A16)					
	Black Histic (A3)			-		w Surface	e (S8) (LRR R,	5 cm Mucky Peat (S3) (LRR K, L, R)					
	Hydrogen Su	Ifide (A4)			MLRA	149B)			Dark Surface (S7) (LRR K, I	_, M)				
	Stratified Lay	ers (A5)			Thin D	ark Surfa	ace (S9)		Polyvalve Below Surface (S	8) (LRR K, L)				
	Depleted Bel	ow Dark Surfa	ace (A11)	Loamy	Mucky N	Mineral (F	=1)	Thin Dark Surface (S9) (LRI	R K, L)				
	Thick Dark S	urface (A12)			Loamy	Gleyed	Matrix (F	2)	Iron-Manganese Masses (F	12) (LRR K, L, R)				
	Sandy Mucky	/ Mineral (S1)			Deplet	ed Matrix	(F3)		Mesic Spodic (TA6) (MLRA	144A, 145, 149B)				
	Sandy Gleye	d Matrix (S4)			Redox	Dark Su	rface (F6	6)	Red Parent Material (F21)					
	Sandy Redox	(S5)			Deplet	ed Dark	Surface	(F7)	Very Shallow Dark Surface (TF12)					
					Redox	Depress	ions (F8)	Other (Explain in Remarks)					
Restric	ctive Layer (if	observed)												
	Type:			None		_								
Dept	th (inches):					-	Hydri	ic Soil Present?	YesNoX	·				
Remarl		ia aail ia mat m												
rne cm	terion for hydr	IC SOII IS NOT II	net.											

Site:	Fire Technology Center	City	//County: Marinette Cour	nty		Sampling Date:	9/5/2019
Applica	ant/Owner: Tyco Fire Produc	ts, L.P.	•		State: WI	Sampling Point:	DP17
Investi	gator(s): Ryan Bombeck, M	Michael Meisenger	Section, Township	p, Range	e: Section 12, Town	ship 30N, Range 23E	
Landfo	orm (hillslope,terrace,etc.): Toe	Slope	Local relief (concave,	convex,	none): Concave	Slo	pe (%): <u>0%</u>
Subre	gion(LRR or MLRA): LRR K - No	orthcentral Forests	Lat. 45.078391° N	Long	j. <u>87.641542° W</u>	Datum: WC	3S 84
	ap Unit Name: Shawano loamy f						
Are cli	matic/hydrologic conditions on th	e site typical for time o	year? Yes X	_ N	o(If no, exp	lain in the Remarks)	
Are	Vegetation	Soil or H	drology X signific	antly dis	turbed?		
Are	Vegetation	Soil or Hy	/drologynatura	lly proble	ematic?		
Are No	ormal Circumstances Present?	YesNo	X (If needed, exp	lain any	answers in Remark	s)	
SUMN	IARY OF FINDINGS						
	Hydrophytic Vegetation Prese			Sample	d Area within a We	tland?	
	Hydric Soil Prese	ent? Yes X No	Ye	sX_	No		
	Wetland Hydrology Prese	ent? Yes X No	If yes,	optional	Wetland Site ID:	W07	
Rema							
	17 in Appendix B. Wetland data cantly disturbed by the discharge						
	bject area. Based on the present				disturbance nas sig	grimoarity increased t	ne water input to
HYDI	ROLOGY						
Wetla	nd Hydrology Indicators:			1			
	Primary Indicators (minimum	of one is required; ch	eck all that apply)		Secondary Indicat	ors (minimum of tw	o required)
	Surface Water (A1)	Water Staine	d Leaves (B9)		Surface Soil Crac	ks (B6)	
Х	High Water Table (A2)	Aquatic Faun	a (B13)		Drainage Patterns	s (B10)	
Х	Saturation (A3)	Marl Deposits	s (B15)		Moss Tim Lines (B6)	
	Water Marks (B1)	Hydrogen Su	Ifide Odor (C1)		Dry-Season Water	er Table (C2)	
	Sediment Deposits (B2)		zospheres on Living		Crayfish Burrows	(C8)	
	Drift Deposits (B3)	Roots (C3)			Saturation Visible	on Aerial Imagery (C	9)
	Algal Mat or Crust (B4)	Presence of	Reduced Iron (C4)		Stunted or Stress	ed Plants (D1)	
	Iron Deposits (B5)		Reduction in Tilled Soil	Х	Geomorphic Posi	tion (D2)	
	Inundation Visible on Aerial	(C6)			Shallow Aquitard	(D3)	
	Imagery (B7)	Thin Muck Su	urface (C7)		Microtopographic	Relief (D4)	
	Sparsely Vegetated Concave	Other (Explai	n in Remarks)	Х	FAC-Neutral Test	(D5)	
	Surface (B8)						
Field (Observations:						
Surfac	e Water Present? Ye	es No_X	Depth (inches)	Wetlar	nd Hydrology Pres	ent?	
Water	Table Present? Ye	es X No	Depth (inches) 5		Yes	X No	
Satura	tion Present? Ye	es X No	Depth (inches) 0				
Descri	be Recorded Data (stream guag	e, monitoring well, aeri	al photos, previous inspe	ctions), i	f available:		
Topog	raphic maps, aerial imagery, WV	VI data, WDNR Wetlan	d Indicators data.				
Rema							
	iterion for wetland hydrology is ment testing at the nearby facility						
	ation criteria, it is anticipated that						

VEGE	TATION		Absolute %	Dominant		Sampling Point: DP17
Tree St	tratum Plot size	: 30'	Cover	Species	Indicator Status	Dominance Test Worksheet
1.	Betula papyrifera		30	Υ	FACU	Number of dominant species that are OBL,
2.	Quercus velutina		30	Y	UPL	FACW, or FAC:1 (A)
3.						Total number of dominant species across
4.						all strata: 3 (B)
5.				. <u></u>		Percent of dominant species that are OBL,
6.						FACW, or FAC:33%(A/B)
7.						Prevalence Index Worksheet:
50%=	30.0% 20	0%= 12.0%	60	Total Cover		Total % cover of:
Shrub S	Stratum Plot size	: <u>15'</u>				OBL species <u>80</u> x 1 <u>80</u>
1.						FACW species <u>15</u> x 2 <u>30</u>
2.						FAC species1 x 33
3.						FACU species <u>37</u> x 4 <u>148</u>
4.					· 	UPL species <u>30</u> x 5 <u>150</u>
5.						Column Totals: 163 (A) 411 (B)
6.						Prevalence Index: 2.5 (B/A)
7.					·	Hydrophytic Vegetation Indicators:
50%=		0.0%	0	Total Cover		Rapid Test for Hydrophytic Vegetation
Herb S		: <u>5'</u>		.,		Dominance Test is >50%
1.	Scirpus cyperinus		80	<u> </u>	OBL	x Prevalence Index is <3.0*
2.	Phalaris arundinacea		15	N	FACW	Morphological Adaptations*
3.	Pteridium aquilinum		5	N	FACU	Problematic Hydrophytic Vegetation*
4. 5.	Solidago canadensis Equisetum arvense		1	N N	FACU FAC	* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
6.						Definitions of Vegetation Strata:
7.						Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast
8.				· -		height (DBH), regardless of height
9.						Sapling/shrub - Woody plants less than 3 in. DBH and greater
10.						than or equal to 3.28 ft (1M) tall.
11.						Herb - All herbaceous (non-woody) plants, regardless of size,
12.				. <u></u>		and woody plants less than 3.28 ft tall.
50%=	51.5% 20	0%= 20.6%	103	Total Cover		Woody Vines - All woody vines greater than 3.28 ft in height.
Woody	Vine Stratum Plot size	: 30'				, , ,
1.					· -	
2.						
3.						Hydrophytic Vegetaion Present?
4.						
50%=	0.0% 20	0.0%	0	Total Cover		Yes <u>X</u> No
	ks: (Include photo numl terion for hydrophytic ve		•	e sheet.)		,

