CLOSEOUT REPORT

Monitoring Year 09 (MY-09) 5th Year Post-Repair Final Report Sandy Creek Wetland Restoration and Stream Enhancement Site EEP Project #322 Contract # 5713

Site Constructed 2003/Repaired 2008-2009/Replanted 2011

USACE 404 Certification Issued September 18, 2002 (Action ID #SAW-20021391)

Durham County MY-09 Collection Period: March 2014 – November 2014 Submission Date: January 29, 2015



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1.0 PROJECT SETTING AND BACKGROUND SUMMARY

The Sandy Creek Stream Enhancement and Wetland Restoration Site (Site) is located in the City of Durham approximately 3.5 miles (mi) southwest of downtown Durham County, North Carolina (Appendix A, Figure 1). The project lies in the Cape Fear River Basin within North Carolina Division of Water Quality sub-basin 03-06-05 (Table 1, 4, & 6). The Site was selected to mitigate impacts to Section 404 jurisdictional areas associated with the extension of Martin Luther King, Jr. Parkway (Parkway) between Cook Road and Hope Valley Road. The impacts of the Parkway on jurisdictional wetlands and non-wetland jurisdictional waters totaled 1.73 acres near Third Fork Creek. The Site was proposed by the Ecosystem Enhancement Program (EEP) to provide 3.6 acres of wetland restoration and creation as mitigation for the impacts. The remaining 1.87 acres was proposed as mitigation for other impacts within the Cape Fear River Basin. In addition to the wetland restoration, Sandy Creek has been enhanced with the installation of log vanes. The log vanes are intended to create pool features that enhance habitat and water quality along 2,461 linear feet of stream. Stream stationing begins at the downstream end of the project and increases upstream (Appendix B).

Land use in the vicinity of the Site consists of a mix of residential, commercial, and forested areas. The streams within the project area are bordered by a forested buffer of varying widths with a greenway trail running along the east side of the stream. The project is protected by a 22.6 acre (ac) permanent conservation easement held by the North Carolina Ecosystem Enhancement Program. Sandy Creek flows from north to south and has a total drainage area of 7.3 square mi. at the culvert at US 15-501.

Site construction and planting was completed in June 2003 (Table 2). The Site was partially replanted in January 2004 in areas of low stem densities. Wetlands restoration consisted of grading activities and planting wetland vegetation. Stream enhancement consisted of the installation of log vanes to create pool features to enhance habitat and water quality along 2,461 linear feet of stream. The wetland restoration area was re-graded between December 2009 and February 2010 to correct final grade elevations to establish proper wetland hydrology. Topsoil was added to improve soil fertility for plant growth and the graded areas were replanted with native plant species. This close-out report represents the 5th year of wetland monitoring after site maintenance and re-grading. Stream monitoring has been conducted annually since original restoration activities completed in 2003. The Site must demonstrate both hydrologic and vegetation success for a minimum of five years or until the Site is deemed successful (Table 3).

Currently the vegetation is meeting the success criterion with 1093 total woody stems/acre. The success criterion for vegetation is 260 total woody stems/acre at the end of the monitoring period with a diversity of at least six species of trees. Based on the vegetation plot data, the Site has at least 25 different species of trees (Appendix C,Table 7). Based on the CVS vegetation data there are 313 planted woody stems /acre and 1093 total woody stems/acre. As a result of the wetland re-grading in December 2009, the vegetation in monitoring plots 2, 3, and 4 were removed, leaving only vegetation monitoring plot 1 intact. The site was replanted and plots 2, 3, and 4, were re-established in February 2010. Warranty planting was conducted in February 2011 to replace trees that did not survive initial replanting after the wetland was re-graded. Level II of

the CVS-EEP protocol was administered for plots 1, 2, 3, and 4, which accounts for natural and planted woody stems. Vegetation problem areas consist of invasive exotic species presence. Chinese lespedeza (*Lespedeza cuneata*), continues to thrive in patches along the adjacent forest margin and within the wetland in the vicinity of plots 3 and 4 (Appendix A, Figure 4). These areas along the woodland margin have remained undisturbed throughout the monitoring period. Alligator weed (*Alternanthera philoxeroides*) and bigleaf periwinkle (Vinca major) were also observed within the vicinity of plot 1 along the wetland margin. Other invasive exotics observed sparsely scattered within the conservation easement beyond the wetland restoration area include Chinese privet (*Ligustrum sinense*), Gill over the ground (*Glechoma hederacea*), Japanese honeysuckle (*Lonicera japonica*), Japanese stiltgrass (*Microstegium vimineum*), and multiflora rose (*Rosa multiflora*). Chinese Privet, Japanese honeysuckle, and multiflora rose are a species of "High Concern" according to EEP invasive species of concern list. Although these species have been given different ranks of severity, the functionality of the project is not expected to be impaired significantly by these species.

Groundwater gauges were installed in the spring of 2010, post re-grading activities, at three locations – the reference wetland gauge, gauge A, and gauge C. The reference gauge was installed in its original location and Gauge B remained undisturbed in its original location. On May 23, 2013 four addition gauges (D, E, F, &G) were installed. Gauges D, E, F were installed within the wetland restoration area to capture a more accurate depiction of the groundwater levels. Gauge G was installed within the adjacent alluvial forest along Sandy Creek as supplemental reference gauge. All groundwater gauges exhibited saturation within 12 inches of the ground surface for more than 12.5% of the growing season (Appendix E,Table 8). The average annual growing season for Durham County is 222 days (March 24 to November 1).

Wetland delineations were conducted in October 2014 to determine the Site assets. A total of 2.23 acres of wetland restoration and 6.73 of wetland preservation were identified (Table 5). According to the mitigation plan, the site includes wetland mitigation components of wetland restoration and preservation. Often when investigating graded mitigation sites, it is typically unfeasible to identify hydric soils based upon the NRCS Field Indicators of Hydric Soils in the United States. According to The Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Regions (Version 2.0), recently developed mitigation sites where hydrophytic vegetation and wetland hydrology are present, but lack hydric soil indicators are referred to as "problematic" hydric soils. It also lists the following procedure for classifying problematic hydric soils as hydric by:

e. Using gauge data, water-table monitoring data, or repeated direct hydrologic observations, determine whether the soil is ponded or flooded, or the water table is 12 in. (30 cm) or less from the surface, for 14 or more consectutive days during the growing season in most years (at least 5 years in 10, or 50 percent or higher probability) (U.S. Army Corps of Engineers 2005). If so, then the soil is hydric. Furthermore, any soil that meets the NTCHS hydric soil technical standard (NRCS Hydric Soils Technical note 11) is hydric (p. 134)

By understanding a site's soil characteristics and utilizing the above criteria, alternative soil parameters can be identified, that are supported with groundwater monitoring data, to serve as site specific hydric soil indicators. As such, soil borings were performed adjacent to groundwater monitoring gauges A, B, and C to establish the below site specific hydric soil indicators used in delineating the restored wetland area.

- Presence of at least 10% redox concentrations and depletions with a chroma 3 or less within 2 inches of the soil surface AND at least 2% oxidized rhizospheres within 12 inches of the soil surface
- Dominance of hydrophytic vegetation

The following secondary indicators were also used, but were not as reliable or consistent as the primary.

- Fine, faint soil depletions within the top 1-2 inches of the soil surface.
- At least 5% hemic materials on the soil surface.

A profile description of the soil at gauge C depicts typical soil characteristics observed within the restored wetland area (Appendix F). It is important to note that as with all indicators, their development hinges on a multitude of soil factors, ranging from soil texture to soil fertility to site development methodologies. As such, these indicators were not always easily identifiable. In these instances, the primary methodology was to perform a relative comparison of the soils within the site in order to determine whether a specific boring should be considered hydric.

The log vanes are stable and are providing bank protection as intended, and are generating pools for aquatic habitat (Appendix B). The cross section shows little change in stream dimension as compared to previous monitoring years (Appendix D). Areas of streambank erosion were observed within the stream enhancement throughout the reach but did not appear to exceed natural levels. The upstream face of the US 15-501 culverts have been conducive to creating log jams throughout the monitoring period.

2.0 PROJECT GOALS AND OBJECTIVES

The goals and objectives of the restoration project are as follows:

Goals:

- Improving water quality
- Improving wetland hydrology
- Improving in-stream habitat
- Restore function

Objectives:

- Level II stream enhancement of 2,461 linear feet of Sandy Creek
- Restoration of 3.13 acres of wetlands
- Establish 22.6 acres conservation easement

3.0 SUCCESS CRITERIA 3.1 Wetland Hydrology

Wetland hydrology success for the wetland restoration is met if the soils exhibit saturated within 12-inches of the surface for 12.5% of the growing season during years with normal precipitation. Eight groundwater gauges have been established within the conservation easement during the monitoring period.

3.2 Wetland Vegetation

The vegetation success criteria are based on the progressive growth over the monitoring period. Vegetative success is determined by the survival of target species within the sample plots. The minimum survival rate is 260 stems/acre at end of the five year monitoring period. Included in the required survival criteria are planted seedlings and natural recruitment of the same species. At least six different representative species should be present on the entire site. Five 10x10m vegetation plots, (VP1-5) are established within the wetland restoration site.

3.3 Stream Enhancement

Profile

The profile should continue to show the development of bed form pool features on the downstream side of the constructed log vane structures.

Structures

The structures should not show any breaching. The water should flow over the log vane or the rocks placed at the end of the vane. The structures should not show any erosion along the arms or evidence of water bypassing the structure. The stream banks should show evidence of vegetation stabilization. The banks disturbed by the installation of the log vane should not show any signs of erosion.

Stream Cross Section & Log Vane Photo Reference Points

Photographs should show no change in physical location of channel. Log vanes shall show no evidence of breaching. The photograph for the permanent cross section was taken upstream of the section looking downstream.

4.0 EEP RECOMMENDATIONS AND CONCLUSIONS

The vegetation has met the success criterion of maintaining more than 260 total woody stems per acre as well as the species diversity requirement of at least six species of woody stems. There remain problem areas with invasive exotic species, which compete with native plant species. The stream assessment found the stream to be generally stable, with no significant changes over the course of the monitoring period. The monitored cross-section and in stream structures on Sandy Creek are stable. The stream has met the success criterion of stability being exhibited at the stream cross section and within the vicinity of the log vanes. MY-09 found the majority of the project to be functioning as designed. The wetlands have met

the success criterion of having saturation within 12 inches of the ground surface for more than 12.5% of the growing season. EEP recommends the successful closeout of the assets listed with this report as a part of the Sandy Creek Project.

5.0 CONTINGENCIES

It is recommended that this site be closed out without contingencies.

Appendix A

Project Background Data and Maps

Table 1. Project Setting and Classifications

Sandy Creek Wetland Restoration and Stream											
Enhancement Site											
County	Durham										
General Location	Sandy Creek Park										
Basin	Cape Fear										
Physiographic Region	Central Piedmont										
USGS Hydro Unit	03030002060110										
NCDWQ Sub-basin	03-06-05 (Sandy										
	Creek)										
Wetland Classification	Non-tidal										
	freshwater marsh										
Trout Water	No										
Thermal Regime	Warm										
Project Performers:											
Source Agency	EEP (WRP										
	initially)										
Provider	City of Durham										
Designer	Ward Consulting										
	Engineers										
Monitoring Firm(s)	EcoScience Corp.										
	MY-01-04; The										
	Catena Group MY-										
	05-09										
Supplemental Planting	2010&2011: Bruton										
	Natural Systems,										
	Inc.										
Property Interest Holder	EEP										
Invasive Treatment	N/A										

0	
Milestone	Month/Year
Project Instituted	2002
Permitted	September 2002
Restoration Plan	August 2002
Final Design (90%)	December 2002
Construction	June 2003
Permanent Seed Mix	June 2003
Applied	
Live Stake Planting	N/A
Bare Root Planting	June 2003
As-Built Survey	August 22, 2003
Supplemental Planting	January 2004
Year 1 Monitoring	December 2004
Year 2 Monitoring	December 2005
Year 3 Monitoring	December 2006
Year 4 Monitoring	December 2007
Supplemental Planting	December 2009
Year 5 Monitoring	November 2010
Year 6 Monitoring	December 2011
Year 7 Monitoring	November 2012
Year 8 Monitoring	November 2013
Year 9 Monitoring	November 2014
Supplemental Planting	2004, 2009, 2011

Table 3. Success Criteria

Sandy Cree	Sandy Creek Stream Restoration Site											
Feature	Success Criteria											
Stream	Success is measured with minimal changes to the permanent cross-section, demonstrating system stability. Monitoring is conducted annually for a period of five years or more.											
Vegetation	Average of 260 stems/acre, as indicated by permanent vegetation plots after 5 years of monitoring. At least six species of trees must be present.											
Wetland	Exhibit saturation within 12 inches of the ground surface for more than 12.5% of the growing season, which is 222 days in Durham County (March 23 to November 1).											

