

### Civil Engineers | Land Surveyors | Landscape Architects

experienced. responsive. passion for quality.

Branch Office: 7927 Nemco Way, Suite 115 • Brighton, MI 48116 t: 517.546.8583 • f: 517.546.8973 • www.peainc.com

April 1, 2019

PEA Project No: 2019-065

#### **Genisys Credit Union**

Mr. Thomas Alter, Research Consultant 2100 Executive Hills Drive Auburn Hills, Michigan 48326

Re: Wetland Delineation (15-23-300-041)

**Genisys Credit Union** 

Part of the SW ¼ of Section 23, T.03N., R. 11E. City of Rochester Hills, Oakland County, Michigan

On March 18, 2019, PEA, Inc. evaluated the subject property for the field indicators of the presence of wetlands as defined by the State of Michigan. Pink wetland survey ribbons were used to delineate a wetland boundary on the site when all three wetland indicators were present (wetland hydrology, hydric soils, and hydrophytic vegetation) as defined by USACE wetland delineation manual (1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0).

The site consisted of approximately 1.74 acres of land located just east of Rochester Road and south of Eddington Boulevard. The site is higher along Eddington Blvd and slopes south to the southern property line. There is a thirteen-foot elevation drop across the property. The Honeywell ditch runs west to east just south of the site and contains the delineated wetland. The property has been cleared historically based upon a lot of new scrub-shrub growth. Portions of the eastern property (within easement) appear to have been graded/ disturbed for stormwater utility installations. Almost all of the subject property contained upland vegetation species. One (1) wetland was found on the property. The following report summarizes the characteristics of the wetland on the property as it appeared at the time of the delineation.

#### Wetland 'A'- Flags A-1 to A-12

A majority of Wetland A is located off-site and south of the subject property. However, the northwest tip of the wetland does exist on the subject property. The portion of wetland on the subject property is 232 square feet in size. It contained wetland vegetation including reed canary grass (*Phalaris arundinacea*), cottonwood (Populus deltoides), willow (*Salix* spp.) and common buckthorn (*Rhamnus cathartica*). The wetland contained numerous indicators of hydrology including water stained leaves, water marks, saturation, and inundation visible on aerial imagery. The wetland contained the hydric soil indicator (A12) Thick Dark Surface. Upland species including Norway maple and upland grasses were found along the wetland boundary. The wetland boundary was found were the hydrology indicators were no longer present and the vegetation switches to primarily upland species.

### Wetland 'A'



Southwest View from Property of Honeywell Ditch



Southeast view of Honeywell Ditch from Subject Property



View from Honeywell Ditch - Looking North



View from Subject Property – Looking South

### **NRCS Web Soil Survey Map**

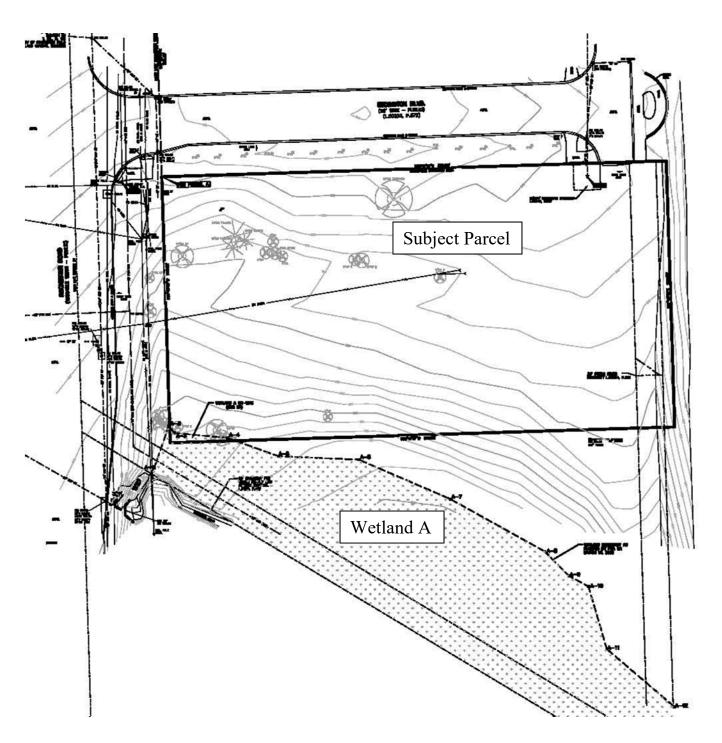


USDA Soil Map: Site contains a dominance of 10B Marlette sandy loam, 1 to 6 percent slopes.