SOIL	SOIL											
									Sampling Point:	DP17		
Profile	Description:	(Describe to	depth	needed to d	locume	ent the ir	ndicator	or confirm abse	ence of indicators.)			
	Depth	Matri	X	Redox Fea	atures							
	(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks			
	0-7	10YR 2/1	95	10YR 4/6	R 4/6 5		М	Sandy Loam	Prominent redox concentrations.			
	7-10	10YR 5/2	60	10YR 4/6	40	С	М	Loamy Sand	Prominent redox concentrations.			
	10-18	10YR 6/2	100					Loamy Sand				
* Type	: C=Concentra	ation, D=Depl	etion, RN	∕I=Reduced I	Matrix,	CS=Coat	ted Sand	grains **Locati	on: PL=Pore Lining, M=Matrix			
Hydric	Soil Indicato	rs:							Indicators for Problem	atic Soils		
	Histosol (A1)				Strippe	ed Matrix	(S6)		2 cm Muck (A10) (LRR K, L,	MLRA 149B)		
	Histic Epiped	on (A2)			Dark S	Surface (S	S7)(LRR	R,MLRA 149B)	Coast Prairie Redox (A16)			
	Black Histic (A3)			-		v Surface	e (S8) (LRR R,	5 cm Mucky Peat (S3) (LRR K, L, R)			
	Hydrogen Sul	fide (A4)			MLRA	149B)			Dark Surface (S7) (LRR K, L	_, M)		
	Stratified Laye	ers (A5)			Thin D	ark Surfa	ice (S9)		Polyvalve Below Surface (Sa	8) (LRR K, L)		
	Depleted Below Dark Surface (A11) Loamy Mucl						/lineral (F	⁻ 1)	Thin Dark Surface (S9) (LRF	R K, L)		
	Thick Dark Surface (A12) Loamy Gley						Matrix (F	2)	Iron-Manganese Masses (F	12) (LRR K, L, R)		
	Sandy Mucky	Mineral (S1)			Deplet	ed Matrix	(F3)		Mesic Spodic (TA6) (MLRA	144A, 145, 149B)		
	Sandy Gleyed	d Matrix (S4)		X	Redox	Dark Su	rface (F6	5)	Red Parent Material (F21)			
	Sandy Redox	(S5)			Deplet	ed Dark	Surface (F7)	Very Shallow Dark Surface (TF12)			
					Redox	Depress	ions (F8)	Other (Explain in Remarks)			
Restric	tive Layer (if	observed)										
	Type:		l	None								
Dep	th (inches):						Hydri	c Soil Present?	Yes X No			
Remark												
The cri	terion for hydri	c soil is met.										

Site:	Fire Technolo	gy Center			City/Coun	ty: Marinette	Count	У		Sampling	Date:	9/5/20	19
Applica	ant/Owner:	Tyco Fire Produ	cts, L.P.					States	: WI	Sampling I	Point:	DP18	8
Investi	gator(s):	Ryan Bombeck,	Michae	l Meisenger		Section, To	wnship	, Range: Section	on 12, Towns	ship 30N, Ra	ange 23l	<u> </u>	
Landfo	orm (hillslope,te	errace,etc.): Bac	ck Slope)	Loc	al relief (con	cave, c	convex, none):	Convex		SI	ope (%): _	1%
Subre	gion(LRR or MI	_RA): <u>LRR K - N</u>	Northcer	tral Forests	Lat	. 45.078339	9° N	Long. 87.64	1776° W	Da	atum: <u>W</u>	GS 84	
Soil Ma	ap Unit Name:	Shawano loamy	fine sar	nd, 2 to 6 per	cent slope	s			_WWI Class	sification:	None		
Are cli	matic/hydrolog	c conditions on t	he site t	ypical for tim	e of year?	Yes_	Χ	No	_(If no, expl	ain in the Re	emarks)		
Are								antly disturbed?					
Are	Vegetation		Soil	0	r Hydrolog	yr	naturall	y problematic?					
Are No	ormal Circumst	ances Present?	Y	es	No X	(If neede	d, expla	ain any answers	s in Remarks	s)			
SUMN	IARY OF FIND	INGS											
	Hydrophytic	Vegetation Pres	ent? Y	es	No X	I	s the S	Sampled Area	within a We	tland?			
		Hydric Soil Pres	ent? Y	es	No X	_	Yes	No	<u> </u>				
	Wetland	d Hydrology Pres	ent? Y	es	No X	l	f yes, c	ptional Wetland	d Site ID:				
water t	from nearby fire	B. Upland data efighting equipmo this area is an u	ent the r										
HYDI	ROLOGY												
Wetla	nd Hydrology	Indicators:											
	Primary Indic	ators (minimum	of one	is required	; check all	that apply))	Second	dary Indicat	ors (minim	um of tv	vo require	d)
	Surface Water	er (A1)		Water Sta	ained Leav	es (B9)			ce Soil Cracl	. ,			
	High Water T	able (A2)		· ·	auna (B13	,		Drainage Patterns (B10)					
	Saturation (A	3)		Marl Dep	Marl Deposits (B15)				Moss Tim Lines (B6)				
	Water Marks	(B1)		Hydrogen	Sulfide O	dor (C1)		Dry-Season Water Table (C2)					
	Sediment De	posits (B2)				res on Livinឲຸ	g	Crayfish Burrows (C8)					
	Drift Deposits	(B3)		Roots (C	3)			Saturation Visible on Aerial Imagery (C9)					
	Algal Mat or 0	Crust (B4)		Presence	of Reduce	ed Iron (C4)		Stunted or Stressed Plants (D1)					
	Iron Deposits	(B5)			on Reducti	on in Tilled S	Soil	Geom	norphic Posit	ion (D2)			
		sible on Aerial		(C6)				Shallo	ow Aquitard ((D3)			
	Imagery (B7)			Thin Muc	k Surface ((C7)			topographic				
	Sparsely Veg Surface (B8)	etated Concave		Other (Ex	plain in Re	emarks)		FAC-I	Neutral Test	(D5)			
Ciald (Observations:												
	e Water Prese	nt? \	res X	No	Den	th (inches)	1	Wetland Hydr	ology Pres	ant?			
	Table Present			No		_	0	vvetiana riyai		511L:	No	Y	
	tion Present?		res <u> </u>			th (inches) _ th (inches)	0		163		NO		
Juluia	mon rodont!	'	. 55	110	Бер	(11101103)_							
Descri	be Recorded D	ata (stream gua	ge, mon	itoring well.	aerial photo	os, previous	inspec	tions), if availab	ole:				
		erial imagery, W	•	•	•	•	.,	,,					
Remai													

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.

VEGE	TATION			Absolute %	Dominant		Sampling Point: DP18
Tree St	<u>ratum</u>	Plot size:	30'	Cover	Species	Indicator Status	Dominance Test Worksheet
1. 2.							Number of dominant species that are OBL, FACW, or FAC: 0(A)
3. 4.							Total number of dominant species across all strata:1 (B)
5. 6.							Percent of dominant species that are OBL, FACW, or FAC: 0% (A/B)
7.							Prevalence Index Worksheet:
50%=	0.0%	20%=	= 0.0%	0	Total Cover		Total % cover of:
Shrub S	Stratum_	Plot size:	15'				OBL species 5 x 1 5
1.							FACW species 0 x 2 0
2.							FAC species 5 x 3 15
3.							FACU species 20 x 4 80
4.							UPL species 70 x 5 350
5.							Column Totals: 100 (A) 450 (B)
6.							Prevalence Index: 4.5 (B/A)
7.							Hydrophytic Vegetation Indicators:
50%=	0.0%	20%=	= 0.0%	0	Total Cover		Rapid Test for Hydrophytic Vegetation
Herb St	tratum	Plot size:	5'				Dominance Test is >50%
	Bromus iner			70	Υ	UPL	Prevalence Index is ≤3.0*
•		ım scoparium	1	15	N	FACU	Morphological Adaptations*
•	Equisetum a			5	N	FAC	Problematic Hydrophytic Vegetation*
	Scirpus cype			5	N	OBL	* Indicators of hydric soil and wetland hydrology must be present,
	Solidago car						unless disturbed or problematic
6.							Definitions of Vegetation Strata:
7.							Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast
8.							height (DBH), regardless of height
9.							Sapling/shrub - Woody plants less than 3 in. DBH and greater
10.							than or equal to 3.28 ft (1M) tall.
11.							Herb - All herbaceous (non-woody) plants, regardless of size,
12.						•	and woody plants less than 3.28 ft tall.
50%=	50.0%	20%=	= 20.0%	100	Total Cover	•	Woody Vines - All woody vines greater than 3.28 ft in height.
Woody	Vine Stratum	ը Plot size:	30'				woody vines - All woody vines greater than 3.26 it in neight.
1.							
2.						•	
3.							Hydrophytic Vegetaion Present?
4.							
50%=	0.0%	20%=	= 0.0%	0	Total Cover		YesNoX
		photo number rophytic vege		r on a separate not met.	e sheet.)		

SOIL												
									Sampling Point:	DP18		
Profile	Description:	(Describe to	o depth	needed to d	docume	ent the in	ndicator	or confirm abse	ence of indicators.)	-		
	Depth	Matri	х	Redox Fea	atures		ı					
	(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks			
	0-4	10YR 3/2	100					Loamy Sand				
	4-18	10YR 4/6	100					Loamy Sand				
* Type	: C=Concentra	ation, D=Depl	etion, RI	∕/⊫Reduced	Matrix,	CS=Coat	ted Sand	grains **Locati	ion: PL=Pore Lining, M=Matrix			
Hydric	Soil Indicato	rs:							Indicators for Problen	natic Soils		
	Histosol (A1)				Strippe	ed Matrix	(S6)		2 cm Muck (A10) (LRR K, L	, MLRA 149B)		
	Histic Epiped	on (A2)			Dark S	Surface (S	S7)(LRR	R,MLRA 149B)	Coast Prairie Redox (A16)			
	Black Histic (A3)			,		v Surface	e (S8) (LRR R,	5 cm Mucky Peat (S3) (LRR	5 cm Mucky Peat (S3) (LRR K, L, R)		
	Hydrogen Sul	lfide (A4)			MLRA	149B)			Dark Surface (S7) (LRR K,	L, M)		
	Stratified Laye	ers (A5)			Thin D	ark Surfa	ce (S9)		Polyvalve Below Surface (S	8) (LRR K, L)		
	Depleted Below Dark Surface (A11) Loamy						/lineral (F	- 1)	Thin Dark Surface (S9) (LR	R K, L)		
	Thick Dark Surface (A12) Loan						Matrix (F	2)	Iron-Manganese Masses (F	12) (LRR K, L, R)		
	Sandy Mucky	Mineral (S1)			Deplet	ed Matrix	(F3)		Mesic Spodic (TA6) (MLRA	144A, 145, 149B)		
	Sandy Gleyed	d Matrix (S4)			Redox	Dark Su	rface (F6	6)	Red Parent Material (F21)			
	Sandy Redox	(S5)			Deplet	ed Dark	Surface	(F7)	Very Shallow Dark Surface	(TF12)		
					Redox	Depress	ions (F8)	Other (Explain in Remarks)			
Restric	tive Layer (if	observed)										
	Type:			None								
Dept	th (inches):						Hydri	ic Soil Present?	YesNoX	_		
Remark			4									
The criterion for hydric soil is not met.												