Sandy Creek Stream Enhancement and Wetland Restoration Site / EEP Project No. 322									
Project County	Durham								
Drainage Area	7.3 square miles to culvert at Bypass 15-501								
Impervious cover estimate (%)	10 percent								
Stream Order	3 rd order								
Physiographic Region	Piedmont								
Ecoregion (Griffith and Omernik)	Triassic Basin								
Rosgen Classification of As-built	NA (Enhancement only)								
Cowardin Classification	Stream (R3UB2)								
	Wetlands (PFO1)								
Dominant soil types	Stream - Chewacla and Wehadkee soils (Ch)								
	Wetlands - Urban Land (Ur)								
SCO #ID	10542301								
USGS HUC for Project and Reference	03030002060110 / N/A								
NCDWQ Sub-basin for Project and Reference	03-06-05 / N/A								
NCDWQ classification for Project and Reference	C, NSW / N/A								
Any portion of any project segment 303d listed?	No								
Any portion of any project segment upstream of a 303d	No								
listed segment?									
Reasons for 303d listing or stressor	N/A								
Percent of project easement fenced	None								

Table 4. Project Baseline Information and Attributes

Table 5. Project Assets

Stream Reach	Existing Linear Footage/Acreage	Туре	Watershed Area (mi ²)	Mitigation Linear Footage/Acreage	Credit Ratio	Stream and Wetland Mitigation Units
Streams						
Sandy Creek	2,461 lf	EII	7.3	2,461 lf	2.5:1	984.4
Wetlands						
Wetland A	2.23ac	R	-	2.23ac	1:1	2.23
Wetland B	0.55ac	Р	-	0.55ac	5:1	0.11
Wetland C	0.29ac	Р	-	0.29ac	5:1	0.06
Wetland D	5.83ac	Р	-	5.83ac	5:1	1.17
Wetland E	0.06ac	Р	-	0.06ac	5:1	0.01
Mitigation Unit						
Summations						
Stream Restoration						
2461 lf						
984.4 SMUs						
Wetland Mitigation						
Units						
2.23 ac Restoration						
6.73ac Preservation						
3.58 WMUs	1					

Table 6. Project Contacts Table

Sandy Creek Stream Enhancement and W	etland Restoration Site / EEP Project No. 322								
	8368 Six Forks Road, Suite 104								
Designer:	Raleigh, NC 27615-5083								
Ward Consulting Engineers, P.C.	(919) 870-0526								
	email: bward@wce-corp.com								
	Mr. Greg Kiser								
Construction Contractor:	6106 Corporate Park Drive								
Shamrock Environmental, Inc.	Browns Summit, NC 27214								
	(336) 375-1989								
	Mr. Greg Kiser								
Planting Contractor:	6106 Corporate Park Drive								
Shamrock Environmental, Inc.	Browns Summit, NC 27214								
	(336) 375-1989								
	Mr. Greg Kiser								
Seeding Contactor:	6106 Corporate Park Drive								
Shamrock Environmental, Inc.	Browns Summit, NC 27214								
	(336) 375-1989								
Seed Mix Sources	N/A*								
Nursery Stock Suppliers	N/A*								
Monitoring Performers (MV-01-04).	1101 Haynes Street, Ste. 101								
EcoScience Corporation	Raleigh, NC 27604								
	(919) 828-3433								
	8368 Six Forks Road, Suite 104								
Re-Designer:	Raleigh, NC 27615-5083								
Ward Consulting Engineers, P.C.	(919) 870-0526								
	email: bward@wce-corp.com								
De Construction.	1405 Benson Court, Suite C								
Re-Construction:	Arbutus, MD 21227								
Environmental Quanty Resources, LLC	Tel: (443) 304-3310								
Re-Planting:	P.O. Box 1197								
Bruton Natural Systems Inc.	Freemont, NC 27830								
	(919) 242-6555								
Re-Seeding:	P.O. BOX 91208								
Erosion Supply Company	Raleign, NC $2/6/5$								
	(919) /8/-0334								
Monitoring Performers (MV-05-09)	410B Millstone Drive								
The Catena Group	Hillsborough, NC 27278								
	(919)732-1300								











Appendix B

Visual Assessment Data

Post Construction Veg Plot Photos (Baseline MY-05 February 2010)

No Photo Available. Plot 1was not disturbed during construction.

Plot 1.



Plot 2. February 2010



Plot 3. February 2010



Plot 4. February 2010

Vegetation Monitoring Plot Photos

MY-05 Veg Monitoring Plots (August 2010)



Plot 1. August 2010



Plot 2. August 2010



Plot 3. August 2010

MY-09 Veg Monitoring Plots (August 2014)



Plot 1. August 2014



Plot 2. August 2014



Plot 3. August 2014



Plot 4. August 2010



Plot 4. August 2014

MY-09 Photos (March 2014)



Station 0+00. View of 15-501 culvert from the left descending side.



Station 0+00. Upstream facing view from 15-501 culvert.



Station 2+04. Upstream facing view of log vane from the left descending bank.



Station 4+12. Upstream facing view of log vane from left descending bank.



Stion 6+55. Downstream facing view of log vane from descending bank.



Station 8+88. Downstream facing view of log vane from left descending bank.



Station 10+99. Downstream facing view from footbridge.



Station 13+83. Downstream facing view of log vane from left descending bank.



Station 15+39. Downstream facing view of log vane from left descending bank.



Station 17+45. Downstream facing view of log vane from left descending bank.



Station 19+72. Upstream facing view of log vane from left descending bank.



Station 20+91. Upstream facing view of log vane from left descending bank.



Station 22+66. Upstream facing view of log vane from left descending bank.





Station 26+12. Upstream facing view of log vane from left descending bank.

Appendix C

Vegetation Plot Data

Table 7. Vegetation Monitoring Plots

EEP Project Code 322. Project Name: Sandy Creek

		Current Plot Data (MY9 2014)											Annual Means																
			E322	E322-01-0001			22-01-0	002	E3	22-01-0	003	E32	2-01-00	04	M	Y9 (201	.4)	MY8 (2013)			MY7 (2012)			MY6 (2011)			MY5 (2009)		
Scientific Name	Common Name	Species Type	PnoLS P	-all	г	PnoLS	P-all	T	PnoLS	P-all	T	PnoLS	P-all	Т	PnoLS	P-all	T	PnoLS	P-all	T	PnoLS	P-all	T	PnoLS	P-all	T	PnoLS	P-all	T
Acer negundo	boxelder	Tree			1	-	÷		90	1	1						1		2			00	1			1			2
Acer negundo var. negundo	boxelder	Tree	1		- 34	2	;;	-		à	1 1					ŝ (8	8						1			2
Acer rubrum	red maple	Tree	8		- 8	8	(2	š	S							2		8			8							<
Alnus serrulata	hazel alder	Shrub																	-	-			J.,				1	1	1
Amorpha fruticosa	desert false indigo	Shrub	· · · · ·						·											1	L				J				
Baccharis halimifolia	eastern baccharis	Shrub						1			1						2				3		1			1			
Betula nigra	river birch	Tree]	1	1	3				4	4	5	5	5	8	5	5		5 6	6	6	4	4	5	1	1	1
Carpinus caroliniana	American hornbeam	Tree			1		1 1			1						j ()			1								5	5	5
Carpinus caroliniana var. caroliniana	Coastal American Hornbeam	Tree	Ú I		1	1	1	1				1	1	1	2	2	2	2	2	1	2 2	2	2	2	2	2			
Cephalanthus occidentalis	common buttonbush	Shrub	ĩ lĩ		i.				1	1	1	1	1	1	2	2	2	2	2	2	2 2	2	2	1	1	1	2	2	2
Cornus amomum	silky dogwood	Shrub	() ()				í		1	1	1	1	1	1	2	2	2	2	2	7	2 2	2	2	1	1	1	2	2	2
Fraxinus pennsylvanica	green ash	Tree	S		- Y	5	5	21	1 m	2	2			8	5	5	31	5	5		9 5	5	11	5	5	8	4	4	4
Gleditsia triacanthos	honeylocust	Tree	9 P		8		с ;		S	8					1	9			3		1	- C	8			1			1
Liquidambar styraciflua	sweetgum	Tree		- 8	10	ŝ			8	ŝ - 1	1			1 8		ŝ - ŝ	1		ŝ.	0		3			3		- 3		
Liriodendron tulipifera var. tulipifera	Tulip-tree, Yellow Poplar, Whitewood	Tree	8 8		100	3	š – 1	1 2	2	ŝ.	1 3	\$ 		1	3	8			8			3 3		1	1	1			8
Nyssa sylvatica	blackgum	Tree	1 I.		- 6	1	ķ	(S				5										10					3	3	3
Pinus taeda	loblolly pine	Tree	a			-				2	2						2		4	1	i i		2			2 1			
Platanus occidentalis	American sycamore	Tree																									6	6	6
Platanus occidentalis var. occidentalis	Sycamore, Plane-tree	Tree													0		[]							1	1	1			
Quercus	oak	Tree]			0										0								7	7	8
Quercus lyrata	overcup oak	Tree			1	1			0					. I					í		1	1	1	1	1	1			
Quercus michauxii	swamp chestnut oak	Tree			1	1	1	1		<u> </u>		1	1	1	2	2	2	2	2	1	2 2	2	2	2	2	2			
Quercus phellos	willow oak	Tree				1	(7	7	7			1	7	7	8	7	7	1	7 6	6	6	7	7	7			1
Robinia pseudoacacia	black locust	Tree			1		· · · · ·		2			о.		C 61			(-					1						2
Rosa palustris	swamp rose	Shrub	×		20		S - 1		С.	۰ 		· •			1	2 2	1		· S			to —		i î			1	1	1
Salix nigra	black willow	Tree	4	4	4			9	с.		25	2	2	3	6	6	41	6	6	30	5	5	35	5	5	32	7	7	7
Ulmus	elm	Tree	8 8		12	2	1		3	6	1 3				1	2	2		8			3				2			4
Ulmus rubra	slippery elm	Tree	4 18		4				2	8		2					4		8		3	1	5			4			8 3
		Stem count	4	4	9	8	8	38	9	9	40	10	10	21	31	31	108	31	31	67	7 31	31	75	30	30	68	39	39	48
		size (ares)	š.	1	5	2	1	i i i	3	1	i i i	ŝ	1		3	4			4			4			4			4	1
		size (ACRES)		0.02	5	1	0.02	oz 1.		0.02	w }		0.02		0.10		9. k					0.10	529 - I		0.10	80		0.10	2.0
		Species count	1	1	3	4	4	7	3	3	8	6	6	8	8	8	14	8	8	12	2 9	9	13	11	11	15	11	11	14
		Stems per ACRE	161.9 1	161.9	364.2	323.7	323.7	1538	364.2	364.2	1619	404.7	404.7	849.8	313.6	313.6	1093	313.6	313.6	677.8	313.6	313.6	758.8	303.5	303.5	688	394.6	394.6	485.6

Appendix D

Stream Geomorphology

Project:		Sandy Cree	k/Project N	Vo. 322			Su	mmary (bank	full)	A	in most											
Cross Sec	tion:	Cross Sect	on 1			MYO	MY1	MY3	MY5	MY7	MYB											
Feature		Riffle			A (BKF)	109.6	114.7	119.7	110.5	107.9	112.6											
Station:		18+25			W (BKF)	31.4	31.4	31.2	31.3	30.7	30.3											
Date:		7/28/12			Max d	4.1	4.6	5.3	4.2	4.2	4.4											
Crew:		ZP, SV			Mean d	3.5	3.7	3.8	3.5	3.5	3.3											
C		1020808001867			W/D	9.0	8.6	8.1	8.9	8.7	8.2	-			_							
E Destates:	MY00-2003	3	heroson.	MY01-200	5	Norward	MY03-200	16	Webstern	MY05-201	0	1035032155	MY07-2012	and a second	VIENDORS	WY08-201	3	08323575	12623	MY09-201	4	
Station	Elevation	Notes	Station	Elevation	Notes	Station	Elevation	Notes	Station	Elevation	Notes	Station	Elevation	Notes	Station	Elevation	Notes	Station	ROD	diff	Elevation	Notes
1.00	264.33		1.00	264.50		1.00	264.55	LPIN	1.00	264.55	LEFT PIN	1.00	265.09	LPIN	1	265.02	LPIN	1.00	4.24	121212	265.02	Lpin
5.70	264.44		3.00	264.57		2.00	264.60		5.00	264.80		1.00	264.60		1	264.72		1.00	4.57	0.33	264.69	ground
8.00	264.20	an ann an	5.00	264.66		4.00	264.69		8.00	264.55	TOBL	6.00	264.87		4.15	264.80		4.00	4.34	0.10	264.92	
9.50	263.64	3L Bankfull	7.00	264.60	TOBL	6.00	264.78	(12231227)	9.00	263.86	Bankfull Lef	8.00	264.69	TOBL	5.65	264.83	6088371	6.00	4.37	0.13	264.89	No. 1887 3
9.90	262.79		8.00	264.29		8.00	264.47	TOBL	10.00	262.72	5	9.00	263.83		8	264.72	TOBL	7.00	4.38	0.14	264.88	top of bank
10.30	262.40		9.00	263.82	Bankfull Lef	8.70	264.24	at season a	11.50	261.58	10000000	10.70	262.21		8.8	264.28		8.00	5.09	0.85	264.17	
11.20	261.72		10.00	262.78		9.50	263.84	Bankfull Lef	12.60	260.06	TOEL	12.00	260.95		9.2	263.67		10.00	7.10	2.86	262.16	
12.00	261.12	010320525	11.00	261.96		10.00	263.11		17.60	259.84	2	12.50	260.05	TOE L	9.8	263.17		11.00	8.35	4.11	260.91	2012/12/13
12.20	260.07	Toe L	11.80	261.04		11.30	262.01		19.00	259.71		14.00	259.80		10,4	262.43		11.60	9.42	5.18	259.84	TOEL
13.00	259.97		12.00	259.54	Toe L	11.70	261.48		22.00	259.85	2	16.00	259.72		11.2	261.88		13.00	9.59	5.35	259.67	
14.00	259.99		15.00	259.49		12.40	260.37		23.00	259.75	Concernant and	19.00	259.86		11.8	260.90		15.00	9.64	5.40	259.62	
15.00	259.87		17.00	259.79		14.00	260.32		26.60	259.64	'(WS = 259	22.00	259.83		12.4	259.70	TOE L	17.00	9.69	5.45	259.57	
16.00	259.83		21.00	259.82		18.00	260.49		31.00	259.93	(20	28.00	259.43	TW	14.3	259.79		19.00	9.90	5,66	259.36	
17.00	259.86		25.00	259.88		19.50	260.11		35.00	260.02	2	29.00	259.61		16.3	259.48		22.00	9.77	5.53	259.49	
18.00	259.83		31.00	259.77		23.00	260.00		37.20	259.75	TOE R	32.00	259.68		19.4	259.45		24.00	9.74	5.50	259.52	
19.00	259.82		33.70	259.71		27.00	259.42		38.40	262.10		35.00	259.65		20.9	259.39		26.60	9.94	5.70	259.32	LEW
22.00	259.60		35.00	259.51		32.00	258.52	TW	39.25	262.85	Bankfull righ	37.80	259.55	TOE R	22	259.30	1 (WS= 259	28.00	10.08	5.84	259.18	
23.00	259.72		35.70	259.37		36.00	258.66		40.40	263.97		38.50	262.13		24.5	259.27	Area	30.00	10.05	5.81	259.21	
35.50	259.51	VS = elev 2	37.00	259.27	TW	38.20	258.76	Toe R	41.30	264.41	TOBR	39.50	263.38	14/14/03/07	26.7	259.51		33.00	10.09	5.85	259.17	
36.40	259.70	120.0	37.90	259.70	Toe R	39.00	262.32	10000	44.00	264.52	Sector section in	41.00	264.47	TOBR	28.4	259.61		35.00	10.11	5.87	259.15	
37.40	259.81	Toe R	38.70	262.01		41.00	264.13	TOBR	48.00	264.16	RIGHT PIN	43.00	264.53		32	259.51		37.00	10.30	6.06	258.96	
38.40	260.96		39.60	263.09		43.00	264.47					45.00	264.44		33.9	259.38		37.20	9.20	4.96	260.06	12055337
39.10	262.08		40.00	263.66		46.00	264.36					48.00	264.16	-	35.9	259.41		37.60	9.87	5.63	259.39	REW
39.70	262.64	12220220	41.00	264 11	1002248101	48.00	264,19	RPIN				48.00	264.57	RPIN	37.7	259.46	TOE R	38.00	6.17	1.93	263.09	
41.60	264.18	TOBR	42.00	264.35	TOBR							0.0000000			37.8	261.22		39.00	5.37	1.13	263.89	
43.00	264.30		45.00	264.35											38.6	262.79		41.00	4.78	0.54	264.48	
45.00	264.31		48.00	264.18											39	263.18		43.00	4.80	0.56	264.46	
48.00	264.13				I										40	264.00	1000000000	45.00	5.00	0.76	264.26	
					I										41.4	264.46	TOBR	48.00	5.15	0.91	264.11	ground
					I										43	264.44		48.00	4.85	0.61	264.41	RPIN
					I										45	264.35						
															46.5	264.20						
															48.00	264.08	1070201					
ŝ.			<u>.</u>			8						5			48.00	264.50	RPIN					