## Michigan Department of Environmental Quality Wetlands Map viewer



## Wetland Map (per topographical drawing)



### Michigan Department of Environmental Quality Wetland Regulations

Wetlands within 500' of an inland lake, pond, river, or stream, as defined by Part 303 of the Wetlands Protection Act are considered a regulated wetland.

Wetlands that are not within 500' of an inland lake, pond, river or stream, but are more than 5 acres in size are considered regulated wetlands.

The MDEQ reserves the right to regulate wetlands less than 5 acres in size and more than 500 feet from an inland lake, pond, river, or stream if the MDEQ has determined that these wetlands are essential to the preservation of the State's natural resources.

The MDEQ requires that any wetland alterations that total over 1/3 of an acre in size must be mitigated. The MDEQ can also require mitigation of smaller areas of disturbance, if they believe the wetland to be of high environmental significance for habitat or water quality. The preference of the MDEQ is that wetland mitigation takes place on the project property.

#### **Opinion of Regulatory Status**

Many factors influence the extent of a wetland boundary, including weather patterns, drainage, changes in vegetation, and activities on the site or on adjacent properties at the time of the investigation. The wetland observations completed by PEA for the subject parcel are based on the conditions at the site at the time of our investigation and current policy regarding the procedures used to delineate wetlands.

Please be advised that the MDEQ, U.S. Army Corps of Engineers, and the U.S. Environmental Protection Agency regulate wetlands and ultimately reserve final judgement on the extent of wetlands on any given site. The determination of a wetland on a specific site can vary depending on the conditions offered above as well as on the agency representative conducting the determination, and current wetland regulations.

The following regulatory status of the wetlands is the opinion of PEA, Inc. based on the field conditions at the time of the wetland delineation of March 18, 2019.

#### Wetland A\*: Regulated due to direct connection with a stream/ drain.

\*Opinion of Regulatory Status for Local Municipality: Wetland A will also be regulated by the City of Rochester Hills pursuant to Article IV: Wetland and Watercourse Protection. In addition, a Natural Features setback of 25 feet will also be imposed along the wetland boundary (Zoning - Article 9: Natural Features). Use permits will be needed for both the wetland and natural feature setback for any proposed activity within those areas.

Prepared by:

PEA, Inc.

Theresa Pardington, PLA, PWS, ISA-CA Senior Landscape Architect | Wetland Scientist

Reset Form Print Form

# WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: 2019-065 Genisys Credit Union	C	city/County:	Rocheste	r/ Oakland	Sampling Date	: 3/18/19	
Applicant/Owner: Thomas Alter				State: MI	Sampling Point	:: Wetland A	
Investigator(s): T. Pardington	S	Section, To	wnship, Ra	nge: 03N11E23			
Landform (hillslope, terrace, etc.): Sloping					None		
Slope (%): <u>1-6</u> Lat: <u>42.65687</u>							
Soil Map Unit Name: 10B—Marlette sandy loam, 1 to 6 percer		_					
Are climatic / hydrologic conditions on the site typical for this til							
Are Vegetation, Soil, or Hydrology sign						X No	
Are Vegetation, Soil, or Hydrology natu				eded, explain any answe			
SUMMARY OF FINDINGS – Attach site map sh						features, e	tc.
Hydrophytic Vegetation Present?  Hydric Soil Present?  Wetland Hydrology Present?  Yes X No Wetland Hydrology Present?  No S			e Sampled in a Wetlar	Area nd? Yes <u>X</u>	No	_	
Remarks:							
VEGETATION – Use scientific names of plants.							
		Dominant		Dominance Test work	sheet:		
5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Species?		Number of Dominant S		2 (4)	
Populus deltoides     Acer negundo		Y N		That Are OBL, FACW,	or fac:	3 (A)	,
3.				Total Number of Domin Species Across All Stra		3 (B)	)
4.       5.				Percent of Dominant Sp That Are OBL, FACW,		100 (A/	′B)
Sapling/Shrub Stratum (Plot size:15' R)	35 =	= Total Cov	er	Prevalence Index wor	kshoot:		
1. Rhamnus cathartica	20	Υ	FAC	Total % Cover of:		ply by:	
2.				OBL species			
3.				FACW species			
4				FAC species	x 3 =	0	
5				FACU species			
- FIR	20 =	= Total Cov	er	UPL species	x 5 =	0	
Herb Stratum (Plot size: 5' R )  1. Phalaris arundinacea	90	Υ	FACW	Column Totals:	(A)	<u> </u>	3)
Pnaiaris arundinacea     Lindera benzoin	5	N N	FACW	Prevalence Index	= B/A =	0	
3				Hydrophytic Vegetation			
4				X Dominance Test is	>50%		
5.				Prevalence Index is	s ≤3.0 <sup>1</sup>		
6.				Morphological Ada			
7.				data in Remarks		,	
8				Problematic Hydro	ohytic Vegetatioi	n (Explain)	
9				<sup>1</sup> Indicators of hydric soi	l and watland by	dralage medat	
10				be present, unless distu			
Woody Vine Stratum (Plot size: 5' R )	95 =	= Total Cov	er				_
				Hydrophytic			
1. <u>NA</u> 2				Vegetation			
		= Total Cov	er	Present? Yes	s <u> </u>		
Remarks: (Include photo numbers here or on a separate she	eet.)			ı			$\neg$