Site:	Fire Technology Center	City/	County: Marinette Cou	ınty		Sampling Date:	9/5/2019
Applica	ant/Owner: Tyco Fire Products, I	P.			State: WI	Sampling Point:	DP19
Investi	gator(s): Ryan Bombeck, Mich	nael Meisenger	Section, Townsh	nip, Range	: Section 12, Towns	ship 30N, Range 23E	i
Landfo	orm (hillslope,terrace,etc.): Toe Slo	ре	Local relief (concave	, convex,	none): Concave	Slo	ppe (%):0%
Subre	gion(LRR or MLRA): LRR K - North	central Forests	Lat. 45.078427° N	Long	. 87.641747° W	Datum: WC	3S 84
Soil Ma	ap Unit Name: Shawano loamy fine	sand, 2 to 6 percent	slopes		WWI Class	sification: None	
	matic/hydrologic conditions on the si						
Are	Vegetation Soil	or Hyd	Irology X signif	icantly dis	turbed?		
Are	Vegetation Soil	or Hyd	Irologynatur	ally proble	matic?		
Are No	ormal Circumstances Present?	Yes No	X (If needed, ex	plain any	answers in Remarks	s)	
SUMN	IARY OF FINDINGS						
	Hydrophytic Vegetation Present?	Yes X No	ls the	Sample	d Area within a We	tland?	
	Hydric Soil Present?	Yes X No	Y	es X	No		
	Wetland Hydrology Present?			, optional	Wetland Site ID:	W07	
water t	19 in Appendix B. Wetland data poir from nearby firefighting equipment the parameters, this area is a wetla	ne resulting disturbar					
HYDF	ROLOGY						
Wetla	nd Hydrology Indicators:						
	Primary Indicators (minimum of o	one is required; che	ck all that apply)		Secondary Indicat	ors (minimum of tw	o required)
	Surface Water (A1)	Water Stained	Leaves (B9)		Surface Soil Crac	ks (B6)	
Х	High Water Table (A2)	Aquatic Fauna	(B13)		Drainage Patterns	s (B10)	
Х	Saturation (A3)	Marl Deposits	(B15)		Moss Tim Lines (E	36)	
	Water Marks (B1)	Hydrogen Sulf	de Odor (C1)		Dry-Season Wate	r Table (C2)	
	Sediment Deposits (B2)	-}	spheres on Living		Crayfish Burrows	(C8)	
	Drift Deposits (B3)	Roots (C3)			Saturation Visible	on Aerial Imagery (C	.9)
	Algal Mat or Crust (B4)	Presence of R	educed Iron (C4)		Stunted or Stresse	ed Plants (D1)	
	Iron Deposits (B5)	}	eduction in Tilled Soil	Х	Geomorphic Posit	tion (D2)	
	Inundation Visible on Aerial	(C6)			Shallow Aquitard	(D3)	
	Imagery (B7)	Thin Muck Sur	face (C7)		Microtopographic	Relief (D4)	
	Sparsely Vegetated Concave Surface (B8)	Other (Explain	in Remarks)	Х	FAC-Neutral Test	(D5)	
	Observations:					_	
			Depth (inches)		nd Hydrology Pres		
		X No			Yes	XNo	
Satura	tion Present? Yes_	X No	Depth (inches) 0				
Descri	be Recorded Data (stream guage, n	nonitoring well, aeria	photos, previous insp	ections), if	available:		
Topog	raphic maps, aerial imagery, WWI d	ata, WDNR Wetland	Indicators data.				
equipn	rks: iterion for wetland hydrology is met. nent testing at the nearby facility has ttion criteria, it is anticipated that the	significantly increas	ed the water input to the	ne area. B	ased on the present	ce of hydric soils and	hydrophytic

VEGE	TATION		5		Sampling Point: DP19
Tree St	ratum Plot size: 30'	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1.	Betula papyrifera	30	Y	FACU	Number of dominant species that are OBL,
2.	Acer saccharum	20	Υ	FACU	FACW, or FAC:2(A)
3.	Quercus velutina	2	N	UPL	Total number of dominant species across
4.					all strata: 5 (B)
5. 6.					Percent of dominant species that are OBL, FACW, or FAC: 40% (A/B)
7.		-	-	<u></u>	Prevalence Index Worksheet:
50%=	26.0% 20%= 10.4%	52	Total Cover		Total % cover of:
Shrub S	Stratum Plot size: 15'				OBL species <u>50</u> x 1 <u>50</u>
1.					FACW species <u>20</u> x 2 <u>40</u>
2.					FAC species <u>5</u> x 3 <u>15</u>
3.					FACU species <u>70</u> x 4 <u>280</u>
4.					UPL species <u>2</u> x 5 <u>10</u>
5.					Column Totals: <u>147</u> (A) <u>395</u> (B)
6.					Prevalence Index: 2.7 (B/A)
7.					Hydrophytic Vegetation Indicators:
50%=	0.0% 20%= 0.0%	0	Total Cover		Rapid Test for Hydrophytic Vegetation
Herb St	ratum Plot size: 5'				Dominance Test is >50%
1.	Scirpus cyperinus	50	Y	OBL	x Prevalence Index is <3.0*
2.	Phalaris arundinacea	20	Y	FACW	Morphological Adaptations*
3.	Solidago canadensis	20	Y	FACU	Problematic Hydrophytic Vegetation*
4. 5.	Equisetum arvense	5	N	FAC	* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
6.					Definitions of Vegetation Strata:
7.					Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast
8.					height (DBH), regardless of height
9.					Sapling/shrub - Woody plants less than 3 in. DBH and greater
10.					than or equal to 3.28 ft (1M) tall.
11.					Herb - All herbaceous (non-woody) plants, regardless of size,
12.					and woody plants less than 3.28 ft tall.
50%=	47.5% 20%= 19.0%	95	Total Cover		Woody Vines - All woody vines greater than 3.28 ft in height.
Woody	Vine Stratum Plot size: 30'				woody vines - All woody vines greater than 3.20 it in height.
1.					
2.					
3.					Hydrophytic Vegetaion Present?
4.					
50%=	0.0% 20%= 0.0%	0	Total Cover		Yes <u>X</u> No
	s: (Include photo numbers here or erion for hydrophytic vegetation is		e sheet.)		1

DP19		
ils		
149B)		
Coast Prairie Redox (A16)		
1		
K, L)		
R K, L, R)		
45, 149B)		
Very Shallow Dark Surface (TF12) Other (Explain in Remarks)		
)		