Cross Section 1



Appendix E

Hydrological Data

Sandy Creek Gauge A



Growing Season: March 24 to November 1 (222 days) (http://www.wcc.nrcs.usda.gov/ftpref/support/climate/wetlands/nc/37063.txt)

Rain Data: Station DURH (http://www.nc-climate.ncsu.edu/services/request.php)



Rain Data: Station DURH (http://www.nc-climate.ncsu.edu/services/request.php)



Level (in)

Rain Data: Station DURH (http://www.nc-climate.ncsu.edu/services/request.php)


Level (in)

Growing Season: March 24 to November 1 (222 days) (http://www.wcc.nrcs.usda.gov/ftpref/support/climate/wetlands/nc/37063.txt)

Rain Data: Station DURH (http://www.nc-climate.ncsu.edu/services/request.php)

		2010			2011			2012			2013			2014	
Gauge #	Max # Consecutive Days	%Growing Season	actual days monitored												
Reference Gauge	6	3%	139	29	13%	222	16	7%	222	33	15%	222	43	19%	222
A	31	14%	129	62	28%	222	58	26%	203	125	56%	222	71	32%	222
В	21	9%		36	16%	222	33	15%	167	96	43%	204	43	19%	196
С	7	3%	140	38	17%	222	20	9%	222	124	56%	222	51	23%	222
D	~	~	~	~	~	~	~	~	~	22	10%	161	43	19%	146
Ε	~	~	~	~	~	~	~	~	~	25	11%	161	48	22%	222
F	~	~	~	~	~	~	~	~	~	15	7%	161	32	14%	222
G	~	~	~	~	~	~	~	~	~	9	4%	161	30	14%	222

Appendix F

2014 Wetland Delineations

SOIL EVALUATION FORM

The Catena Group, Inc 410-B Millstone Drive Hillsborough, NC 27278 919.732.1300 Catena Job: Sandy Creek County: Durham Date: 10-22-14 Sheet: 1 of 1

Profile #	Horizon	Horizon Depth (In)	Structure / Texture	Consistence / Mineralogy	Matrix Color	Mottle Colors (Quantity, Size, Contrast, Color)
6	A1	Z	IMGR/L	FR / SS. SP	104R 4/5	ICD 101R 5/6 Common
24	AZ	5	IMGRICL	FRISSISF	10-18414	2, C. A /OYR S/10! Common O.R IFD
E	1		-1-	1	1.	11/18 4/3 -
0	Bw	12	IMSBK/ C	F1 / SS. SP	104R 5/4	Z, C, D 104R5/8; 2.C, D 104R 4/3
~	С	19	om ISC	FI 1 S.P	2.54%	3, M, P 104R 5/8; 2, 6, F2.54 F/3
				6		
	-				1	
					1	

Evaluated by: JC/R

the EFA	ek WB	City/County: Puchsian / Duckovit Sampling Date: 10-22
Applicant/Owner: NCCEPS	NI 1.	State// Sampling Point L//
nvestigator(s): SACATS	J. Roberts	Section, Township, Range:
andform (hillslope, terrace, etc.):	CAMPERAY LO	cal relief (concave, convex, none): Gui LaLe Slope (%):
Subregion (LRR or MLRA):	-P_ Lat 35. 9	710 Long: - 78 01 80 Datum: 1/A/
Soil Map Unit Name:Mayo d	por m	NWI classification
Are climatic / hydrologic conditions on r	the site typical for this time of w	Ar? Yes // No (If on evolution in Remarks)
Are Vegetation / Soil /	Hadenicon N significantia	
Are Vegetation A Call A	Hydrology significantly	disturbed? Are Normal Circumstances present? Yes V
tre vegetation, soli, or	Hydrology naturally pro	oliematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - A	ttach site map showing	sampling point locations, transects, important features
Mutrophylic Venetation Deservet?	V /	
Hydric Soil Present?	Ver V Mo	Is the Sampled Area
Witland Hydrology Present?	Ver V No	within a Wetland? Yes No
Demarka:	Tes 140	
IYDROLOGY		
Wetland Hydrology Indicators:		Secondary indicators (minimum of two requ
Primary Indicators (minimum of one is	required; check all that apply)	Surface Soil Cracks (86)
Surface Water (A1)	True Aquatic Pi	ants (B14) Vegetated Concave Surface I
 High Water Table (A2) 		te Odor (C1) Drainage Patterns (B10)
Saturation (A3)	V Oxidized Rhizor	spheres on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (81)	Presence of Re	duced Iron (C4) Dry-Season Water Table (C2)
Dott Deposits (83)	Neders iron Head	Duction in Held Solis (US) Crayfish Burrows (C8)
Algal Mat or Crust (B4)	Other (Explain)	in Remarks) Studied or Stressed Plants (D1)
Iron Deposits (B5)		Geomorphic Position (D2)
Inundation Visible on Aerial Image	ery (87)	Shallow Aguitard (D3)
Water-Stained Leaves (B9)	a Delwiji	Microtopographic Relief (D4)
Aquatic Fauna (B13)		FAC-Neutral Test (D6)
Field Observations:		and the second
	No Depth (inches)	r .
Surface Water Present? Yes _		
Surface Water Present? Yes Water Table Present? Yes	No Depth (inches)	
Surface Water Present? Yes _ Water Table Present? Yes _ Saturation Present? Yes _	No C Depth (inches)	Wetland Hydrology Present? Yes / No
Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes includes capillary tringe) Yes Describe Recorded Data (stream gauge) Yes	No Depth (inches)	Wetland Hydrology Present? Yes V No s. previous inspectors). If available:

WET

10-7	Absolute	Dominant	Indicator	Dominance Test worksheet:
U. cubra	<u>% Cover</u> 2 ⊊	Species?	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
C styrocitica	35	7	EAL FAI	Total Number of Dominant
1	10	N	FAL	506065 Actoss Alt do ata (b)
A NGUERO				Percent of Dominant Species That Are OBL, FACW, or FAC: (A/
R	_			Beer all some fir den some das bestel
N	_			Prevalence index worksneet:
	_			Total % Cover of: Multiply by.
10 -	100	= Total Co	ver	OBL species X 1 =
Saping/Shrub Stratum (Plot size: 19 5)	2-		CNU	FACW species x 2 =
F. penny lunga	30	<u> </u>	FALW	FAC species x 3 #
1. devive	10	-Y	FACU	FACU species x 4 =
			-	UPL species x 5 =
				Column Totais: (A) (B
	-	<u></u>		Prevalence Index = B/A =
k				Hydrophytic Vegetation Indicators:
I				1. Resid Test for Hudronbytic Vecetation
	_			Demission Test is 550%
).				2 - Dominance reacts >00%
10.				3 - Prevalence Index is 53.0
	40	= Total Cor	ver	- 4 - Morphological Adaptations' (Provide supports
Herb Stratum (Plot size:)	100110	1.00		data in Remarks or on a separate sheet)
1. S. Gernilus	35	<u>y</u>	OBL	Problematic Hydrophytic Vegetation' (Explain)
2. Smartweed	40	Y		a here to serve a constraint of the server and the
3. B. C. Indice	10	N	FAGA	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4	_	-		Definitions of Four Vegetation Strata:
5	-			
8	-	-		Tree - Woody plants, excluding vines, 3 in. (7.6 cm)
7				height.
8	_			
a		-		Sapling/Shrub - Woody plants, excluding vines, less than 3 in DBH and orgater than or equal to 3 28 ft (1
10	_			m) tall.
11				
12				of size, and woody plants less than 3.28 ft tall.
Cart Star Start on (Blat also)	85	= Total Cor	ver	Woody vine - All woody vines greater than 3.28 ft in
Abra-J				height.
770307				
(
3			• ••••••	
4				Hydrophytic
5	_			Vegetation
6.		-		Present? Yes No
		= Total Co	Ver	