SOIL Sampling Point: Wetland A

Depth	Matrix		eeded to document th Redox Featu	ires			of indicators.)
(inches)	Color (moist)	<u>%</u> (	Color (moist) %	Type <sup>1</sup> L	_oc²	Texture	Remarks
0-12	10YR 3/2	100	No redox				loamy clay organic
<del></del>			<del></del>				
		oletion, RM=Red	duced Matrix, CS=Cove	red or Coated Sa			cation: PL=Pore Lining, M=Matrix.
Hydric Soil I							for Problematic Hydric Soils <sup>3</sup> :
Histosol (	. ,		Sandy Gleyed				Prairie Redox (A16)
-	ipedon (A2)		Sandy Redox (				anganese Masses (F12)
Black His	, ,		Stripped Matrix			Other	(Explain in Remarks)
	n Sulfide (A4) Layers (A5)		Loamy Mucky				
2 cm Mu			Loanly Gleyed Depleted Matri				
	Below Dark Surfac	·ρ (Δ11)	Redox Dark Su				
	rk Surface (A12)	(////	Depleted Dark			<sup>3</sup> Indicators	of hydrophytic vegetation and
	ucky Mineral (S1)		Redox Depress	, ,			d hydrology must be present,
	cky Peat or Peat (S	3)		,			disturbed or problematic.
	ayer (if observed)						·
Type:							
Depth (inc	hes):		_		۱,	lvdric Soil	Present? Yes X No No
Remarks:						.,	
HYDROLOG							
_	rology Indicators:						
Primary Indica	ators (minimum of o	one is required;	check all that apply)			Seconda	ary Indicators (minimum of two required)
X Surface \	Vater (A1)		X Water-Stained Le	aves (B9)		Surf	ace Soil Cracks (B6)
High Wat	er Table (A2)		Aquatic Fauna (B	13)		X Drai	nage Patterns (B10)
X Saturatio	n (A3)		True Aquatic Plar	nts (B14)		Dry-	Season Water Table (C2)
× Water Ma	arks (B1)		Hydrogen Sulfide	Odor (C1)			yfish Burrows (C8)
Sedimen	t Deposits (B2)		Oxidized Rhizosp	heres on Living F	Roots (C3)	) <u>X</u> Satı	uration Visible on Aerial Imagery (C9)
Drift Dep	osits (B3)		Presence of Redu	iced Iron (C4)		Stur	nted or Stressed Plants (D1)
Algal Ma	t or Crust (B4)		Recent Iron Redu	ction in Tilled So	oils (C6)	Geo	morphic Position (D2)
Iron Depo			Thin Muck Surface	e (C7)		FAC	C-Neutral Test (D5)
X Inundatio	n Visible on Aerial	Imagery (B7)	Gauge or Well Da	ita (D9)			
Sparsely	Vegetated Concav	e Surface (B8)	Other (Explain in	Remarks)			
Field Observ	ations:						
Surface Wate	r Present?	'es No _	X Depth (inches):	_			
Water Table I	Present? Y	'es No _	X Depth (inches):				
Saturation Pro		es X No	Depth (inches): 6	at bottom of pit	Wetland	Hydrolog	y Present? Yes X No No
		gauge, monito	oring well, aerial photos,	previous inspect	tions), if a	vailable:	
Remarks:							
Surface wate	r toward drain						