Site:	Fire Technology Center	City	/County: Marinette Coun	ıty		Sampling Date:	9/5/2019
	ant/Owner: Tyco Fire Produc	ets, L.P.			State: WI	Sampling Point:	
Investi	igator(s): Ryan Bombeck, I	Michael Meisenger	Section, Township	o, Range	: Section 12, Towns	ship 30N, Range 23E	
	orm (hillslope,terrace,etc.): Terr			convex, ı	none): Convex	Slop	oe (%): 0%
Subreç	gion(LRR or MLRA): LRR K - No	orthcentral Forests	Lat. 45.078535° N	_ Long	j. <u>87.641503° W</u>	Datum: WG	S 84
	ap Unit Name: Shawano loamy t						
Are cli	matic/hydrologic conditions on th	ne site typical for time of	year? Yes X	_ No	o(If no, expla	ain in the Remarks)	
Are			drology X signific				
Are	Vegetation	Soil or Hy	drologynatural	ly proble	matic?		
Are No	ormal Circumstances Present?	Yes No	X (If needed, expl	lain any a	answers in Remarks	3)	
SUMM	IARY OF FINDINGS						
	Hydrophytic Vegetation Prese			-	d Area within a Wet	iland?	
l		ent? Yes X No			No	_	
	Wetland Hydrology Prese	ent? Yes X No	If yes, o	optional \	Wetland Site ID:	W07	
2							
Remar Photo:	rks: 20 in Appendix B. Wetland data	point recorded within W	07 on slight rise with mo	re non-h	vdrophytic vegetatio	n than surrounding ar	ea Hydrology
within 1	the data point is significantly dist	urbed by the discharge	of water from nearby fire	fighting e	equipment the result	ing disturbance has si	, ,,
increas	sed the water input to the subjec	t area. Based on the pre	sence of all three param	eters, th	is area is a wetland.		
n A D E	ROLOGY						
	nd Hydrology Indicators:	of one is required; ch	ack all that anniv)		Secondary Indicate	ors (minimum of two	roquired)
	Primary Indicators (minimum Surface Water (A1)	Water Stained		 '	Surface Soil Crack		required)
Х	High Water Table (A2)	Aquatic Fauna	,	+	Drainage Patterns	,	
Х	Saturation (A3)	Marl Deposits	` ,		Moss Tim Lines (E		
	Water Marks (B1)		fide Odor (C1)		Dry-Season Water	,	
	Sediment Deposits (B2)		cospheres on Living		Crayfish Burrows	,	
	Drift Deposits (B3)	Roots (C3)	oopg		· ·	on Aerial Imagery (C9	
	Algal Mat or Crust (B4)	Presence of F	Reduced Iron (C4)	+	Stunted or Stresse		<i></i>
	Iron Deposits (B5)		Reduction in Tilled Soil	†	Geomorphic Posit	` '	
	Inundation Visible on Aerial	(C6)			Shallow Aquitard (-
	Imagery (B7)	Thin Muck Su	rface (C7)	1	Microtopographic		
	Sparsely Vegetated Concave	Other (Explain	` '	Х	FAC-Neutral Test	` '	
	Surface (B8)				•		
Field (Observations:	•					
Surfac	e Water Present? You	es No_X	Depth (inches)	Wetlan	nd Hydrology Prese	ent?	
Water		es X No	· · · · · · · · · · · · · · · · · · ·	1		X No	
		es X No		7	-		
		<u> </u>		<u> </u>			
Descri	be Recorded Data (stream guag	ge, monitoring well, aeria	l photos, previous inspec	ctions), if	available:		
Topog	raphic maps, aerial imagery, WV	VI data, WDNR Wetland	d Indicators data.				
Remar							
	iterion for wetland hydrology is nent testing at the nearby facility						
	ation criteria, it is anticipated that						

2.	Number of dominant species that are OBL, FACW, or FAC:
2. 3. 4. 5. 6. 7. 50%= 0.0% 20%= 0.0% 0 Total Cover Shrub Stratum Plot size: 15' 1. 2. 3. 4. 5. 6. 7. 50%= 0.0% 20%= 0.0% 0 Total Cover	FACW, or FAC:
4. 5. 6. 7. 50%= 0.0% 20%= 0.0% 0 Total Cover Shrub Stratum Plot size: 15' 1. 2. 3. 4. 5. 6. 7. 50%= 0.0% 20%= 0.0% 0 Total Cover	all strata: 1 (B) Percent of dominant species that are OBL, FACW, or FAC: 100% (A/B) Prevalence Index Worksheet: Total % cover of: 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 (A) 228 (B) Prevalence Index: 2.3 (B/A) Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation
6. 7. 50%= 0.0% 20%= 0.0% 0 Total Cover Shrub Stratum Plot size: 15' 1. 2. 3. 4. 5. 6. 7. 50%= 0.0% 20%= 0.0% 0 Total Cover Herb Stratum Plot size: 5'	FACW, or FAC: 100% (A/B) Prevalence Index Worksheet: Total % cover of: 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 (A) 228 (B) Prevalence Index: 2.3 (B/A) Hydrophytic Vegetation Indicators:
7.	Total % cover of: 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 (A) 228 (B) Prevalence Index: 2.3 (B/A) Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation
Shrub Stratum Plot size: 15' 1. 2. 3. 4. 5. 6. 7. 50%= 0.0% 20%= 0.0% 0 Total Cover Herb Stratum Plot size: 5'	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 (A) 228 (B) Prevalence Index: 2.3 (B/A) Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation
1	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 (A) 228 (B) Prevalence Index: 2.3 (B/A) Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation
2.	FAC species 6 x 3 18 FACU species 10 x 4 40 UPL species 20 x 5 100 Column Totals: 101 (A) 228 (B) Prevalence Index: 2.3 (B/A) Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation
2.	FAC species 6 x 3 18 FACU species 10 x 4 40 UPL species 20 x 5 100 Column Totals: 101 (A) 228 (B) Prevalence Index: 2.3 (B/A) Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation
3. 4. 5. 6. 7. 50%= 0.0% 20%= 0.0% 0 Total Cover Herb Stratum Plot size: 5'	FACU species 10 x 4 40 UPL species 20 x 5 100 Column Totals: 101 (A) 228 (B) Prevalence Index: 2.3 (B/A) Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation
4	UPL species 20 x 5 100 Column Totals: 101 (A) 228 (B) Prevalence Index: 2.3 (B/A) Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation
5. 6. 7. 50%= 0.0% 20%= 0.0% 0 Total Cover Herb Stratum Plot size: 5'	Column Totals: 101 (A) 228 (B) Prevalence Index: 2.3 (B/A) Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation
6. 7. 50%= 0.0% 20%= 0.0% 0 Total Cover Herb Stratum Plot size: 5'	Prevalence Index: 2.3 (B/A) Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation
7. 50%= 0.0% 20%= 0.0% 0 Total Cover Herb Stratum Plot size: 5'	Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation
50%= 0.0% 20%= 0.0% Total Cover Herb Stratum Plot size: 5'	Rapid Test for Hydrophytic Vegetation
	
	
	x Prevalence Index is ≤3.0*
Comptonia peregrina 20 N UPL	Morphological Adaptations*
3. Solidago canadensis 10 N FACU	Problematic Hydrophytic Vegetation*
4. Equisetum arvense 5 N FAC	* Indicators of hydric soil and wetland hydrology must be present,
5. Solidago gigantea 5 N FACW	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
10	than or equal to 3.28 ft (1M) tall.
	and woody plants less than 3.28 ft tall.
50%- 50.5% 20%- 20.2% 101 Total Cover	
Woody Vine Stratum Plot size: 30'	Woody Vines - All woody vines greater than 3.28 ft in height.
1	
2.	
	Hydrophytic Vegetaion Present?
4.	1174104117111
50%= 0.0% 20%= 0.0% Total Cover	Yes <u>X</u> No

SOIL											
									Sampling Point:	DP20	
Profile	Description:	(Describe to	o depth	needed to d	locume	ent the ir	ndicator	or confirm abse	ence of indicators.)		
	Depth	Matri	х	Redox Fea	atures						
	(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks		
	0-2	10YR 2/1	100					Sandy Loam	Mucky.		
	2-13	10YR 3/2	95	10YR 4/6	0YR 4/6 5		М	Sandy Loam			
	13-20	10YR 4/6	100					Loamy Sand			
* Type:	: C=Concentra	ation, D=Depl	etion, RN	∕/⊫Reduced	Matrix,	CS=Coat	ted Sand	grains **Locati	on: PL=Pore Lining, M=Matrix		
Hydric	Soil Indicato	rs:			•				Indicators for Problem	atic Soils	
	Histosol (A1)				Strippe	ed Matrix	(S6)		2 cm Muck (A10) (LRR K, L,	MLRA 149B)	
	Histic Epiped	on (A2)			Dark S	Surface (S	S7)(LRR	R,MLRA 149B)	Coast Prairie Redox (A16)		
	Black Histic (A	A3)			_		v Surface	e (S8) (LRR R,	5 cm Mucky Peat (S3) (LRR	K, L, R)	
	Hydrogen Sul	fide (A4)			MLRA	149B)			Dark Surface (S7) (LRR K, L	_, M)	
	Stratified Layers (A5) Thin Dark Su								Polyvalve Below Surface (St	3) (LRR K, L)	
	Depleted Below Dark Surface (A11) Loamy Muc						/lineral (F	⁻ 1)	Thin Dark Surface (S9) (LRF	R K, L)	
	Thick Dark Surface (A12) Loar						Matrix (F	2)	Iron-Manganese Masses (F	12) (LRR K, L, R)	
	Sandy Mucky	Mineral (S1)			Deplet	ed Matrix	(F3)		Mesic Spodic (TA6) (MLRA	144A, 145, 149B)	
	Sandy Gleyed	d Matrix (S4)		X	Redox	edox Dark Surface (F6)			Red Parent Material (F21)		
	Sandy Redox	(S5)			Deplet	ed Dark Surface (F7)			Very Shallow Dark Surface (TF12)		
					Redox	Depress	ions (F8)	Other (Explain in Remarks)		
Restric	tive Layer (if	observed)									
	Type:		l	None		_					
Dept	th (inches):					<u>.</u>	Hydri	c Soil Present?	YesXNo		
Remark											
The crit	terion for hydri	c soil is met.									