WET

Point Inchesity Matrix Record (model) Statistical content of the status Type 1 Loc ² Testure Remain 2 Loy R, 3/3 65 Loy R, 4/6 15 C PL L </th <th>Loc² Texture Remarks PL L PL,M L M <t< th=""></t<></th>	Loc ² Texture Remarks PL L PL,M L M <t< th=""></t<>
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	PL L PL/M L M L
4 JayR 4/3 75 JayR 4/6 75 DLAYR 4/6 DLAYR 4/6 DLAYR 4/6 DLAYR 4/6 DLAYR 4/6 TLAYR 4/6 DLAYR 4/6 TLAYR 4/6 DLAYR 4/6 DLAYR 4/6 DLAYR 4/6 DLAYR 4/6 TLAYR 4/6 DLAYR 4/6 DLAYR 4/6 DLAYR 4/6 DLAYR 4/6 DLAYR 4/6 TLAYR 4/6 DLAYR 4/6 DLAYR 4/6 DLAYR 4/6 <td>PL, M L M L M L M L M L M L M L M L</td>	PL, M L M L M L M L M L M L M L M L
7 JOYR 7/2 GOT X MY/L 35 C m L 12 JOYR 5/2 GOT X MY/L 35 C m L 12.1 JOYR 5/3 GOT X MY/L 35 C m L 12.1 JOYR 5/3 GOT X MY/L 35 C m L 12.1 JOYR 5/3 GOT X MY/L 35 C m L 12.1 JOYR 5/3 GOT X MY/L GOT X MY/L GOT X MY/L L L 12.1 JOYR 5/3 GOT X MY/L GOT X MY/L GOT X MY/L L L 12.1 JOYR 5/3 GOT X MY/L GOT X MY/L GOT X MY/L L L 12.1 JOYR 5/3 GOT X MY/L GOT X MY/L GOT X MY/L L L L 12.1 JOYR 6/4 JOYR 6/4 JOYR 6/4 JOYR 6/4 JOYR 6/4 L L L L L L L L L L L L L MARK 147, 148 L MARK 147, 148 L L L MIRK 147, 148 <	m L m C m C s. ¹ Location: PL=Pere Lining, M=Matrix. Indicators for Problematic Hydric Solls ¹
1 /0 YK 3/z G-7 T. S YK 4/z 35 C M M 12.1 /0 YK 5/3 60 7.5 YK 4/z 40 C M C 12.1 /0 YK 5/3 60 7.5 YK 4/z 40 C M C 12.1 /0 YK 5/3 60 7.5 YK 4/z 40 C M C 12.1 /0 YK 5/3 60 7.5 YK 4/z 40 C M C 12.1 /0 YK 5/3 60 7.5 YK 4/z 40 C M C 12.1 /0 YK 5/3 60 7.5 YK 4/z 40 C M C 12.1 /0 YK 5/3 60 7.5 YK 4/z 40 C M C Coaston: PL=Pere Lining, M=Matrix yris 301 /0 YK 5/3 0 Dark Surface (S7) Indicators for Problematic 2 cm Muck (A10) (MLRA 147, 148) Coest Praise Redox (A Histoc Epipedion (A2) /1 Dark Surface (S3) (MLRA 147, 148) Coest Praise Redox (A (MLRA 147, 148) Coest Praise Redox (A Stratified Layers (A5) Depieted Dark Surface (F5) /1 Depieted Da	ns. ² Location: PL=Pere Lining, M=Matrix. Indicators for Problematic Hydric Solls ²
12.1 1048,5/3 60 7.578.9% 90 C M C ype: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. *Location: PL=Pere Lining, M=Matrix ype: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. *Location: PL=Pere Lining, M=Matrix ype: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. *Location: PL=Pere Lining, M=Matrix ype: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. *Location: PL=Pere Lining, M=Matrix ype: D=Depletion Surface (S7)	rs. ¹ Location: PL=Pere Lining, M=Matrix. Indicators for Problematic Hydric Solls ¹
ype: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. *Location: PL=Pere Living, M=Matrix ype: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. *Location: PL=Pere Living, M=Matrix ydric Soil Indicators: Indicators for Problematic 2 cm Muck (A10) (MLRA 147, 148)	ns. ² Location: PL=Pere Lining, M=Matrix. Indicators for Problematic Hydric Solls ¹
ype: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains *Location: PL=Pere Lining, M=Matrix yrdric Soil Indicators for Problematic Histoc Spipedon (A2) Dark Surface (S5)	rs. ² Location: PL=Pere Lining, M=Matrix. Indicators for Problematic Hydric Solls ¹
ype: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. *Location: PL=Pere Living, M=Matrix MS=Masked Sand Grains. Histosi (A1)	ns. ² Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Solls ¹
ype: C=Concentration, D=Depletion, RM=Reduced Mistrix, MS=Masked Sand Grains. *Location: PL=Pere Lining, M=Matrix ype: C=Concentration, D=Depletion, RM=Reduced Mistrix, MS=Masked Sand Grains. *Location: PL=Pere Lining, M=Matrix ype: C=Concentration, D=Depletion, RM=Reduced Mistrix, MS=Masked Sand Grains. *Location: PL=Pere Lining, M=Matrix ype: Dark Surface (S7) 2 cm Muck (A10) (MLR Histoc Epipedon (A2) Polyvalue Below Surface (S8) (MLRA 147, 148) Coest Praine Redox (A12) Biack Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148) Matrix (F2) Hydrogen Suffide Layers (A5) Depleted Matrix (F2) Padmont Floodplain Sc Stratified Layers (A5) Depleted Matrix (F3) With RA 136, 147) 2 cm Muck (A10) (LRR N) Redox Dark Surface (F6) Very Shallow Dark Surface (A12) Statified Below Dark Surface (A12) Yeadox Depressions (F8) Other (Explain in Remain Remains (S1) (LRR N, MLRA 136) Sandy Muoky Minerai (S1) (LRR N, MLRA 136) Unbric Surface (F12) (MLRA 136, 122) *Indicators of hydrophytic wattach drydrology must unless disturbed or prabinal solis (F13) (MLRA 147, 148) *edex Dark Surface (F2) (MLRA 146) Sandy Gleyed Matrix (S6) Unbric Surface (F12) (MLRA 136, 122) *indicators of hydrophytic wattach hydrology must unless disturbed or prabinaten (F21) (MLRA 147, 147) <td>ns. ²Location: PL=Pere Lining, M=Matrix. Indicators for Problematic Hydric Solls¹</td>	ns. ² Location: PL=Pere Lining, M=Matrix. Indicators for Problematic Hydric Solls ¹
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. *Location: PL=Pere Living, M=Matrix ydric Soil Indicators for Problematic Histosol (A1)	ns. ² Location: PL=Pere Lining, M=Matrix. Indicators for Problematic Hydric Solis ¹ :
Spe: C=Concentration, D=Depletion, RM=Reduced Mistrix, MS=Masked Sand Grams. Cooston: PC-Percentration, D=Depletion, RM=Reduced Mistrix, MS=Masked Sand Grams. Indicators for Problematic Histosol (A1)	Indicators for Problematic Hydric Solls*
Histosol (A1)	
	(MLRA 147, 148) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) (MLRA 136, 147) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) RR N. (122) Indicators of hydrophytic vegetation and wetland hydrology must be present. (127, 147) Hydric Soil Present? Yes No

US Army Corps of Engineers

WETLAND DETERMINATION DA	TA FORM - Eastern Mo	ountains and Piedmont Region
Projectione:	City/County:A	Sampling Date: / 0 2 2 / /
Applicant/Owner: NCEEP		State: Sampling Point: 40 - 3"
Investigator(s): C. Shewfs , J. Roberts	Section, Township, Ra	ange:
Landform (hillslope, terrace, etc.): Transetway	Local relief (concave, con	TVEX FORE STORA (SA) Z
Subranian (I BR or MI RAY LAR-P 1+ 33	9710	-78 9690 NAD 83
Subregion (Cort of Microl) (2) (2)	U COP	ng: Datum; ////
Soil Map Unit Name:		NWI classification:
Are climatic / hydrologic conditions on the site typical for this tin	ne of year? Yes No _	(If no, explain in Remarks.)
Are Vegetation N, Soll N, or Hydrology N sign	ficantly disturbed? Are	"Normal Circumstances" present? Yes V
Are Venetation N Soil N or Hudminory N non	rally exchanged at 2 (1) as	anded evolution and account in December 1
	any propendoc: (and	econa, explain any answers in reemands.)
SUMMARY OF FINDINGS – Attach site map sh	owing sampling point I	locations, transects, important features, etc
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No Remarks:	is the Sampled within a Wetla	d Area nd? Yes <u>No</u> V
HYDROLOGY		
Wetland Hydrology Indicators:	-170%(20)	Secondary Indicators (minimum of two required)
Primary indicators (minimum of one is required; check all that	apply)	Surface Soil Cracks (B6)
Surface Water (A1) True Aq	uatic Plants (B14)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Hydrogr	in Sulfide Odor (C1)	Drainage Patterns (B10)
Saturation (A3) Oxidize	d Rhizospheres on Living Root	ts (C3) Moss Trim Lines (B16)
Water Marks (B1) Preserve	se of Reduced Iron (C4)	Dry-Season Water Table (C2)
Sediment Deposits (B2) Recent	Iron Reduction in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Mu	ick Surface (C7)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (t	Explain in Remarks)	Stunted or Stressed Plants (D1)
Iron Deposits (85)		Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (87)		Shallow Aquitard (D3)
Water-Stained Leaves (B9)		Microtopographic Relief (D4)
Aquatic Fauna (B13)		FAC-Neutral Test (D6)
Field Observations:	ordens.	
Surface Water Present? Yes No Depth	(inches):	
Water Table Present? Yes No Depth	(inches):	
Saturation Present? Yes No Depth	(inches): We	etland Hydrology Present? Yes No V
(includes capitlary tringe) Describe Recorded Onto Istream naune monitoring well, aeti	al shotos: mexicus inspections	i) if susilable
Remarks:		

Up

vorksheet:
nt Species 7
AN, 01 PAG (A)
ominant 9
Strata: (B)
of Species
W, or FAC: (A/E
worksneet:
at: Multiply by:
×1=
x 2 =
x 3 =
x 4 =
x 5 =
(A) (P
(0)(0
idex = B/A =
dation indicators:
fas i balancha fin Manatalian
for Hydrophytic Vegetation
Test is >50%
Index is ≤3.0*
cal Adaptations' (Provide supporting
narks or on a separate sheet)
ydrophytic Vegetation [®] (Explain)
taum unabalant baallow has line a
disturbed or problematic.
v Vacantation Strata
r vegetation acrata.
rts, excluding vines, 3 in. (7.6 cm)
t breast height (DBH), regardless o
Voody plants, excluding vines, less
greater than or equal to 3.28 ft (1
ous (non-woody) plants, recardles
plants less than 3.28 ft tall.
The second s
woody vines greater than 3.28 ft in
1 1/ 1 1
Yes No
Ye

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OP

Othe Desc	ription: (Describe b	o the dept	h needed to docur	nent the i	ndicator (or confirm	the absence	of indicators.)	
lepth	Matrix		Redo	x Festures	2.2	1.23	120000	Provide Contraction	
nches)	Color (moist)	_%	Color (moist)	_%_	Type'	Loc.	Taxture		-
6	1018 514	100							_
16	107R5/6	70	IOYR The	20			664	-	_
11.16			104R5/8	10					_
				01125.25		2 - 3	3		_
_				-	-	-			
					-				
_									
									-
									-
								Contraction Contraction	-
vpe: C=C	oncentration, D=Depl	letion, RM	Reduced Matrix, M	S=Masker	Sand Gr	ains.	² Location: P	L=Pore Lining, M=Matrix.	aller ³
ydric Soil	Indicators:		8307878900				Indic	ators for Problematic Hydric at	Denie 1
_ Histoso	1 (A1)		Dark Surfeo	e (S7)				2 cm Muck (A10) (MLRA 147)	
Histic E	pipedon (A2)		Polyvalue B	elow Surfa	Ce (58) (7	AT 1481	148)	(MLRA 147, 148)	
_ Black H	listic (A3)		Thin Uark S	ed Matrix	(F2)		_	Piedmont Floodplain Sols (F19)	
Hydrog	en Sumde (A4)		Depleted Ma	atrix (F3)				(MLRA 136, 147)	
2 cm M	uck (A10) (LRR N)		Redox Dark	Surface (F6)			Very Shallow Dark Surface (TF12)
Deplete	d Below Dark Surfac	e (A11)	Depleted Do	rk Surfaci	(F7)			Other (Explain in Remarks)	
Thick D	ark Surface (A12)	1.1	Redox Dept	rescions (P	(5)	I PR N			
Sandy	Mucky Mineral (S1) (I	LRR N.	MLRA 1	36)	as (r is)	(entre rec			
English	(A 147, 146) Gleved Matrix (S4)		Umbric Surf	ace (F13)	(MLRA 1	36, 122)	2	dicators of hydrophytic vegetation	and
Sandy	Redox (S5)		Piedmont F	loodplain 3	Solis (F19	(MLRA 1	48) v	retand hydrology must be preserv	٩.
Strippe	d Matrix (S6)		Red Parent	Material (P21) (ML)	EA 127, 14	7) U	niess disturbed or problemetic.	
Restrictive	Layer (if observed)	1							
							Hudde Se	il Present? Yes No	1
Type:									
Type: Depth (i Remarks:	nches):						1.4		
Type: Depth (x Remarks:	nches):								
Type: Depth (i Remarks:	nches):								
Type: Depth (i Remarks:	ncheš):						0		
Type: Oepth (A	ncheš):						0		
Type: Oepth (i Remarks:	ncheš):								
Type: Depth (i Remarks:	ncheš):								
Type: Depth (i Remarks:	ncheš):								
Type: Depth (i Remarks:	ncheš):								
Type: Depth (i Remarks:	ncheš):								
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Type: Depth (i Remarks:	ncheš):								
Type: Depth (i Remarks:	ncheš):								
Type Depth (i Bemarks:	ncheš):								

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Project/Site:	1. Greek			III INCOMINAL	
Applicant/Owner: NCC nvestigator(s): C 5 andform (hillslope, terrabe, et Subregion (LRR or MLRA): _	the second se	NIC	City/County:	Durhow	Muchina Sampling Date: 10-22.
andform (hillslope, terrace, el Subregion (LRR or MLRA):	FP				State A/C Samelian Daint 14/C-7
andform (hillslope, terrace, e ubregion (LRR or MLRA):	bull 1)	Plants	Carlina Taural	Denne.	_ claimer claimer claimer claimer
andtorm (hillslope, terrace, el ubregion (LRR or MLRA):	Ci la	1	Secont, Fowns	пр, напge.	
ubregion (LRR or MLRA):	100 -D	EW	Local relief (concav	re, convex, no	nel: Cont. Ave. Stope (%):
	6 h h - p	_ Let:	3.474	Long:	10,7490 Datum: N=00
oil Map Unit Name:	///eyo	dan			NWI classification:
re climatic / hydrologic condi	tions on the site ty	pical for this time o	of year? Yes <u></u>	No	(If no, explain in Remarks.)
re Vegetation Soil	M or Hydrolog	y significa	ntly disturbed?	Are 'Norma	I Circumstances" present? Yes No
re VegetationSoil	N or Hydrolog	y	problematic?	(If needed,	explain any answers in Remarks.)
SUMMARY OF FINDIN	GS - Attach s	ite map show	ing sampling p	oint locatio	ons, transects, important features, etc
Hydrophytic Vegetation Pres	ient? Yes_	No No	is the Sa	mpled Area	1
Hydric Soil Present?	Yes	No No	within a	Wetland?	Yes No
Wetland Hydrology Present?	Yes_	ND ND			
IYDROLOGY					
Wetland Hydrology Indicat	tors:				Secondary Indicators (minimum of two required)
Primary Indicators (minimum	of one is required	check all that app	(vic	-	Surface Soil Cracks (86)
Surface Water (A1)		True Aquat	ic Plants (814)		Sparsely Vegetated Concave Surface (88)
High Water Table (A2)		Hydrogen S	Sutfide Odor (C1)		Drainage Patterns (B10)
Saturation (A3)		Oxidized R	hizospheres on Livin	g Roots (C3)	Woss Trim Lines (B16)
Water Marks (B1)		Presence of	f Reduced Iron (C4)		Dry-Season Water Table (C2)
Sediment Deposits (B2)	f	Recent iron	Reduction in Tilled	Soils (C6)	Crayfish Burrows (C8)
Drift Deposits (B3)		Thin Muck I	Surface (C7)		 Saturation Visible on Aerial Imagery (C9) Standard Standard Plants (C1)
Algal Mat or Crust (84)		- Other (Expl	ein in Remarks)		Comparation Resilien (D2)
Iron Deposits (85)	erial Imaneni (R7)				Shallow Aguitard (D3)
Water-Stained Leaves (R9)				Microtopographic Relief (D4)
Aquatic Fauna (B13)					FAC-Neutral Test (D5)
Field Observations:				1	
Surface Water Present?	Yes No	Depth (ind	hes):		
Water Table Present?	Yes V No	Depth (inc	thes): (o	more	
Saturation Present?	Yes No	Depth (inc	thes): Z	Wetland	Hydrology Present? Yes // No
(includes capitary fringe) Describe Recorded Data (st	ream gauge, monit	oring well, aerial p	hatas, previous insp	ections), if av	alable:
Remarks:					
Constitute Hart					