Reset Form

Print Form

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: 2019-065 Genisys Credit Union	C	ity/County:	Rocheste	r/ Oakland	Sampling Date: 3/18/19	
					Sampling Point: Upland	
Investigator(s): T. Pardington	S	Section, Tov	vnship, Ra	nge: 03N11E23	. •	
Landform (hillslope, terrace, etc.):						
Slope (%): 1-6 Lat: 42.65726						
Soil Map Unit Name: 10B—Marlette sandy loam, 1 to 6 percen						
Are climatic / hydrologic conditions on the site typical for this tir						
Are Vegetation, Soil, or Hydrology sign						n
Are Vegetation, Soil, or Hydrology natu				eded, explain any answe		
SUMMARY OF FINDINGS – Attach site map sh					ŕ	s, etc.
Hydrophytic Vegetation Present?  Yes X No		Is the	e Sampled	Area		
Hydric Soil Present? Yes No _ Wetland Hydrology Present? Yes No _		withi	n a Wetlar	nd? Yes	No <u>×</u>	
Remarks:						
<b>VEGETATION</b> – Use scientific names of plants.						
·	bsolute	Dominant	Indicator	Dominance Test work	sheet:	
		Species?		Number of Dominant Sp		
1. Malus spp.		Y		That Are OBL, FACW,	or FAC: 1	(A)
2				Total Number of Domin Species Across All Stra		(B)
4				Percent of Dominant Sp	pecies	
5					or FAC: <u>25</u>	(A/B)
Sapling/Shrub Stratum (Plot size: 15' R )	=	Total Cov	er	Prevalence Index wor	ksheet:	
1. Rhamnus cathartica	30	N	FAC		Multiply by:	_
2. Pyrus callyerana		Υ		OBL species	x 1 =0	_
3.					x 2 =0	
4				FAC species	x 3 =0	_
5					x 4 =0	_
	= 08	Total Cov	er	UPL species	x 5 =0	_
Herb Stratum (Plot size:5' R)  1. Echinochloa crus-galli	40	Υ	FAC	Column Totals:	(A)0	_ (B)
	60	<u>т</u> Ү	FACU	Prevalence Index	= B/A =0	
2. <u>Poa spp.</u> 3				Hydrophytic Vegetation		
4				Dominance Test is		
5.				Prevalence Index is		
6					ptations <sup>1</sup> (Provide support	ting
7					s or on a separate sheet)	
8				Problematic Hydro	phytic Vegetation <sup>1</sup> (Explai	n)
9				Indicators of budges ==:	l and wetland hydrology n	muet
10				be present, unless distu		lusi
Woody Vine Stratum (Plot size:5' R)	100 =	Total Cov	er			==
				Hydrophytic		
1. <u>NA</u> 2				Vegetation		
		Total Cov	er	Present? Yes	s No_X_	
Remarks: (Include photo numbers here or on a separate she						
Transition (initiated priorio fidinipolo fiere of off a separate site	,					
Other trees within upland are were Norway maple, Cottonwoo	od, Tree of	f Heaven a	nd columna	ar oaks.		