Site:	Fire Technology Center	Cit	y/County: Marinette Cour	nty		Sampling Date:	9/5/2019
Applica	nt/Owner: Tyco Fire Produc	ts, L.P.			State: WI	Sampling Point:	DP21
Investi	gator(s): Ryan Bombeck, I	Michael Meisenger	Section, Townshi	p, Range	e: Section 12, Town	ship 30N, Range 23E	
Landfo	rm (hillslope,terrace,etc.): Toe	Slope	Local relief (concave,	convex,	none): Concave	Slo	pe (%): 0%
Subreg	ion(LRR or MLRA): LRR K - No	orthcentral Forests	Lat. 45.078579° N	Long	j. <u>87.641694° W</u>	Datum: WC	3S 84
	p Unit Name: Rousseau loamy						
Are clir	natic/hydrologic conditions on th	ne site typical for time o	of year? Yes X	_ N	o(If no, exp	lain in the Remarks)	
Are			ydrology X signific				
Are	Vegetation	Soil or H	ydrologynatura	lly proble	ematic?		
Are No	rmal Circumstances Present?	YesNo	X (If needed, exp	lain any	answers in Remark	s)	
SUMM	ARY OF FINDINGS						
	Hydrophytic Vegetation Prese			•	d Area within a We	etland?	
		ent? Yes X No			No		
	Wetland Hydrology Prese	ent? Yes X No	If yes,	optional	Wetland Site ID:	W07	
Remar	ks: 21 in Appendix B. Wetland data	noint recorded at the h	oundary of W07 Hydrolo	av within	the data point is sig	anificantly disturbed by	v the discharge of
	rom nearby firefighting equipme						
of all th	ree parameters, this area is a w	etland.					
HVDE	101 00V						
	ROLOGY						
	d Hydrology Indicators:				O I I		
	Primary Indicators (minimum					tors (minimum of tw	o requirea)
Х	Surface Water (A1)		ed Leaves (B9)		Surface Soil Crac	,	
X	High Water Table (A2)	Aquatic Fau	` '		Drainage Patterns	•	
	Saturation (A3)	Marl Deposit			Moss Tim Lines (,	
	Water Marks (B1)		ulfide Odor (C1)		Dry-Season Wate	` ,	
	Sediment Deposits (B2)	Roots (C3)	izospheres on Living		Crayfish Burrows	` '	
	Drift Deposits (B3)	<u> </u>	Dadward Iron (O4)			on Aerial Imagery (C	9)
	Algal Mat or Crust (B4)	1 1	Reduced Iron (C4)	Х	Stunted or Stress	, ,	
	Iron Deposits (B5)	(C6)	Reduction in Tilled Soil		Geomorphic Posi		
	Inundation Visible on Aerial Imagery (B7)	<u> </u>	((07)		Shallow Aquitard	` '	
		Thin Muck S	` '	Y	Microtopographic	. ,	
	Sparsely Vegetated Concave Surface (B8)	Otner (Expia	in in Remarks)	X	FAC-Neutral Test	(D5)	
Fiold C	Dbservations:						
		os No V	Donth (inches)	Wotla	nd Hydrology Pres	ont?	
			Depth (inches)	VVetiai			
		es X No No		_	res	X No	
Satural	ion Fresent?	es A NO	Deptil (iliches)0				
Describ	pe Recorded Data (stream guag	e monitoring well aer	ial nhotos, previous inspe	ctions) it	f available:		
	aphic maps, aerial imagery, WV			, I	. G. GIIGOIO.		
Remar		data, moral moral					
The cri	terion for wetland hydrology is m						
	ent testing at the nearby facility tion criteria, it is anticipated that						

VEGE	TATION			Absolute %	Dominant		Sampling Point: DP21
Tree St	<u>ratum</u>	Plot size:	30'	Cover	Species	Indicator Status	Dominance Test Worksheet
1. 2.							Number of dominant species that are OBL, FACW, or FAC:(A)
3. 4.							Total number of dominant species across all strata: 2(B)
5. 6.							Percent of dominant species that are OBL, FACW, or FAC: 100% (A/B)
7.							Prevalence Index Worksheet:
50%=	0.0%	20%=	= 0.0%	0	Total Cover		Total % cover of:
Shrub S	Stratum_	Plot size:	15'				OBL species <u>32</u> x 1 <u>32</u>
1.							FACW species <u>60</u> x 2 <u>120</u>
2.							FAC species0 x30
3.							FACU species <u>5</u> x 4 <u>20</u>
4.							UPL species <u>5</u> x 5 <u>25</u>
5.							Column Totals: 102 (A) 197 (B)
6.					<u>-</u>	<u>-</u>	Prevalence Index: 1.9 (B/A)
7.							Hydrophytic Vegetation Indicators:
50%=	0.0%	20%=	= 0.0%	0	Total Cover		x Rapid Test for Hydrophytic Vegetation
Herb St	tratum_	Plot size:	5'	· _			x Dominance Test is >50%
1.	Phalaris arur	ndinacea		55	Y	FACW	x Prevalence Index is <3.0*
2.	Scirpus cype	erinus		30	Υ	OBL	Morphological Adaptations*
	Solidago can			5	N	FACU	Problematic Hydrophytic Vegetation*
4.	Solidago giga	antea		5	N	FACW	* Indicators of hydric soil and wetland hydrology must be present,
5.	Daucus caro			5	N	UPL	unless disturbed or problematic
6.	Juncus effus	us		2	N	OBL	Definitions of Vegetation Strata:
7.							Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast
8.							height (DBH), regardless of height
9.							Sapling/shrub - Woody plants less than 3 in. DBH and greater
10.				<u> </u>			than or equal to 3.28 ft (1M) tall.
11.							 Herb - All herbaceous (non-woody) plants, regardless of size,
12.							and woody plants less than 3.28 ft tall.
50%=	51.0%	20%=	= 20.4%	102	Total Cover		All on the second state of
	Vine Stratum		30'	-			Woody Vines - All woody vines greater than 3.28 ft in height.
1.							
2.							
3.							Hydrophytic Vegetaion Present?
4.							,
50%=	0.0%	20%=	= 0.0%	0	Total Cover		Yes <u>X</u> No
	ks: (Include pl erion for hydr			r on a separate met.	e sheet.)		

SOIL	OIL														
									Sampling Point:	DP21					
Profile	Description:	(Describe to	o depth	needed to d	locume	ent the in	ndicator	or confirm abse	ence of indicators.)						
	Depth	Matri	х	Redox Fea	atures										
	(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks						
	0-3	10YR 2/2	100					Sandy Loam	Mucky.						
	3-8	10YR 2/2	95	10YR 4/6	5	С	М	Sandy Loam	Prominent redox concentrations.						
	8-20	10YR 3/3	80	10YR 4/6	20	С	М	Loamy Sand	Distinct redox concentrations.						
	Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: PL=Pore Lining, M=Matrix Indicators: Indicators for Problematic Soils														
	Histosol (A1) Stripped Matrix (S6) 2 cm Muck (A10) (LRR K, L, MLRA 149B)														
	Histosol (A1)						` '		2 cm Muck (A10) (LRR K, L,	MLRA 149B)					
	Histic Epiped	` '						R,MLRA 149B)	Coast Prairie Redox (A16)						
	Black Histic (Polyva MLRA		w Surface	e (S8) (LRR R,	5 cm Mucky Peat (S3) (LRR	K, L, R)					
	Hydrogen Sul	fide (A4)			IVILINA	1490)			Dark Surface (S7) (LRR K, I	Dark Surface (S7) (LRR K, L, M)					
	Stratified Laye	ers (A5)			Thin D	ark Surfa	ace (S9)		Polyvalve Below Surface (S8) (LRR K, L)						
	Depleted Belo	ow Dark Surfa	ace (A11)	Loamy	Mucky N	Mineral (F	- 1)	Thin Dark Surface (S9) (LRF	R K, L)					
	Thick Dark St	urface (A12)			Loamy	Gleyed I	Matrix (F	2)	Iron-Manganese Masses (F	12) (LRR K, L, R)					
	Sandy Mucky	Mineral (S1)			Deplet	ed Matrix	(F3)		Mesic Spodic (TA6) (MLRA	144A, 145, 149B)					
	Sandy Gleyed	d Matrix (S4)		X	Redox	Dark Su	rface (F6	5)	Red Parent Material (F21)						
	Sandy Redox	(S5)			Deplet	ed Dark	Surface ((F7)	Very Shallow Dark Surface (TF12)					
					Redox	Depress	ions (F8)	Other (Explain in Remarks)						
Restric	tive Layer (if	observed)													
	Type:			None											
Dept	th (inches):						Hydri	ic Soil Present?	Yes X No						
Remark	KS:														
The crit	erion for hydri	c soil is met.													