/EGETATION (Four Strata) – Use scienti	fic names of	plants.		Sampling F	Point: WC-	+
Tree Stratum (Plot size: _/0 m 7)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species	(***	
1. Acro rubium	Z0	Y	FAC	That Are OBL; FACW, or FAC		(A)
2. La stylacif lin	05	-4-	FAC	Total Number of Dominant	2	
3				Species Across All Strata:	5	(8)
4				Percent of Dominant Species	100	
6				That Are OBL, FACW, or FAC	100	(A/B)
6				Describeren la des marka hard		- 1.4.52
7			-	Total M. Count of	-	
8		-		OPI seedlar		
	-40	= Total Cov	er.	EACW species	× 2 =	
Sapling/Shrub Stratum (Plot size:	2			FAC species	×3=	
1				EACIL secolos	× 5 =	
2				LIBL species	×4-	
3			_	Column Totale:	/43	(0)
4		<u> </u>		Golumni rutais.		_ (0)
5				Prevalence Index = B/A	=	
6			-	Hydrophytic Vegetation Indi	cators:	
7				1 - Rapid Test for Hydrop	hytic Vegetation	
8		-	-	2 - Dominance Test is >5	2%	
9				3 - Prevalence Index is \$3	1.0 ⁴	
10				4 - Morphological Adaptat	ions ¹ (Provide su	porting
Herb Stratum (Plot size:		= Total Cov	er.	data in Remarks or on	a separate shee	t)
1				Problematic Hydrophytic	/egetation ¹ (Expl	lain)
2				C. Aventino (C. C. Aventino)		
-		1		¹ Indicators of hydric soil and w	etland hydrology	/ must
4				be present, unless disturbed of	r problematic.	
5				Definitions of Four Vegetation	on Strata:	
6		-		Tree - Woody plants, excludin	o vines 3 in (7)	5 cm) or
7				more in diameter at breast hei	ght (DBH), regar	dless of
8	197			height.		
9				Sapling/Shrub - Woody plant	s, excluding vine	es, less
10				than 3 in. DBH and greater that	in or equal to 3.2	28 # (1
11	8 2	1. 19	-	nij tai.		
12				Herb - All herbaceous (non-w	oody) plants, reg	pardless
TA		= Total Cou		of size, and woody plants less	than 3.28 ft tall.	
Woody Vine Stratum (Plot size:)				Woody vine - All woody vines	greater than 3.3	28 ft in
1				height.		
2						
3						
4				10000000000000000000000000000000000000		
5.		1		Hydrophytic	/	
6				Present? Yes	No	
		= Total Cov	er	C	Second A	
Remarks: (include photo numbers here or on a sepa	rate sheet.)	= Total Cov	2r			
		tour	5337	1 alex		
Unvegetated depression,	, canapy	Tres	arous	a rege		

	cription: (Describe)	to the dept	needed to docur	ment the indic	ator or co	nfirm the abser	nce of indicators.)
Depth (inches)	Color (moist)		Color (mpist)	% Features	oe' Lo	c ² Texture	Remarks
10	10×18 34	80	1048 61.	20	0 1	N L	
20	10-24/	100					83.
	1970.07						
		<u> </u>					
			-				
_							
		ation Distant	Textured Matrix AP	California Can	d Graine	² I reation	PL +Pore Lining MeMatrix
Type: C=C type: C=C	Indicators:	READ READ	-leauceo maina, an	2. Wildhight Oiki	U ULARIA.	In	dicators for Problematic Hydric Solis ³
Historo	(/4.1)		Dark Surface	(57)			2 cm Muck (A10) (MLRA 147)
Histic E	pipedon (A2)		Polyvalue Be	How Surface (S	(MLRA	147, 148)	Coast Prairie Redox (A16)
Black H	listic (A3)		_ Thin Dark Su	urface (S9) (ML	RA 147, 1	48)	(MLRA 147, 148)
_ Hydroge	en Sutfide (A4)		Loamy Gleye	ed Matrix (F2)			Piedmont Floodplain Solls (F19)
Stratifie	d Layers (A5)		Depleted Ma	trix (F3) Sudate (EE)			(MLPOA 135, 147) Very Shallow Dark Surface (TE12)
2 om M	d Below Dark Surface	(A11)	Depieted Da	rk Surface (FT)	?		Other (Explain in Remarks)
Thick D	ark Surface (A12)		Redox Depre	essions (F8)	en man de com		
Sandy 1	Mucky Mineral (S1) (I	RR N.	Iron-Mangar	ese Massos (F	12) (LRR	N.	
MLR	A 147, 148)		MLRA 13	(6)		-	Indication of hudsonhutic unnetation and
Sandy (Gleyed Matrix (S4)		Umbric Suffi	BOB (F13) (MLA nodelale Solia (CA 136, 12	A 148)	wetland hydrology must be present.
Sandy I	Hedax (S5)		- Red Parent I	Material (F21) (MLRA 12	7, 147)	unless disturbed or problematic.
Restrictive	Layer (if observed):				-		
Type:							
Depth (in	ches):					Hydric	Soil Present? Yes No
Remarks:							

WETLAND DETERMINATION DATA	FORM – Eastern Mountains and Piedmont Region
Project/Site Sandy Cracks WC	comment Didas / Didas commence 1/22/11
Applicant/Owner NCEEP	_ depending sempling base: 10-22-19
Investigatorial: C. Sheads . J. R.L. tr.	State: A/C Sampling Point: 60 C /
I and form (hitelana lawara ata)	Section, Township, Range:
Carolin (missipe, remade, etc.). Ura rege wary	Local relief (conceve, convex, none): Con C.A.ve. Slope (%): Z
Subregion (LRR or MLRA): Lat:5,	77/7_Long Long Datum: NAD 8
Soil Map Unit Name: // Ayedawa	NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of	ryear? Yes No (If no, explain in Remarks.)
Are Vegetation <u>A</u> . Soil <u>M</u> , or Hydrology <u>M</u> significer	ey disturbed? Are "Normal Circumstances" present? Yes V
Are Vegetation Soil or Hydrology naturally	problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showi	ng sampling point locations, transacte, important features, etc.
	ing company point rocations, transects, important reatures, etc.
Hydrophytic Vegetation Present? Yes No	In the Sampled Area
Hydric Soil Present? Yes No V	within a Wetland? Yes No
Wetland Hydrology Present? Yes No V	
Hemanis.	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply	vi Surface Soil Cracka (86)
Surface Water (A1) True Aquatic	Plants (B14) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Hydrogen Su Sofuration (A3)	(fide Odor (C1) Drainage Patterns (B10)
Oxidized Rhs	Zospheres on Living Roots (C3) Moss Trim Lines (B16)
Sedment Deposits (82) Recent iron 8	Reduction in Tilled Sola (C6) Crawfeb Burrows (C8)
Dvift Deposits (B3) Thin Muck Sc	urface (C7) Saturation Visible on Aerial Imagery (C6)
Algal Mat or Crust (B4) Other (Explai	in in Remarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2)
 Inundation Visible on Aerial Imagery (87) 	Shallow Aguitard (D3)
Water-Stained Leaves (89)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Water Table Research	rs).
Saturation Present? Yes No Depth (inche	
(includes capillary tringe)	Webland Mydrology Present? Yes No V
Describe Recorded Data (stream gauge, monitoring well, aerial pho	itos, previous inspections), if available:
Pamarke	
rvendina.	

Up

Tree Stratum (Pict size: 10 m z) t. Qv phu (103	Absolute <u>% Cover</u> 570	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species 5 (A)
. L. str. Naci flua N. s. luadica	20	<u></u>	EAC EAC	Total Number of Dominant Species Across All Strata:(B)
k			_	Percent of Dominant Species (A/B
7				Prevalence Index worksheet:
	- 10			OBI spacies x1=
Sanding Panets Similar Biotaine 10 to 2	_ 60	= Total Cov	er	FACW species x 2 =
V a sur Lace	10	٧ -	FACW	FAC species x 3 =
C anda	5	Y	FAU	FACU species x 4 =
L. University	5	Y	NIT	JPL species x 5 *
O. virsin and	10	Y	FAQU	Column Totals: (A) (B
s trajenserje		- (A		189800000888000000000000000000000000000
				Prevalence Index = B/A =
				Hydrophytic Vegetation Indicators:
			ia	1 - Rapid Test for Hydrophytic Vegetation
	192			2- Dominance Test is >50%
0				3 - Prevalence Index is ≤3.0'
	30	= Total Cov	er	4 - Morphological Adaptations' (Provide supportie
Herb Stratum (Plot size: /0- C)	~	V	0	data in Remarks or on a separate sheet)
T. discolor	5	<u>Y</u>	FACU	Problematic Hydrophytic Vegetation' (Explain)
l		2		
1		-		Indicators of hydric soil and wetland hydrology must
L				be present, unless disturbed or problematic.
5.				Definitions of Four Vegetation Strata:
5		_		Tree - Woody plants, excluding vines, 3 in. (7.6 cm) of
7.				more in diameter at breast height (DBH), regardless of beight
8.				insight.
9.	198			Sapling/Shrub - Woody plants, excluding vines, less
10.	26 - 7			man 3 m. OBH and greater than or equal to 3.26 m (1 m) tall.
11.				CN-775
2.	33. J		19 21	Herb - All herbaceous (non-woody) plants, regardles of size, and woody plants less than 3.28 ft tall.
		= Total Cov	ver	
Voody Vine Stratum (Plot size: // /////////////////////////////////		~	CAL	Woody vine - All woody vines greater than 3.28 ft in
S. colond felin	20		FACS	Z magne.
V. Columbi dolin	25	<u></u>	PAL	
	-			
i			-	Hydrophytic Vecetation
	_			Present? Yes No
	45	= Total Cov	Ner	18-11
6	45	= Total Cov	ver	Present? Yes Vo

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file Desc	ription: (Describe t	o the dep	th needed to docur	ment the in	ndicator (or confirm	the absence	ef indicators.)
pth	Matrix	000000000	Redo	x Features	100	1124	-	Domader
tches)	Color (maist)		Color (moist)	_%	Type	Loc_	exture	Presidents.
5	104 R 5/2	100			-		36	
12_	2.54 1/3	35	104R -16	15	C		- 25	
						-	3	
			-	-				
			2	_				
					-	-		
					-		10	
Vpe: C=C	oncentration, D=Dep	letion, RM	Reduced Matrix, M	S=Masked	Sand Gr	ains.	Location: F	L=Pore Lining, M=Matrix.
Histic E Black H Hydrogy Stratifie 2 cm M Deplete Thick D Sandy I MLR Sandy Sandy Strippe bestrictive Type: Depth (I Remarks:	pipedon (A2) istic (A3) en Suffde (A4) d Layers (A5) uck (A10) (LRR N) id Below Dark Surfac lark Surface (A12) Mucky Minerel (S1) (I A 147, 148) Gleyed Matrix (S4) Redox (S5) d Matrix (S5) Layer (If observed) inches):	e (A11) LRR N,	Polyvelue 8 Thin Dark S Loemy Gley Depleted M Redox Dark Depleted D Redox Dark Depleted D Redox Nange MLRA 1 Umbric Sur Pledmont F Red Parent	elow Suffa urface (Si) red Matrix (ark Surface (ark Surface ressions (F nase Mass 36) face (F13) toodplain 5 Material (ce (58) (I) (MLRA (F2) 66) 6 (F7) 8) es (F12) (MLRA 1 ioils (F19) F21) (MLI	ILRA 147 147, 148) (LRR N, 36, 122)) (MLRA 1 8A 127, 14	(148)	Coss Prane Record (Vits) (MLRA 147, 143) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Applicant/Owner: <u>WC E</u> Investigator(s): <u>S</u> Landform (hillslope, terrace Subregion (LRR or MLRA):	Ep Theoder 1. 2. Lode		STATISTICS PUT IN	Sampling Date: 7787
nvestigator(s): S andform (hillslope, terrace Subregion (LRR or MLRA):	news . 1. Roberts		State: 1	C Sampling Point L/D-
andform (hillslope, terrace Subregion (LRR or MLRA):	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Section Town	thin Ranner	
Subregion (LRR or MLRA):	ever Floud plain	Local relief (conce	un comun comit (1)	includ enables 7
source from the rest of million of	LRR-P In	35,9678	- 28 949	4 Slope (%).
and Manage 1 lands Minasana .	her note Tukket	Ver	Long: / # / / # /	Datum; // Datum;
soli wap Unit Name:	reception (without	MC	NWI cla	ssification:
Are climatic / hydrologic co	nditions on the site typical for this	time of year? Yes	_ No (if no, explain	i in Remarks.)
tre Vegetation Soi	il or Hydrology/_ si	gnificantly disturbed?	Are "Normal Circumstance	ies" present? Yes K
ve Vegetation Sol	I or Hydrology na	sturally problematic?	(If needed, explain any a	nswers in Remarks.)
SUMMARY OF FIND	NNGS – Attach site map s	howing sampling p	oint locations, trans	ects, important features, e
Hydrophytic Vegetation P Hydric Soil Present?	Yesent? Yes V No Yes V	is the S within a	ampled Area Wetland? Yes	No
Wetland Hydrology Prese	int? Yes 🚺 No)	Tres_	<u> </u>
IYDROLOGY	and a set of			
wetland Hydrology Indi	cators:		Secondary I	ndicators (minimum of two requires
Primary Indicators (minim	um of one is required; check all th	at apply)	Surface	Soll Gracks (B6)
Sunace Water (A1)	2) True	Aquatic Plants (B14)	Sparser	Vegetated Concave Surface (88 a Datterns (810)
Seturation (A3)	Oxidi	zed Rhizospheres on Livir	na Roots (C3) / Moss Ti	e Padems (B16)
Water Marks (B1)	Prese	ince of Reduced Iron (C4)	Dry-Sea	son Water Table (C2)
Sediment Deposits (E	32) Rece	nt Iron Reduction in Tilled	Sols (C6) Crayfish	Burrows (C8)
Drift Deposits (B3)	Thin f	Muck Surface (C7)	Saturati	on Visible on Aerial Imagery (C9)
Algal Mat or Crust (B	4) Other	(Explain in Remarks)	Stunted	or Stressed Plants (D1)
Iron Deposits (B5)	A count have been address		Geomo	phic Position (D2)
Water-Stained Leave	Aerial Imagery (67)		Shallow	Aquitard (US)
Acuatic Fauna (B13)	e (be)		FAC-Ne	utral Test (D5)
Field Observations:				
Surface Water Present?	Yes No Dep	th (inches):		
Water Table Present?	Yes No 🗹 Dep	th (inches):		
Saturation Present?	Yes V No Dept	th (inches): 8	Wetland Hydrology Pr	esent? Yes No
(includes capillary fringe) Describe Recorded Data	(stream gauge, monitoring well, a	erial photos, previous insr	ections), if available:	
10				