SOIL Sampling Point: Upland A

Depth Matrix		Redox Features	. 2 -		<b>.</b>
(inches) Color (moist)	<u>%</u> Col	or (moist) % Type <sup>1</sup>	Loc <sup>2</sup> Te	exture	Remarks
0-4 10YR 5/2					pieces of brick found in soil pit
4+ 10YR 6/4					
	<u> </u>				
<del></del>	<del></del>				
	· <del></del>				
	- <u> </u>				
<sup>1</sup> Type: C=Concentration, D=Dep	letion, RM=Reduc	ced Matrix, CS=Covered or Coated	Sand Grains.	<sup>2</sup> Loc	ation: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators:			In	dicators	for Problematic Hydric Soils <sup>3</sup> :
Histosol (A1)		Sandy Gleyed Matrix (S4)	_		Prairie Redox (A16)
Histic Epipedon (A2)		Sandy Redox (S5)	_		anganese Masses (F12)
Black Histic (A3)		Stripped Matrix (S6)	_	_ Other (	Explain in Remarks)
Hydrogen Sulfide (A4)		Loamy Mucky Mineral (F1)			
Stratified Layers (A5) 2 cm Muck (A10)		<ul><li>Loamy Gleyed Matrix (F2)</li><li>Depleted Matrix (F3)</li></ul>			
2 cm whick (A10) Depleted Below Dark Surface	ρ (Δ11)	Redox Dark Surface (F6)			
Thick Dark Surface (A12)	e (ATT)	Depleted Dark Surface (F7)	3	ndicators	of hydrophytic vegetation and
Sandy Mucky Mineral (S1)		Redox Depressions (F8)	•		hydrology must be present,
5 cm Mucky Peat or Peat (S3	3)				disturbed or problematic.
Restrictive Layer (if observed):					-
Туре:					
Depth (inches):			Hyd	dric Soil	Present? Yes No
Remarks:					
Remarks:					
YDROLOGY					
Remarks:  IYDROLOGY  Wetland Hydrology Indicators:		eck all that apply)		Seconda	ry Indicators (minimum of two requ
Remarks:  IYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of o					*
Remarks:  IYDROLOGY  Wetland Hydrology Indicators:		eck all that apply)  Water-Stained Leaves (B9)  Aquatic Fauna (B13)		Surf	ry Indicators (minimum of two requace Soil Cracks (B6) nage Patterns (B10)
Remarks:  YDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of o  Surface Water (A1)  High Water Table (A2)	ne is required; che _ _	Water-Stained Leaves (B9) Aquatic Fauna (B13)		Surf	ace Soil Cracks (B6) nage Patterns (B10)
IYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of o  Surface Water (A1)  High Water Table (A2)  Saturation (A3)	ne is required; che _ _	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14)		Surfa	ace Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2)
IYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of o  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)	ne is required; che _ _	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1)		Surfa Drail Dry- Cray	ace Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) rfish Burrows (C8)
Remarks:  IYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of o  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)	ne is required; che _ _	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Livin	g Roots (C3)	Surfail Drail Dry- Cray Satu	ace Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2)
IYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of o  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)	ne is required; che _ _	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1)	g Roots (C3)	Surfa Drail Dry- Cray Satu Stun	ace Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) rfish Burrows (C8) rration Visible on Aerial Imagery (C
Remarks:  IYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of o  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)	ne is required; che _ _	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Livin Presence of Reduced Iron (C4)	g Roots (C3)	Surfi Drai Dry- Cray Satu Stun Geo	ace Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) rfish Burrows (C8) uration Visible on Aerial Imagery (C tted or Stressed Plants (D1) morphic Position (D2)
Remarks:  IYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of o  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)	ne is required; che - - - - - -	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Livin Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled	g Roots (C3)	Surfi Drai Dry- Cray Satu Stun Geo	ace Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) rfish Burrows (C8) uration Visible on Aerial Imagery (Cated or Stressed Plants (D1)
Remarks:  IYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of o  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)	ne is required; che	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Livin Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Thin Muck Surface (C7)	g Roots (C3)	Surfi Drai Dry- Cray Satu Stun Geo	ace Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) rfish Burrows (C8) uration Visible on Aerial Imagery (C tted or Stressed Plants (D1) morphic Position (D2)
IYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of o  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial I  Sparsely Vegetated Concave	ne is required; che	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Livin Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Thin Muck Surface (C7) Gauge or Well Data (D9)	g Roots (C3)	Surfi Drai Dry- Cray Satu Stun Geo	ace Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) rfish Burrows (C8) uration Visible on Aerial Imagery (C tted or Stressed Plants (D1) morphic Position (D2)
IYDROLOGY  Wetland Hydrology Indicators: Primary Indicators (minimum of o Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial I Sparsely Vegetated Concave	ne is required; che	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Livin Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Thin Muck Surface (C7) Gauge or Well Data (D9)	g Roots (C3) Soils (C6)	Surfi Drai Dry- Cray Satu Stun Geo	ace Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) rfish Burrows (C8) uration Visible on Aerial Imagery (C tted or Stressed Plants (D1) morphic Position (D2)