Site: Fire Technology Center	City/County: Marinette County	y	Sampling Date: 9/5/2019			
Applicant/Owner: Tyco Fire Products, L.P.		<u> </u>	Sampling Point: DP22			
Investigator(s): Ryan Bombeck, Michael Meisen	nger Section, Township,	, Range: Section 12, Townshi	ip 30N, Range 23E			
Landform (hillslope,terrace,etc.): Back Slope						
Subregion(LRR or MLRA): LRR K - Northcentral Fore		Long. 87.641702° W				
Soil Map Unit Name: Rousseau loamy fine sand, 1 to		· · · · · · · · · · · · · · · · · · ·				
Are climatic/hydrologic conditions on the site typical fo			<u>- </u>			
Are Vegetation Soil	or Hydrologysignifica	intly disturbed?				
	or Hydrologynaturally					
Are Normal Circumstances Present? Yes X						
SUMMARY OF FINDINGS						
Hydrophytic Vegetation Present? Yes	No X Is the Sa	ampled Area within a Wetla	and?			
Hydric Soil Present? Yes		NoX				
Wetland Hydrology Present? Yes		ptional Wetland Site ID:				
Remarks: Photo 22 in Appendix B. Upland data point recorded a	at the boundary of W07. Based on t	he absence of all three paran	neters, this area is an upland.			
HYDROLOGY						
Wetland Hydrology Indicators:						
Primary Indicators (minimum of one is requ	ired; check all that apply)	Secondary Indicator	s (minimum of two required)			
Surface Water (A1) Water	er Stained Leaves (B9)	Surface Soil Cracks	(B6)			
High Water Table (A2) Aqua	atic Fauna (B13)	Drainage Patterns (E	B10)			
Saturation (A3) Marl	Deposits (B15)	Moss Tim Lines (B6)	i)			
Water Marks (B1) Hydro	rogen Sulfide Odor (C1)	Dry-Season Water T	Γable (C2)			
. ,	lized Rhizospheres on Living	Crayfish Burrows (C8)				
Drift Deposits (B3)	ts (C3)	Saturation Visible on Aerial Imagery (C9)				
Algal Mat or Crust (B4) Prese	ence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)				
Iron Deposits (B5)	ent Iron Reduction in Tilled Soil	Geomorphic Position	n (D2)			
Inundation Visible on Aerial (C6)		Shallow Aquitard (D:	3)			
Imagery (B7) Thin	Muck Surface (C7)	Microtopographic Re	elief (D4)			
Sparsely Vegetated Concave Othe Surface (B8)	er (Explain in Remarks)	FAC-Neutral Test (D)5)			
Field Observations:						
	lo X Depth (inches)	Wetland Hydrology Presen	it?			
	lo X Depth (inches)		NoX			
	lo X Depth (inches)					
Describe Recorded Data (stream guage, monitoring w		cions), if available:				
Topographic maps, aerial imagery, WWI data, WDNR	र Wetland Indicators data.					
Remarks: The criterion for wetland hydrology is not met. Based a high enough elevation on the landscape that it is not						

<u> </u>	TATION	Absolute %	Dominant		Sampling Point: DP22 Dominance Test Worksheet
Tree St	ratum Plot size: 30'	Cover	Species	Indicator Status	Dominance Test Worksheet
1. 2.					Number of dominant species that are OBL, FACW, or FAC: 0 (A)
3. 4.			• •	·	Total number of dominant species across all strata:1(B)
5. 6.				·	Percent of dominant species that are OBL, FACW, or FAC: 0% (A/B)
7.			. <u></u>		Prevalence Index Worksheet:
50%=	0.0% 20%= 0.0%	0	Total Cover		Total % cover of:
Shrub S	Stratum Plot size: 15'				OBL species <u>5</u> x 1 <u>5</u>
1.			<u></u>		FACW species <u>0</u> x 2 <u>0</u>
2.					FAC species5 x315
3.					FACU species 6 x 4 24
4.					UPL species 86 x 5 430
5.				, <u> </u>	Column Totals: 102 (A) 474 (B)
6.					Prevalence Index: 4.6 (B/A)
7.					Hydrophytic Vegetation Indicators:
50%=	0.0% 20%= 0.0%	0	Total Cover		Rapid Test for Hydrophytic Vegetation
Herb St	tratum Plot size: 5'				Dominance Test is >50%
1.	Bromus inermis	85	Υ	UPL	Prevalence Index is ≤3.0*
•	Equisetum arvense	5	N	FAC	Morphological Adaptations*
	Scirpus cyperinus	5	N	OBL	Problematic Hydrophytic Vegetation*
•	Solidago canadensis	5	N	FACU	* Indicators of hydric soil and wetland hydrology must be present
	Schizachyrium scoparium	1	N	FACU	unless disturbed or problematic
	Medicago sativa	1	N	UPL	Definitions of Vegetation Strata:
7. 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
10.					than or equal to 3.28 ft (1M) tall.
11.					Herb - All herbaceous (non-woody) plants, regardless of size,
			-		and woody plants less than 3.28 ft tall.
12. 50%=	51.0% 20%= 20.4%	102	Total Cover		
	Vine Stratum Plot size: 30'	102	Total Covel		Woody Vines - All woody vines greater than 3.28 ft in height.
1.					
2.		-	-		1
•		-	-		Hydrophytic Vegetaion Present?
3.					Inydrophytic vegetaton Fresent:
4.	20% - 0.0%		Total Cover		. Vac Na Y
50%=	0.0% 20%= 0.0%	0	Total Cover		YesNoX
	ks: (Include photo numbers here of erion for hydrophytic vegetation is		e sheet.)		

SOIL														
									Sampling Point:	DP22				
Profile	Description:	(Describe to	o depth	needed to d	ocume	ent the in	ndicator	or confirm abse	ence of indicators.)					
	Depth	Matri	х	Redox Fea	tures		1							
	(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks					
	0-9	10YR 2/1	100			Sandy Loam		Sandy Loam						
	9-14	10YR 3/3	85	10YR 4/6	15	С	М	Loamy Sand	Distinct redox concentrations.					
	14-20	10YR 2/1	50					Loamy Sand	Mixed matrix.					
	10YR 4/6 50													
* Type:	* Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: PL=Pore Lining, M=Matrix													
Hydric	Soil Indicato	rs:							Indicators for Problem	natic Soils				
	Histosol (A1)				Strippe	ed Matrix	(S6)		2 cm Muck (A10) (LRR K, L,	, MLRA 149B)				
	Histic Epiped	on (A2)		Coast Prairie Redox (A16)										
	Black Histic (A3)			-		ow Surface (S8) (LRR R, 5 cm Mucky Peat (S3) (LRR R			K, L, R)				
	Hydrogen Su	Ifide (A4)			MLRA	149B)			Dark Surface (S7) (LRR K, L, M)					
	Stratified Lay	ers (A5)			Thin D	ark Surfa	ace (S9)		Polyvalve Below Surface (St	8) (LRR K, L)				
	Depleted Bel	ow Dark Surfa	ace (A11)	Loamy	Mucky N	Mineral (F	=1)	Thin Dark Surface (S9) (LRF	R K, L)				
	Thick Dark S	urface (A12)			Loamy	Gleyed	Matrix (F2) Iron-Manganese M		Iron-Manganese Masses (F	12) (LRR K, L, R)				
	Sandy Mucky	/ Mineral (S1)			Deplet	ed Matrix	x (F3) Mesic S		Mesic Spodic (TA6) (MLRA	Mesic Spodic (TA6) (MLRA 144A, 145, 149B)				
	Sandy Gleye	d Matrix (S4)			Redox	Dark Su	urface (F6)		Red Parent Material (F21)					
	Sandy Redox	(S5)			Deplet	ed Dark	Surface	(F7)	Very Shallow Dark Surface ((TF12)				
					Redox	Depress	ions (F8)	Other (Explain in Remarks)					
Restric	tive Layer (if	observed)												
	Type:			None										
Dept	th (inches):						Hydri	ic Soil Present?	YesNoX					
Remark		ia aail ia mat m												
The chi	erion for hydr	ic soil is not n	net.											