WET

Tree Stratum (Plot size: 10m t) 1. Acer cule cum	Absolute <u>% Cover</u> 2.0	Dominant Species?	Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC:(A)
2. Platanus occidentalie 3. Salix nigra	15		<u>FACW</u>	Total Number of Dominant
45				Percent of Dominant Species 37.5 (AR
8: 7	_			Prevalence Index worksheet:
8	85	= Total Cov	er	OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 10)	Since we are	100	C	FACW species x 2 =
1. Platanes occidentely	10	<u> </u>	TACW	FAC species x 3 =
2. Soliz niara	20	Y	OBL	[FACU species x 4 =
				UPL species x 5 =
			_	Column Totals: (A) (E
	_			Prevalence Index = B/A =
	100000			Hydrophytic Vegetation Indicators:
		2		1 - Rapid Test for Hydrophytic Vegetation
				2 - Dominance Test is >50%
0				3 - Prevalence Index is ≤3.01
	30	= Total Cou	ar	4 - Morphological Adaptations ⁵ (Provide support
Herb Stratum (Plot size:	,	- Tutal GOV		data in Remarks or on a separate sheet)
Mirostesium vimenum	05	Y	FAL ?	Problematic Hydrophytic Vegetation ¹ (Explain)
Backments extindica	10	N	FACU	12
Murdania Kcjarka	25	Y	OBA	¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic
				Definitions of Four Vegetation Strata:
			_	Tens Massiv signific evolution views 2 in (7.6 cm)
				more in diameter at breast height (DBH), regardless (
·				height.
l				Sapling/Shrub - Woody plants, excluding vices, less
0				than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
2				Herb - All herbaceous (non-woody) plants, regardles
1.	100	= Total Cov	ar	of size, and woody plants less than 3.28 ft tall.
Voody Vine Stratum (Plot size: 5 m 2)	1.5.2	- 1000 000	··· /2	Woody vine - All woody vines greater than 3.28 ft in
Carthenesiava a vine on della	10	Y	FRU	height.
Loniceva Jabenica	15	Y	FAA	
11		200	-	
			-	
				Hydrophytic
				Present? Yes No.
	70	= Total Con	a.	1000ili 100_ NO
	- division	1000	97. S	

WET

OIL								Sampling Point: W.D - G
Profile Desc	ription: (Describe	to the dep	th needed to docu	ment the i	ndicator	or confirm	the absence	of indicators.)
Depth	Matrix		Red	ox Features		1.200.		
(inches)	Color (moist)	- 36	Color (moist)	%	Type'	Loc	Texture	Remarks
	TOAKAU	13	1.5 71.7/	4_25		M, 12	3+6	
0	104R 5/2	65	104 R 9/3	35	6	~	FISL	
14	_101R5/2	60	104R 4/3	40	C	1.001	FISL	
187	10482 5/1	70	1040 5/6	30	C	M	5.2	
	-					-	1	-
						-		
					_			
						1	-	2
Type: C+Cc	proentration, D=Dep	lation, RM:	Reduced Matrix, N	S=Masked	Sand Gra	ains.	*Location: PL	=Pore Lining, M=Matrix,
lydric Soil I	ndicators:						Indica	ators for Problematic Hydric Soils ³ :
Histosol	(A1)		Dark Surfac	e (57)			3	cm Muck (A10) (MLRA 147)
Histic Ep	ipedon (A2)		Polyvalue B	elow Surfac	e (S8) (N	LRA 147.	148) 0	coest Prairie Redox (A16)
Black His	stic (A3)		Thin Dark S	urface (S9)	(MLRA 1	47, 148)		(MLRA 147, 148)
Hydroger	n Sulfide (A4)		Loamy Gley	ed Matrix (F	F2)		P	iedmont Floodplain Soils (F19)
Stratified	Layers (A5)		Z Depleted M	atrix (F3)	2233		3	(MLRA 136, 147)
_ 2 cm Mu Depinted	ck (A10) (LRR N)	76445	Redox Dark	Surface (Fi	5)		- Y	ery Shallow Dark Surface (TF12)
Thick Da	rk Surface (A12)	a feerily	Depleted Da	essions (El	0			nner (Explain in elemanis)
Sandy M	lucky Mineral (S1) (L	RR N.	Iron-Manga	nese Masse	9 15 (F12) (I	LRR N.		
MI DA	147, 148)	2	MLRA 1	36)	19.103	Same		
MILTOA								
Sandy G	leyed Matrix (S4)		Umbric Surf	ace (F13) (MLRA 13	6, 122)	² Ind	icators of hydrophytic vegetation and
Sandy G	leyed Matrix (S4) edox (S5)		Umbric Surf Piedmont Fi	ace (F13) (loodplain Sc	MLRA 13 als (F19)	6, 122) (MLRA 14	³ ind 8) we	cators of hydrophytic vegetation and tland hydrology must be present,
Sandy G Sandy R Stripped	leyed Matrix (S4) edox (S5) Matrix (S5)		Umbric Suff Pledmont Fl Red Parent	ace (F13) (loodplain Sc Material (F2	MLRA 13 xis (F19) 21) (MLR	6, 122) (MLRA 14 A 127, 147	3ind 8) we () un	icators of hydrophytic vegetation and tland hydrology must be present, less disturbed or problematic.
Sandy G Sandy R Stripped	leyed Matrix (S4) edox (S5) Matrix (S5) .ayer (if observed):		Umbric Surf Piedmont Fi Red Parent	ace (F13) (loodplain Sk Material (F2	MLRA 13 xils (F19) 21) (MLR	6, 122) (MLRA 14 A 127, 147	³ ind 8) we) un	icators of hydrophytic vegetation and tland hydrology must be present, less disturbed or problematic.
Sandy G Sandy G Stripped Restrictive L Type:	leyed Matrix (S4) edox (S5) Matrix (S5) .ayer (if observed):		Umbric Surf Pledmont Fi Red Parent	ace (F13) (loodplain Sc Material (F2	MLRA 13 xis (F19) 21) (MLR	6, 122) (MLRA 14 A 127, 147	3 ind 8) we 7) un	icators of hydrophytic vegetation and tland hydrology must be present, less disturbed or problematic.
Sandy G Sandy G Stripped Stripped Restrictive L Type: Depth (inc Remarks:	Reyed Matrix (S4) edox (S5) Matrix (S5) Jayer (if observed): thes):	1	Umbric Surf Piedmont Fi Red Parent	ace (F13) (loodplain So Material (F)	MLRA 13 bils (F19) 21) (MLR	6, 122) (MLRA 14 A 127, 147	8) we) un Hydric Soil	icators of hydrophytic vegetation and tland hydrology must be present, less disturbed or problematic.
A mo	leyed Matrix (S4) edox (S5) Matrix (S5) ayer (If observed): thes): thes): the defailed the defailed	l soit le cl	Umbrie Surf Piedmont Fi Red Parent	ace (F13) (loodplain Sc Material (F) Im af type of	MLRA 13 sils (F19) 21) (MLR	6, 122) (MLRA 14 A 127, 147	³ ind 8) we) un Hydric Soil	icators of hydrophytic vegetation and tland hydrology must be present, less disturbed or problematic.
A mo	leyed Matrix (S4) edox (S5) Matrix (S5) ayer (If observed): thes): thes): the defailed deal in th	l soit	Umbric Surf Red Parent Red Parent	iace (F13) () loodplain Sc Material (F) Internal (F)	MLRA 13 pls (F19) 21) (MLR	6, 122) (MLRA 14 A 127, 147	3 ind 8) we) un Hydric Soil	icators of hydrophytic vegetation and tland hydrology must be present, less disturbed or problematic.
A mo	Neved Matrix (S4) edox (S5) Matrix (S5) aver (If observed): thes): thes): the defailed the defailed	l soit le cl	Umbric Surf Piedmont Fi Red Parent	iace (F13) () loodplain Sc Material (F) fre af egaert	MLRA 13 pls (F19) 21) (MLR	6, 122) (MLRA 14 A 127, 147	³ ind 8) we) un Hydric Soil	icators of hydrophytic vegetation and tland hydrology must be present, less disturbed or problematic. Present? Yes <u>No</u> ArCer 3
A mo	leyed Matrix (S4) edox (S5) Matrix (S5) ayer (If observed): thes): thes): the defailed the defailed	l soit le cl	Umbric Surf Piedmont Fi Red Parent	iace (F13) () loodplain Sc Material (F) Inn aft type of type of	MLRA 13 pls (F19) 21) (MLR	6, 122) (MLRA 14 A 127, 147	3 ind 8) we) un Hydric Soil	icators of hydrophytic vegetation and tland hydrology must be present, less disturbed or problematic. Present? Yes <u>No</u> ArCer 3
A MO	leyed Matrix (S4) edox (S5) Matrix (S5) ayer (If observed): thes): thes): the defailed the defailed	l soit	Umbric Surf Piedmont Fi Red Parent	iace (F13) () loodplain Sc Material (F) Internal (F) Internal (F)	MLRA 13 pls (F19) 21) (MLR	6, 122) (MLRA 14 A 127, 147	3 ind 8) we) un Hydric Soil	icators of hydrophytic vegetation and tland hydrology must be present, less disturbed or problematic. Present? Yes <u>V</u> No ArCer 3
A mo	leyed Matrix (S4) edox (S5) Matrix (S5) ayer (If observed): thes): thes): the defailed the defailed	l soit le cl	Umbric Surf Piedmont Fi Red Parent	iace (F13) () loodplain Sc Material (F) Irr of egarce	MLRA 13 pls (F19) 21) (MLR	6, 122) (MLRA 14 A 127, 147	3 ind 8) we) un Hydric Soil	icators of hydrophytic vegetation and tland hydrology must be present, less disturbed or problematic. Present? Yes <u>V</u> No ArCer 3
A mo	leyed Matrix (S4) edox (S5) Matrix (S5) ayer (If observed): thes): thes): the defailed the defailed	l soit	Umbric Surf Piedmont Fi Red Parent	iace (F13) () loodplain Sc Material (F) Irr of egant	MLRA 13 pls (F19) 21) (MLR	6, 122) (MLRA 14 A 127, 147	³ ind 8) we) un Hydric Soil	icators of hydrophytic vegetation and tland hydrology must be present, less disturbed or problematic. Present? Yes <u>V</u> No ArCer 3
A mo	Neved Matrix (S4) edox (S5) Matrix (S5) aver (If observed): thes): thes): the defailed the defailed	l soit le cl	Umbric Surf Piedmont Fi Red Parent	iace (F13) () loodplain Sc Material (F) fre aft type of type of	MLRA 13 pls (F19) 21) (MLR	6, 122) (MLRA 14 A 127, 147	³ ind 8) we) un Hydric Soil	icators of hydrophytic vegetation and tland hydrology must be present, less disturbed or problematic. Present? Yes <u>No</u> ArCer 3
A mo	Neved Matrix (S4) edox (S5) Matrix (S5) aver (If observed): thes): thes): the defailed the defailed	l soit	Umbric Surf Piedmont Fi Red Parent	iace (F13) () loodplain Sc Material (F) fre aft type of type of	MLRA 13 pls (F19) 21) (MLR	6, 122) (MLRA 14 A 127, 147	³ ind 8) we) un Hydric Soil	icators of hydrophytic vegetation and tland hydrology must be present, less disturbed or problematic. Present? Yes <u>No</u> ArCer 3
A mo	Neved Matrix (S4) edox (S5) Matrix (S5) aver (If observed): thes): thes): the defailed the defailed	l soit	Umbric Surf Piedmont Fi Red Parent	ace (F13) () loodplain Sc Material (F) fre aft egant	MLRA 13 pls (F19) 21) (MLR	6, 122) (MLRA 14 A 127, 147	³ ind 8) we) un Hydric Soll	icators of hydrophylic vegetation and tland hydrology must be present, less disturbed or problematic.
A MO	Neved Matrix (S4) edox (S5) Matrix (S5) aver (If observed): thes): the defailed in the	l soit	Untric Surt Piedmont Fi Red Parent	iace (F13) () loodplain Sc Material (F) fre aft egant	MLRA 13 pls (F19) 21) (MLR	6, 122) (MLRA 14 A 127, 147	³ ind 8) we) un Hydric Soll	icators of hydrophylic vegetation and tland hydrology must be present, less disturbed or problematic. Present? Yes <u>No</u> <i>Avcer</i> 3
A MO	Reyed Matrix (S4) edox (S5) Matrix (S5) Jayer (If observed): thes): thes: the defailed in the	l soit	Untric Surt Piedmont Fi Red Parent	ace (F13) () loodplain Sc Material (F) fre aft eyment	MLRA 13 pls (F19) 21) (MLR	6, 122) (MLRA 14 A 127, 147	³ ind 8) we) un Hydric Soll	icators of hydrophytic vegetation and tland hydrology must be present, less disturbed or problematic. Present? Yes <u>No</u> <i>Arter</i> 3
A mo	Reyed Matrix (S4) edox (S5) Matrix (S5) Jayer (If observed): thes): the defailed in the	l soit	Untric Surt Piedmont Fi Red Parent	iace (F13) () ioodptain Sc Material (F:	MLRA 13 pls (F19) 21) (MLR	6, 122) (MLRA 14 A 127, 147	³ ind 8) we) un Hydric Soil	icators of hydrophylic vegetation and tland hydrology must be present, less disturbed or problematic.
A mo	Reyed Matrix (S4) edox (S5) Matrix (S5) Jayer (If observed): thes): the defailed in the	l soit	Untric Surt Piedmont Fi Red Parent	iace (F13) () ioodptain Sc Material (F International (F) International (F) International (F)	MLRA 13 pls (F19) 21) (MLR	6, 122) (MLRA 14 A 127, 147	³ ind 8) we) un Hydric Soil	icators of hydrophytic vegetation and tland hydrology must be present, less disturbed or problematic Present? Yes <u>No</u> <i>Arter</i> 3
A mo	Reyed Matrix (S4) edox (S5) Matrix (S5) Jayer (If observed): thes): the defailed in the	l soit	Untric Surt Piedmont Fi Red Parent	iace (F13) () ioodptain Sc Material (F:	MLRA 13 pls (F19) 21) (MLR	6, 122) (MLRA 14 A 127, 147	³ ind 8) we) un Hydric Soil	icators of hydrophytic vegetation and tland hydrology must be present, less disturbed or problematic Present? Yes <u>No</u> <i>Arter</i> 3
Sandy G Sandy R Stripped estrictive L Type: Depth (inc emarks: A mo	Reyed Matrix (S4) edox (S5) Matrix (S5) Jayer (If observed): thes): the defailed the defailed the defailed	l soit	Untric Surt Piedmont Fi Red Parent	iace (F13) () ioodptain Sc Material (F:	MLRA 13 pls (F19) 21) (MLR	6, 122) (MLRA 14 A 127, 147	³ ind 8) we) un Hydric Soil	icators of hydrophylic vegetation and tland hydrology must be present, less disturbed or problematic Present? Yes <u>No</u> <i>Arter</i> 3