Remarks:  IYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of o  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial I  Sparsely Vegetated Concave  Field Observations:  Surface Water Present?	magery (B7)  Surface (B8)	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Livin Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks)  Depth (inches):	g Roots (C3) Soils (C6)	Surfi Drai Dry- Cray Satu Stun Geo	ace Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) rfish Burrows (C8) uration Visible on Aerial Imagery (C tted or Stressed Plants (D1) morphic Position (D2)
Remarks:  IYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of o  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial I  Sparsely Vegetated Concave  Field Observations:  Surface Water Present?  Y	magery (B7)e Surface (B8)es Noes No	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Livin Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks)  Depth (inches): Depth (inches):	g Roots (C3) Soils (C6)	Surf. Drai Dry- Cray Satu Stur Geo FAC	ace Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) rfish Burrows (C8) aration Visible on Aerial Imagery (Cated or Stressed Plants (D1) morphic Position (D2) -Neutral Test (D5)
IYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of o  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial I  Sparsely Vegetated Concave  Field Observations:  Surface Water Present?  Water Table Present?  Y  Saturation Present?  Y  (includes capillary fringe)	magery (B7) es No es No es No es No	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Livin Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks)  Depth (inches): Depth (inches):	g Roots (C3) Soils (C6)  Wetland H	Surf. Drai Dry- Cray Satu Stun Geo FAC	ace Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) rfish Burrows (C8) uration Visible on Aerial Imagery (C tted or Stressed Plants (D1) morphic Position (D2)
IYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of o  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial I  Sparsely Vegetated Concave  Field Observations:  Surface Water Present?  Water Table Present?  Y  Saturation Present?  Y  (includes capillary fringe)	magery (B7) es No es No es No es No	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Livin Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks)  Depth (inches): Depth (inches):	g Roots (C3) Soils (C6)  Wetland H	Surf. Drai Dry- Cray Satu Stun Geo FAC	ace Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) rfish Burrows (C8) aration Visible on Aerial Imagery (Cated or Stressed Plants (D1) morphic Position (D2) -Neutral Test (D5)
IYDROLOGY  Wetland Hydrology Indicators: Primary Indicators (minimum of o Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial I Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Y Saturation Present? Y (includes capillary fringe) Describe Recorded Data (stream	magery (B7) es No es No es No es No	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Livin Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks)  Depth (inches): Depth (inches):	g Roots (C3) Soils (C6)  Wetland H	Surf. Drai Dry- Cray Satu Stun Geo FAC	ace Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) rfish Burrows (C8) aration Visible on Aerial Imagery (Cated or Stressed Plants (D1) morphic Position (D2) -Neutral Test (D5)
IYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of o  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial I  Sparsely Vegetated Concave  Field Observations:  Surface Water Present?  Water Table Present?  Y  Saturation Present?  Y  (includes capillary fringe)	magery (B7) es No es No es No es No	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Livin Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks)  Depth (inches): Depth (inches):	g Roots (C3) Soils (C6)  Wetland H	Surf. Drai Dry- Cray Satu Stun Geo FAC	ace Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) rfish Burrows (C8) aration Visible on Aerial Imagery (Cated or Stressed Plants (D1) morphic Position (D2) -Neutral Test (D5)
Netland Hydrology Indicators: Primary Indicators (minimum of o Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial I Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Yesaturation Present? Yincludes capillary fringe) Describe Recorded Data (stream	magery (B7) es No es No es No es No	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Livin Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks)  Depth (inches): Depth (inches):	g Roots (C3) Soils (C6)  Wetland H	Surf. Drai Dry- Cray Satu Stun Geo FAC	ace Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) rfish Burrows (C8) aration Visible on Aerial Imagery (Cated or Stressed Plants (D1) morphic Position (D2) -Neutral Test (D5)
Primary Indicators (minimum of o Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial I Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Yesturation Present?	magery (B7) es No es No es No es No	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Livin Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks)  Depth (inches): Depth (inches):	g Roots (C3) Soils (C6)  Wetland H	Surf. Drai Dry- Cray Satu Stun Geo FAC	ace Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) rfish Burrows (C8) aration Visible on Aerial Imagery (Cated or Stressed Plants (D1) morphic Position (D2) -Neutral Test (D5)