Site:	Fire Technology Center	Cit	y/County: Marinette Cour	nty		Sampling Date:	8/27/2019
Applic	ant/Owner: Tyco Fire Produc	ts, L.P.	•		State: WI	Sampling Point:	DP23
Invest	igator(s): Ryan Bombeck, I	Michael Meisenger	Section, Township	o, Range	e: Section 13, Town	ship 30N, Range 23E	
Landfo	orm (hillslope,terrace,etc.): Toe	Slope	Local relief (concave,	convex,	none): Concave	Slo	pe (%):2%
Subre	gion(LRR or MLRA): LRR K - No	orthcentral Forests	Lat. 45.075607° N	Long	j. <u>87.643915° W</u>	Datum: WG	SS 84
Soil M	lap Unit Name: Udorthents, loam	y, nearly level			WWI Clas	sification: None	
Are cli	imatic/hydrologic conditions on th	e site typical for time of	of year? Yes X	_ N	o (If no, exp	lain in the Remarks)	
Are	Vegetation	Soil or H	ydrologysignific	antly dis	turbed?		
Are	Vegetation	Soil or H	ydrologynatura	lly proble	ematic?		
Are N	ormal Circumstances Present?	Yes X No	O(If needed, exp	lain any	answers in Remark	s)	
SUMN	MARY OF FINDINGS						
	Hydrophytic Vegetation Prese	ent? Yes X No	s ls the	Sample	d Area within a We	tland?	
	Hydric Soil Prese	ent? Yes X No	· ·	s_X	No		
	Wetland Hydrology Prese			optional	Wetland Site ID:	W08	
Rema Photo	23 in Appendix B. Wetland data	point recorded at the b	oundary of W08. Based o	n the pre	esence of all three p	parameters, this area i	is a wetland.
HYD	ROLOGY						
Wetla	nd Hydrology Indicators:						
	Primary Indicators (minimum	of one is required; cl	neck all that apply)		Secondary Indicat	ors (minimum of two	o required)
	Surface Water (A1)	Water Staine	ed Leaves (B9)		Surface Soil Crac	ks (B6)	
Χ	High Water Table (A2)	Aquatic Fau	na (B13)		Drainage Patterns	s (B10)	
Х	Saturation (A3)	Marl Deposit	s (B15)		Moss Tim Lines (I	B6)	
	Water Marks (B1)	Hydrogen St	ılfide Odor (C1)		Dry-Season Water	er Table (C2)	
	Sediment Deposits (B2)		izospheres on Living		Crayfish Burrows	(C8)	
	Drift Deposits (B3)	Roots (C3)			Saturation Visible	on Aerial Imagery (C	9)
	Algal Mat or Crust (B4)	Presence of	Reduced Iron (C4)		Stunted or Stress	ed Plants (D1)	
	Iron Deposits (B5)		Reduction in Tilled Soil	Х	Geomorphic Posi	tion (D2)	
	Inundation Visible on Aerial	(C6)			Shallow Aquitard	(D3)	
	Imagery (B7)	Thin Muck S	urface (C7)		Microtopographic	Relief (D4)	
	Sparsely Vegetated Concave	Other (Expla	in in Remarks)	Х	FAC-Neutral Test	(D5)	
	Surface (B8)						
Field	Observations:						
Surfac			Depth (inches)	Wetlar	nd Hydrology Pres	ent?	
Water	Table Present? Ye	es X No	Depth (inches) 0		Yes	X No	
Satura	ation Present? Ye	es X No	Depth (inches) 0				
Descr	ibe Recorded Data (stream guag	e, monitoring well, aer	ial photos, previous inspe	ctions), i	f available:		
	graphic maps, aerial imagery, WV						
Rema	rks:						
The ci equipr	riterion for wetland hydrology is ment testing at the nearby facility ation criteria, it is anticipated that	has significantly increa	ased the water input to the	area. B	ased on the presen	ce of hydric soils and	hydrophytic

VEGE	TATION			Absolute %	Dominant		Sampling Point: DP23
Tree St	<u>ratum</u>	Plot size:	30'	Cover	Species	Indicator Status	Dominance Test Worksheet
1. 2.							Number of dominant species that are OBL, FACW, or FAC:2(A)
3. 4.							Total number of dominant species across all strata: 2(B)
5. 6.							Percent of dominant species that are OBL, FACW, or FAC: 100% (A/B)
7.					. <u></u>		Prevalence Index Worksheet:
50%=	0.0%	20%=	= 0.0%	0	Total Cover		Total % cover of:
Shrub S	Stratum_	Plot size:	15'				OBL species <u>106</u> x 1 <u>106</u>
1.							FACW species <u>1</u> x 2 <u>2</u>
2.							FAC species0 x30
3.						· _	FACU species 0 x 4 0
4.							UPL species 0 x 5 0
5.							Column Totals: 107 (A) 108 (B)
6.							Prevalence Index: 1.0 (B/A)
7.							Hydrophytic Vegetation Indicators:
50%=	0.0%	20%=	= 0.0%	0	Total Cover		x Rapid Test for Hydrophytic Vegetation
Herb St	tra <u>tum</u>	Plot size:	5'				x Dominance Test is >50%
	Eleocharis a	cicularis		50	Υ	OBL	x Prevalence Index is ≤3.0*
2.	Typha angus	stifolia		40	Υ	OBL	Morphological Adaptations*
	Juncus effus			10	N	OBL	Problematic Hydrophytic Vegetation*
4.	Scirpus cype	erinus		5	N	OBL	* Indicators of hydric soil and wetland hydrology must be present,
•	Mentha arve			1	N	FACW	unless disturbed or problematic
6.	Persicaria pu	ınctata		1	N	OBL	Definitions of Vegetation Strata:
7.							Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast
8.							height (DBH), regardless of height
9.							Sapling/shrub - Woody plants less than 3 in. DBH and greater
10.							than or equal to 3.28 ft (1M) tall.
11.							 Herb - All herbaceous (non-woody) plants, regardless of size,
12.							and woody plants less than 3.28 ft tall.
50%=	53.5%	20%=	= 21.4%	107	Total Cover		
	Vine Stratum		30'				Woody Vines - All woody vines greater than 3.28 ft in height.
1.							
2.							
3.							Hydrophytic Vegetaion Present?
4.							.,,,
50%=	0.0%	20%=	= 0.0%	0	Total Cover		Yes <u>X</u> No
	ks: (Include pl erion for hydr			r on a separat met.	e sheet.)		

=													
								Sampling Point:	DP23				
e Description:	(Describe to	o depth	needed to c	locume	ent the ir	ndicator	or confirm abse	ence of indicators.)	,				
Depth	Matri	X	Redox Fea	atures									
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks					
0-5	10YR 2/2	98	10YR 4/6	2	С	PL	Loamy Sand	Prominent redox concentrations.					
5-20	10YR 4/6	100	<u>L</u>	!	<u> </u>	'	Loamy Sand						
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: PL=Pore Lining, M=Matrix													
ydric Soil Indicators: Indicators for Problematic Soils													
Histosol (A1)				Strippe	ed Matrix	(S6)		2 cm Muck (A10) (LRR K, L	, MLRA 149B)				
Histic Epiped	on (A2)			Dark S	Surface (S	37)(LRR	R,MLRA 149B)	Coast Prairie Redox (A16)					
Black Histic (A3)			,		N Surface	e (S8) (LRR R,	5 cm Mucky Peat (S3) (LRR	k K, L, R)				
Hydrogen Su	fide (A4)			MLRA	149B)			Dark Surface (S7) (LRR K, I	L, M)				
Stratified Lay	ers (A5)			Thin D	ark Surfa	ace (S9)		Polyvalve Below Surface (S	Polyvalve Below Surface (S8) (LRR K, L)				
Depleted Beld	ow Dark Surfa	ace (A11)	Loamy	/ Mucky N	∕lineral (F	- 1)	Thin Dark Surface (S9) (LRI	R K, L)				
Thick Dark S	urface (A12)		'	Loamy	/ Gleyed	Matrix (F	2)	Iron-Manganese Masses (F	12) (LRR K, L, R)				
Sandy Mucky	Mineral (S1)	<u> </u>		Deplet	ed Matrix	(F3)		Mesic Spodic (TA6) (MLRA	144A, 145, 149B)				
Sandy Gleyer	Matrix (S4)			Redox	. Dark Su	rface (F6	5)	Red Parent Material (F21)					
Sandy Redox	(S5)			Deplet	ed Dark	k Surface (F7) Very Shallow Dark S			(TF12)				
				Redox	Depress	essions (F8) Other (Explain in							
ctive Layer (if	observed)												
Type:		!	None		_								
oth (inches):					-	Hydri	ic Soil Present?	Yes <u>X</u> No	•				
Depth (inches): Hydric Soil Present? Yes X No emarks: he criterion for hydric soil is met.													
	e Description: Depth (inches) 0-5 5-20 e: C=Concentra c Soil Indicator Histosol (A1) Histic Epipedo Black Histic (Hydrogen Sul Stratified Laye Depleted Belo Thick Dark So Sandy Mucky Sandy Gleyeo Sandy Redox ictive Layer (if Type: pth (inches):	e Description: (Describe to Depth Matri. (inches) Color 0-5 10YR 2/2 5-20 10YR 4/6 e: C=Concentration, D=Depletor Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surfactor (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) ictive Layer (if observed) Type: pth (inches):	e Description: (Describe to depth Depth Matrix (inches) Color % 0-5 10YR 2/2 98 5-20 10YR 4/6 100 e: C=Concentration, D=Depletion, RN c Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11 Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) ictive Layer (if observed) Type: pth (inches):	Pescription: (Describe to depth needed to depth Depth Matrix Redox Feat (inches) Color % Color 0-5 10YR 2/2 98 10YR 4/6 5-20 10YR 4/6 100 Percentage Cescription Ces	Depth Matrix Redox Features (inches) Color % Color % 0-5 10YR 2/2 98 10YR 4/6 2 5-20 10YR 4/6 100 e: C=Concentration, D=Depletion, RM=Reduced Matrix, Companies of Soil Indicators: Histosol (A1) Strippe Dark Served Matrix (A3) Polyva MLRA Stratified Layers (A5) Thin Depleted Below Dark Surface (A11) Loamy Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Redox (S5) Depleted Sandy Redox (S5) Depleted Selve (S6) D	e Description: (Describe to depth needed to document the in Depth Matrix Redox Features (inches) Color % Color % Type* 0-5 10YR 2/2 98 10YR 4/6 2 C 5-20 10YR 4/6 100 e: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coat c Soil Indicators: Histosol (A1) Stripped Matrix Histic Epipedon (A2) Dark Surface (S Black Histic (A3) Polyvalve Below MLRA 149B) Stratified Layers (A5) Thin Dark Surface (A11) Loamy Mucky M Thick Dark Surface (A12) Loamy Gleyed Matrix Sandy Mucky Mineral (S1) Depleted Matrix Sandy Gleyed Matrix (S4) Redox Dark Surface (A12) Sandy Redox (S5) Depleted Dark Surface (A13) Redox Depress (A14) Redox Depress (A15) Depleted Dark Surface (A15) Depleted Dark Surface (A16) Redox Depress (A17) Redox	e Description: (Describe to depth needed to document the indicator Depth	Be Description: (Describe to depth needed to document the indicator or confirm absorbed in the indicator of confirmation a	Bampling Point: Popth				