	rela	Chul	county Duchan	1 Purtum Sampling Date 9-19-1
micontinumer NI FF	ρ			Status ALE Sampling Date: (412)-1
Ca Shee	15. 201.	de au		State: Sampling Point; VVV - @
vestigetor(s): o mea	CI dula	Sect	ton, Township, Range:	1
ndform (hillslope, terrace, etc.): F1000 p19	Local re	slief (concave, convex, n	one): Childer Slope (%): C
bregion (LRR or MLRA):	KK-PLe	at 35.7678	2 Long:	13.9679 Datum: NAD 3.
il Map Unit Name:	renacta /	Wiched Kee		NWI classification: PEMIG
e climatic / hydrologic conditio	ins on the site typical	for this time of year?	Yes No	(If no, explain in Remarks.)
e Vegetation Soil	or Hydrology	N significantly distu	rbed? Are "Norm	al Circumstances" present? Yes VNo
e Vegetation N Soil /	V or Hydrology	N naturally problem	natio? (If needed	explain any poswers in Remarks)
	C Attach cite	man abautan an	mallen nelet leest	inne deservate langedent fortunes at
OMMART OF FINDING	5 - Attach site	map snowing sai	mpling point locati	ons, transects, important features, etc
hydrophytic Vegetation Preser	t? Yes	No V	NAMES OF A DESCRIPTION OF	
tydric Soll Present?	Yes	No	is the Sampled Area	Yas No. 1/
Netland Hydrology Present?	Yes_L	Z No	within a metallity	Tes No V
Remarks:				
DROLOGY	1.5.00			
Vetland Hydrology Indicator	1			Secondary Indicators (minimum of two required)
rimary Indicators (minimum o	f one is required: che	ck all that apply)		Surface Soll Cracks (86)
Surface Water (A1)	Tone is recorded, one	True Acustic Diants	(914)	Soarsaly Vegetated Conceive Surface (BS)
High Water Table (A2)	_	Hudrosen Sulfde O	dor (C1)	Drainage Patterns (B10)
Saturation (A3)		Oxidized Rhizosohe	res on Living Roots (C3)	Moss Trim Lines (B16)
Water Marks (R1)	-	Presence of Reduce	ed Iron (C4)	Dry-Season Water Table (C2)
Sediment Deposits (82)		Recent Iron Reduct	ion in Tilled Sols (C6)	Cravfish Burrows (C8)
Drift Deposits (B3)		Thin Muck Surface ((C7)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)		Other (Explain in Re	amarks)	Stunted or Stressed Plants (D1)
Iron Deposits (B5)				Geomorphic Position (D2)
Inundation Visible on Aeria	al Imagery (B7)			Shallow Aquitard (D3)
Water-Stained Leaves (B9	0			Microtopographic Relief (D4)
Aquatic Fauna (B13)				FAC-Neutral Test (D5)
Field Observations:				
	Yes No	_ Depth (inches):		
Surface Water Present?	Ver No	Depth (inches):		
Surface Water Present? Nater Table Present?	165 140		100.00	Hudealaan Brasant? Vas No
Surface Water Present? Nater Table Present? Saturation Present?	Yes No	Depth (inches):	Wetland	Hybrology Presents Tes No P
Surface Water Present? Vater Table Present? Saturation Present? includes capillary fringe)	Yes No	_ Depth (inches):	Wetland	nighter
Surface Water Present? Nater Table Present? Satura5on Present? includes capillary fringe) Describe Recorded Data (strea	Yes No am gauge, monitoring	Depth (inches):) well, aerial photos, pr	wetland revious inspections), if av	alable:
Surface Water Present? Nater Table Present? Saturation Present? includes capillary fringe) Describe Recorded Data (stres Remarks:	Yes No Im gauge, monitoring	Depth (inches):) well, serial photos, pr	wetland revious inspections), if av	alable:
Surface Water Present? Nater Table Present? Saturation Present? includes capillary fringe) Describe Recorded Data (strea Remarks:	Yes No am gauge, monitoring	Depth (inches): y well, aerial photos, pr	revious inspections), if an	isiste:
Surface Water Present? Nater Table Present? Saturation Present? includes capillary fringe) Describe Recorded Data (stres Remarks:	Yes No Im gauge, monitoring	_ Depth (inches): gwell, aerial photos, pr	Wetland revious inspections), if ev	alable:
Surface Water Present? Nater Table Present? Saturation Present? includes capillary fringe) Describe Recorded Data (stred Remarks:	Yes No am gauge, monitoring	_ Depth (inches): g well, aerial photos, pr	Wetland	alable:
Surface Water Present? Nater Table Present? Saturation Present? includes capillary fringe) Describe Recorded Data (stred Remarks:	Yes No Im gauge, monitoring	_ Depth (inches): g well, aerial photos, pr	wetland revious inspections), if en	ralable:
Surface Water Present? Nater Table Present? Saturation Present? includes capillary fringe) Describe Recorded Data (stred Remarks:	Yes No Im gauge, monitoring	_ Depth (inches): g well, aerial photos, pr	wetland revious inspections), if en	reliable:
Surface Water Present? Nater Table Present? Saturation Present? includes capillary fringe) Describe Recorded Data (stred Remarks:	Yes No am gauge, monitoring	_ Depth (inches): j well, aerial photos, pr	wetland revious inspections), if en	ralable:
Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stred Remarks:	Yes No am gauge, monitoring	_ Depth (inches):) well, aerial photos, pr	revious inspections), if en	ralable:
Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stred Remarks:	Yes No am gauge, monitoring	_ Depth (inches):) well, aerial photos, pr	revious inspections), if en	raliable:
Surface Water Present? Nater Table Present? Saturation Present? includes capillary fringe) Describe Recorded Data (stred Remarks:	Yes No am gauge, monitoring	_ Depth (inches):) well, aerial photos, pr	revious inspections), if a	raliable:
Surface Water Present? Nater Table Present? Satura5on Present? includes capillary fringe) Describe Recorded Data (streat Remarks:	Yes No am gauge, monitoring	_ Depth (inches):) well, aerial photos, p	revious inspections), if a	raliable:
Surface Water Present? Nater Table Present? Satura5on Present? includes capillary fringe) Describe Recorded Data (streat kernarks:	Yes No am gauge, monitoring	_ Depth (inches):) well, aerial photos, p	revious inspections), if a	raliable:

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	Abgalute	Dominant	Indicator	Dominance Test worksheet	
Tree Stratum (Plot size: 10 m 2)	% Cover	Species?	Status	Number of Dominant Species	-
Frazinus permis y lucita	60	<u> </u>	FACU,	That Are OBL, FACW, or FAC:	(A)
All rubring	30	Y	FAL	2	-
	-		Section Sectio	Species Across All Strata:	/ (B)
	-	1			
				Percent of Dominant Species /0	0
				That Are OBL, FACW, or FAC:	(A/E
k	_			Brouplance Index worksheet:	
	8	45		Treveletice more workaniet.	
				Total 75 Cover of Multiply	Y OY.
and the later of the second second	90	= Total Cov	er	OBL species x1 =	
Sapling/Shrub Stratum (Plot size: 10-2-)	0		al and the	FACW species x 2 =	
Acres resurdo	35	Y	FAC	FAC species x 3 =	
Calter lacoupte	5	N	FALM	FACU species x 4 =	
Flore a sure lellete	10	N	NIT	AIPI species x 5 =	
Eleciens Chapping	12-	-10-	E AL		(1)
HEY THOINM	- 12		FAC	Column rocais: (A)	(8
				Prevalence Index = B/A =	
				buden abudia Manatalian Indiana	
				Hydrophytic vegetation indicators:	
		9 <u>1</u>		1 - Rapid Test for Hydrophytic Vegeta	ation
				2 - Dominance Test is >50%	
				3 - Prevalence Index is ≤3.0 ¹	
0	-12			4 - Morphological Adaptations ¹ (Provi	de supportir
5-2	45	 Total Cov 	er	data in Remarks or on a senarate	ehael)
terb Stratum (Plot size:)			E12	Bethere is the death of a thread of a	official and a
Mitro Sterium Vinenium			THE	- Problematic Hydrophytic Vegetation	(Explain)
V. alternitolia	20	Y	EACH	the common statute to the second	
L.		1		¹ Indicators of hydric soil and wetland hydr	ology must
				be present, unless disturbed or problemat	bic.
	_			Definitions of Four Vegetation Strata:	
h				Thee - Woody plants, excluding vines, 3 in more in diameter at breast height (DBH)	n. (7.6 cm) c
·				height.	regenuese s
L				1	
				Sapling/Shrub - Woody plants, excluding	y vines, less
0.				m) tail	to 3.28 ft (1
1				The second secon	
2				Herb - All herbaceous (non-woody) plants	s, regardles
2				of size, and woody plants less than 3.28 ft	t tall,
Marth Man Stratum (Blat alars) 5m ²	_/5	= Total Cov	90	Woody vine - All woody vines greater that	an 3 28 8 in
voody vine stratum (Piot size:)	70	- V	CAN!	height.	an 9.20 it in
			1 ACC		
×	1		-		
				Hydrophytic	
	-			Vegetation	
	26		100	Present? Tes No	
		 Total Cov 	er		