Site: Fire Technology Center	City/Count	y: Marinette County		Sampling Date: 8/27/2019	
Applicant/Owner: Tyco Fire Products,	, L.P		State: WI	· · ·	
·		Section, Township,	Range: Section 13, Towns	ship 30N, Range 23E	
Landform (hillslope,terrace,etc.): Should		al relief (concave, c	onvex, none): Convex	Slope (%):2%	
Subregion(LRR or MLRA): LRR K - Nort			Long. 87.643926° W		
Soil Map Unit Name: Udorthents, loamy,			WWI Class		
Are climatic/hydrologic conditions on the					
Are Vegetation Sc	or Hydrology	/significa	ntly disturbed?		
Are Vegetation Sc	or Hydrology	/naturally	problematic?		
Are Normal Circumstances Present?	Yes X No	(If needed, expla	in any answers in Remarks	s)	
SUMMARY OF FINDINGS					
Hydrophytic Vegetation Present			ampled Area within a Wet	tland?	
	? Yes No_X		NoX		
Wetland Hydrology Present	? Yes No_X	If yes, o	otional Wetland Site ID:		
Remarks: Photo 24 in Appendix B. Upland data poir	ot recorded at the houndary	of WOR Based on t	he absence of all three nar	ameters, this area is an unland	
FIIOLO 24 III Appelluix B. Opialia data poi	Il lecolucu at the boundary s	JI WOO. Dased on t	ne absence of all tilles pair	allieters, tilis area is air upianu.	
LIVEROL OCV					
HYDROLOGY					
Wetland Hydrology Indicators:			2 Investo Park		
Primary Indicators (minimum of				ors (minimum of two required)	
Surface Water (A1)	Water Stained Leave	, ,	Surface Soil Crack	, ,	
High Water Table (A2)	Aquatic Fauna (B13)		Drainage Patterns	,	
Saturation (A3)	Marl Deposits (B15)	. (04)	Moss Tim Lines (E	,	
Water Marks (B1)	Hydrogen Sulfide Od	, ,	Dry-Season Water	,	
Sediment Deposits (B2)	Oxidized Rhizospher Roots (C3)	es on Living	Crayfish Burrows (C8)		
Drift Deposits (B3)	 	11 (04)	Saturation Visible on Aerial Imagery (C9)		
Algal Mat or Crust (B4)	Presence of Reduce	` /	Stunted or Stresse	,	
Iron Deposits (B5)	Recent Iron Reduction (C6)	on in Tilled Soil	Geomorphic Posit	,	
Inundation Visible on Aerial Imagery (B7)			Shallow Aquitard (
	Thin Muck Surface (•	Microtopographic		
Sparsely Vegetated Concave Surface (B8)	Other (Explain in Rei	marks)	FAC-Neutral Test	(D5)	
Field Observations:					
	No V Dont	t (inches)	Mational Undrology Proce		
	No X Dept	` ' 	Wetland Hydrology Press		
	No X Dept		162	NoX	
Saturation Present? Yes	No X Dept	n (inches)			
Describe Recorded Data (stream guage,	monitoring well aerial photo		ions) if available:		
Topographic maps, aerial imagery, WWI			ions), ii avaliabie.		
Remarks:	data, WDNIX Wonana maioa	itors data.			
The criterion for wetland hydrology is not	met. Based on WETS analys	sis, antecedent hyd	rologic conditions are within	n a normal range.	
			-	<u>-</u>	

VEGE	TATION			Absolute %	Dominant		Sampling Point: DP24
Tree St	ratum_	Plot size:	30'	Cover	Species	Indicator Status	Dominance Test Worksheet
1. 2.							Number of dominant species that are OBL, FACW, or FAC: 0 (A)
3. 4.							Total number of dominant species across all strata: (B)
5. 6.							Percent of dominant species that are OBL, FACW, or FAC:0%(A/E
7.							Prevalence Index Worksheet:
50%=	0.0%	20%=	= 0.0%	0	Total Cover		Total % cover of:
Shrub S	Stratum_	Plot size:	15'				OBL species <u>0</u> x 1 <u>0</u>
1.					-	· <u></u>	FACW species0x _ 20
2.							FAC species0 x30
3.							FACU species <u>65</u> x 4 <u>260</u>
4.							UPL species <u>40</u> x 5 <u>200</u>
5.							Column Totals: 105 (A) 460 (B)
6.							Prevalence Index: 4.4 (B/A
7.							Hydrophytic Vegetation Indicators:
50%=	0.0%	20%=	= 0.0%	0	Total Cover		Rapid Test for Hydrophytic Vegetation
Herb St	<u>ratum</u>	Plot size:	5'				Dominance Test is >50%
1.	Solidago ca	nadensis		60	Υ	FACU	Prevalence Index is ≤3.0*
2.	Bromus inei	mis	,	40	Y	UPL	Morphological Adaptations*
3.	Achillea mill	efolium	,	5	N	FACU	Problematic Hydrophytic Vegetation*
4. 5.							* Indicators of hydric soil and wetland hydrology must be pre unless disturbed or problematic
6.						-	Definitions of Vegetation Strata:
7.							Tree - Woody plants 3 in. (7.6cm) or more in diameter at bre
8.					-	-	height (DBH), regardless of height
9.							 Sapling/shrub - Woody plants less than 3 in. DBH and grea
10.							than or equal to 3.28 ft (1M) tall.
11.							Herb - All herbaceous (non-woody) plants, regardless of size
12.							and woody plants less than 3.28 ft tall.
50%=	52.5%	20%=	= 21.0%	105	Total Cover		
	Vine Stratun		30'	100	Total Covol		Woody Vines - All woody vines greater than 3.28 ft in height
1.	VIIIC Otratain	1 100 3120.	00				
2.							
3.			-	-			Hydrophytic Vegetaion Present?
4.			-	-			Tryurophytic vegetalon i resent:
50%=	0.0%	20%=	= 0.0%	0	Total Cover		YesNoX
		hoto number		r on a separat not met.	e sheet.)		I

SOIL															
									Sampling Point:	DP24					
Profile	Description:	(Describe to	o depth	needed to	docume	ent the ir	ndicator	or confirm abse	ence of indicators.)	•					
	Depth	Matri	x	Redox Fe	atures		1								
	(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks						
	0-9	10YR 2/1	100					Sandy Loam							
	9-20	10YR 4/6	100					Loamy Sand							
* Type	* Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Coated Sand grains **Location: PL=Pore Lining, M=Matrix														
Hydric	Hydric Soil Indicators: Histosol (A1) Stripped Matrix (S6) 2 cm Muck (A10) (LRR K, L, MLRA 149B)														
	Histosol (A1)				Strippe	ed Matrix	(S6)		2 cm Muck (A10) (LRR K, L	, MLRA 149B)					
	Histic Epiped	on (A2)			Dark S	Surface (S	S7)(LRR	R,MLRA 149B)	Coast Prairie Redox (A16)						
	Black Histic (A3)					w Surface	e (S8) (LRR R,	5 cm Mucky Peat (S3) (LRR	! K, L, R)					
	Hydrogen Su	lfide (A4)			MLRA	149B)			Dark Surface (S7) (LRR K,	L, M)					
	Stratified Lay	ers (A5)			Thin D	ark Surfa	face (S9) Polyvalve Below Surface			8) (LRR K, L)					
	Depleted Belo	ow Dark Surfa	ace (A11)	Loamy	Mucky N	Mineral (F	- 1)	Thin Dark Surface (S9) (LR	R K, L)					
	Thick Dark S	urface (A12)			Loamy	Gleyed	Matrix (F	2)	Iron-Manganese Masses (F	12) (LRR K, L, R)					
	Sandy Mucky	Mineral (S1)			Deplet	ed Matrix	rix (F3) Mesic Spodic (TA6) (N			144A, 145, 149B)					
	Sandy Gleyed	d Matrix (S4)			Redox	Dark Su	Surface (F6) Red Parent Material (F21)								
	Sandy Redox	(S5)			Deplet	ed Dark	Surface (F7) Very Shallow Dark Sur			(TF12)					
					Redox	Depress	ions (F8)	Other (Explain in Remarks)						
Restric	ctive Layer (if	observed)													
	Type:			None											
Dep	th (inches):						Hydri	ic Soil Present?	YesNoX						
Remar															
The cri	terion for hydri	ic soil is not n	net.												



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