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rofile Desc	ription: (Describe t	o the dept	In needed to doc	ument the i	ndicator	or confirm	the abs	sence of indicat	ors.)	
anth	Matrix	0.793.65.65	Re	dox Eastured	10150320				10110	
nches)	Color (moist)	/%	Color (moist)	50A 7 65610161	Type'	Loc ²	Texts	ure	Remarks	
5	1048 4/2	Ina					SE		1.5.840.025A	
	In the state	100								_
1	10YK 214	100					5	<u> </u>		
14	10-12 5/6	100					5			
11.5	2 30 - 24 - 8									
							-			
					_					
								-01		
	() () () () () () () () () () () () () (<u> </u>				-				
					-	_	-			
	1	100 C		_		_	-			
UDP: C=C	accentration DeDenk	etion RMs	Reduced Matrix	MS=Masked	Sand Gr	ains	² Locatio	on: PL=Pore Lin	ing, M=Metrix,	
rdric Soil	Indicators:	Edwin, Paler-	HEVEVEN HER H.	10 100100	00.14.01			Indicators for P	roblematic H	vdric Solls
Lister of the	1845		Deck					2 000 34.000	(A10) (MI RA	147)
Histosol	(A1)		Dark Surra	ice (S/) Relation			1400	2 on Muck	Redex (A18)	14()
_ Histic Ep	xpedon (A2)		Polyvalue	Below Suna	ce (58) (1	MLRA 147,	146)	_ Cosst Prain	AT 44PL	n
Black Hi	stic (A3)		Thin Dark	Surface (S9)	(MLRA	147, 148)		(MLRA 1	47, 140) Incidatain Calls	15100
_ Hydroge	n Sulfide (A4)		- Loamy Ge	iyed Matrix (P.4)			Pleamont P	looopian solis	(1.14)
_ Stratified	1 Layers (A5)		Depleted M	Aatrix (F3)	12.15			(MLRA 1	36, 14/)	CTT 101
_ 2 cm Mu	ick (A10) (LRR N)		Redox Dar	k Surface (F	-6)			Very Shallo	w Derk Surfao	e (11-12)
_ Depleted	d Below Dark Surface	(A11)	Depleted D	Dark Surface	(F7)			Other (Expl	ain in Remarks	0
_ Thick Da	ark Surface (A12)		Redox Dep	pressions (F)	8)					
_ Sandy N	lucky Mineral (S1) (L	RR N,	Iron-Mang	anese Mass	es (F12) (LRR N,				
MLR/	147, 148)		MLRA	136)				10000		100 10
_ Sandy G	leyed Matrix (S4)		Umbric Su	rface (F13) (MLRA 1	36, 122)		"Indicators of I	hydrophytic ve	getation and
Sandy R	tedox (S5)		Piedmont I	Floodplain S	ioits (F19)	(MLRA 14	48)	wetland hydr	ology must be	present,
Otringed	Advateine (COR)		Red Paren	t Material (F	21) (MLF	CA 127, 14	7)	unless distur	bed or problem	tatic.
ouipped	Machoc (alb)		11000 1.000							
estrictive	Layer (if observed):	_					1 T			
supped	Layer (if observed):						1			
Type:	Layer (if observed):						Hydri	ic Soil Present?	Yes	No
Type: Depth (in	Layer (if observed): ches):						Hydri	ic Soil Present?	Yes	No /
Type: Depth (in emarks:	Layer (if observed): ches):						Hydri	ic Soil Present?	Yes	No -
Type: Depth (in emarks:	Layer (if observed):						Hydri	ic Soil Present?	Yes	_ No /
Type: Depth (in emarks:	Halink (30) Layer (if observed): ches):						Hydri	ic Soil Present?	Yes	No F
stripped estrictive I Type: Depth (In emarks:	Hashk (db) Layer (if observed): ches):						Hydri	ic Soil Present?	Yes	No F
stripped estrictive I Type: Depth (In emarks:	Hashk (db) Layer (if observed): ches):						Hydri	ic Soil Present?	Yes	_ No /
_ stripped estrictive I Type: Depth (In emarks:	Hatrix (30) Layer (if observed): ches):						Hydri	ic Soil Present?	Yes	No F
strictive i Type: Depth (in emarks:	Hatrix (db) Layer (if observed): ches):						Hydri	ic Soil Present?	Yes	No F
strictive i Type: Depth (in marks:	Hashk (db) Layer (if observed): ches):						Hydri	ic Soil Present?	Yes	_ No /
_ striptic istrictive i Type: Depth (in emarks:	Hasin (ob) Layer (if observed): ches):						Hydri	ic Soil Present?	Yes	_ No /
strictive i Type: Depth (in emarks:	Hasink (ob) Layer (if observed): ches):						Hydri	ic Soil Present?	Yes	_ No /
_ stripped estrictive 1 Type: Depth (in emarks:	Hatrix (ob) Layer (if observed): ches):						Hydri	ic Soil Present?	Yes	<u>No //</u>
Striptic istrictive I Type: Depth (in imarks:	Layer (if observed): ches):						Hydri	ic Soil Present?	Yes	_ No //
_ strictive i rype: Depth (in emarks:	hasin (ob) Layer (if observed): ches):						Hydri	ic Soil Present?	Yes	_ No /
Strictive I Type: Depth (in marks:	hasink (ob) Layer (if observed): ches):						Hydri	ic Soil Present?	Yes	_ No /
Strictive I Type: Depth (in marks:	Hatrix (ob) Layer (if observed): ches):						Hydri	ic Soil Present?	Yes	_ No //
Strictive I Type: Depth (in marks:	Layer (if observed): ches):						Hydri	ic Soil Present?	Yes	_ No //
Strictive I Type: Depth (in marks:	hasin (ob) Layer (if observed): ches):						Hydri	ic Soil Present?	Yes	_ No //
Strictive I Type: Depth (in marks:	haenx (ob) Layer (if observed): ches):						Hydri	ic Soil Present?	Yes	No F
Strictive I Type: Depth (in marks:	(db) Layer (if observed): ches):						Hydri	ic Soil Present?	Yes	_ NO //
Strictive I Type: Depth (in marks:	(do) Layer (if observed): ches):						Hydri	ic Soll Present?	Yes	_ No //
strictive i Type: Depth (in emarks:	hasin (ob) Layer (if observed): ches):						Hydri	ic Soil Present?	Yes	_ No //
stripped estrictive I Type: Depth (In emarks:	haenx (ob) Layer (if observed): ches):						Hydri	ic Soil Present?	Yes	<u>No //</u>
stripped estrictive I Type: Depth (in emarks:	Interna (ob) Layer (if observed): ches):						Hydri	ic Soil Present?	Yes	<u>NO F</u>
stripped estrictive I Type: Depth (in emarks:	Interna (ob) Layer (if observed): ches):						Hydri	ic Soil Present?	Yes	<u>NO (C</u>
strictive estrictive Type: Depth (in emarks:	haenx (ob) Layer (if observed): ches):						Hydri	ic Soil Present?	Yes	<u>No F</u>
Strictive I Type: Depth (in imarks:	haenx (ob) Layer (if observed): ches):						Hydri	ic Soil Present?	Yes	_ No /

US Army Corps of Engineers

THE AVER STREET	h WE		Inegion 10 hours
antiantition all F F to		StylCounty: <u>por have / Upr have</u> Sar	mpling Date: 10-22-4
opticant/Owner: NCEP	1) 0.1.11	State: NU S	sampling Point: 16/8-5
rvestigator(s): Pren # 3	J. KU60145	Section, Township, Range:	-
andform (hillslope, terrace, etc.):	Cloud plain Loc	al relief (concave, convex, none):	Slope (%): 🧹
Aubregion (LRR or MLRA): <u>C-K-H ~</u>	P Lat _ 53, 762	0 Long: -18, 7636	Datum: NAD
oil Map Unit Name:	Shewacla / weard	NWI classification	r: 1553/14d
ve climatic / hydrologic conditions on	the site typical for this time of year	r? Yes No (if no, explain in Rema	rks.)
re Vegetation N Soil, o	r Hydrology <u>/</u> significantly o	Isturbed? Are "Normal Circumstances" prese	nt? Yes K No
re Vegetation 🥂 , Soil 🥂 , o	r Hydrology <u>//</u> naturally prof	itematic? (If needed, explain any answers in	Remarks.)
SUMMARY OF FINDINGS -	Attach site map showing	sampling point locations, transects, im	portant features, e
Hydrophytic Vegetation Present?	Yes No	Is the Sampled Area	
Watand Wydelogu Present?	Yes V No	within a Wetland? Yes	No
Remarks	Tes No		
1818 404 51955			
YDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicators	Iminimum of two required
Primary Indicators (minimum of one i	is required; check all that apply!	Surface Soll Crec	ka (88)
Surface Water (A1)	True Aquatic Ptr	nts (B14) Sparsely Vegetatr	ed Concave Surface (B8)
High Water Table (A2)		e Odor (C1) V Drainage Patternr	s (B10)
Saturation (A3)	V Oxidized Rhizos	pheres on Living Roots (C3) Moss Trim Lines /	(816)
Water Marks (B1)	Presence of Red	uced Iron (C4) Dry-Season Wate	r Table (C2)
Sediment Deposits (B2)	Recent iron Red	uction in Tilled Soils (C6) Crayfish Burrows	(C8)
Drift Deposits (B3)	Thin Muck Surfa	ce (C7) Saturation Visible	on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Other (Explain in	Remarka)Stunted or Stress	ed Plants (D1)
a contract of the second se		V Geomorphic Posit	tion (D2)
Iron Deposits (B5)	Contraction and Contraction of Contr		
 Iron Deposits (85) Inundation Visible on Aerial Imag 	yery (B7)	Shallow Aquitard	(03)
 Iron Deposits (85) Inundation Visible on Aerial Imag Water-Stained Leaves (89) America Procest (812) 	yery (B7)	Shallow Aquitard Microtopographic SAC Not and Text	Relief (D4)
Iron Deposits (85) Inundation Visible on Aerial Imag Water-Stained Leaves (89) Aquatic Fauna (813) Evid Observations:	pery (B7)	Shallow Aquitard Microtopographic FAC-Neutral Test	(D5) Relief (D4) (D5)
Iron Deposits (85) Irundation Visible on Aerial Imag Water-Stained Leaves (89) Aquatic Fauna (813) Field Observations: Surface Water Present? Ves	No Contraction (inclusion)	Shallow Aquitard Microtopographic FAC-Neutral Test	(D3) Relief (D4) (D5)
Iron Deposits (85) Irundation Visible on Aerial Imag Water-Stained Leaves (89) Aquatic Fauna (813) Field Observations: Surface Water Present? Yes _ Water Table Present? Yes _	No V Depth (inches)	Shallow Aquitard Microtopographic FAC-Neutral Test	(D5) (D5)
Iron Deposits (85) Irundation Visible on Aerial Imag Water-Stained Leaves (89) Aquatic Fauna (813) Field Observations: Surface Water Present? Yes_ Water Table Present? Yes_ Surface Present? Yes_	No // Depth (Inches):	Shallow Aquitard Microtopographic FAC-Neutral Test Wintland Hydrology Procent?	(D4) (D5) Yes V No
Iron Deposits (85) Irundation Visible on Aerial Imag Water-Stained Leaves (89) Aquatic Fauna (813) Field Observations: Surface Water Present? Yes_ Atauration Present? Yes_ Saturation Present? Yes_	No // Depth (inches): No // Depth (inches): No // Depth (inches):	Shallow Aquitard Microtopographic FAC-Neutral Test Wetland Hydrology Present?	(D4) (D5) Yes <u>V</u> No
Iron Deposits (85) Irundation Visible on Aerial Imag Water-Stained Leaves (89) Aquatic Fauna (813) Field Observations: Surface Water Present? Yes Water Table Present? Yes Includes capillary fringe) Describe Recorded Data (stream gau	pery (B7) No V Depth (inches): No V Depth (inches): No V Depth (inches): ige, monitoring well, serial photos		(D4) (D5) Yes <u>V</u> No
Iron Deposits (85) Irundation Visible on Aerial Imag Water-Stained Leaves (89) Aquatic Fauna (813) Field Observations: Surface Water Present? Yes _ Water Table Present? Yes _ Includes capillary fringe) Describe Recorded Data (stream gau Remarks:	pery (B7) No V Depth (inches): No V Depth (inches): No V Depth (inches): ige, monitoring well, serial photos		(D5) Yes <u>V</u> No
Iron Deposits (85) Irundation Visible on Aerial Imag Water-Stained Leaves (89) Aquatic Fauna (813) Field Observations: Surface Water Present? Yes_ Water Table Present? Yes_ Includes capillary fringe) Describe Recorded Data (stream gau Remarks:	Pery (B7) No C Depth (inches): No C Depth (inches): No C Depth (inches): See, monitoring well, serial photos		(D4) (D5) Yes <u>V</u> No
Iron Deposits (85) Irundation Visible on Aerial Imag Water-Stained Leaves (89) Aquatic Fauna (813) Field Observations: Surface Water Present? Yes_ Water Table Present? Yes_ Mater Table Present? Yes_ Saturation Present? Yes_ Includes capillary fringe) Describe Recorded Data (stream gau Remarks: Withfood within	Pery (B7) No V Depth (inches): No V Depth (inches): No No Depth (inches): Ige, monitoring well, serial photos Get file flast pla		(D4) (D5) Yes <u>V</u> No
Iron Deposits (85) Inundation Visible on Aerial Imag Water-Stained Leaves (89) Aquatic Fauna (813) Field Observations: Surface Water Present? Yes_ Alater Table Present? Yes_ Saturation Present? Yes_ Saturation Present? Yes_ Includes capillary fringe) Describe Recorded Data (stream gau Remarks: Withfood within	pery (B7) No \checkmark Depth (inches): No \checkmark Depth (inches): No \checkmark Depth (inches): ige, monitoring well, serial photos are fifte $flass figle$.	- Shallow Aquitard - Microtopographic - FAC-Neutral Test Wetland Hydrology Prosent? . previous inspections), if available:	(D4) (D5) Yes <u>V</u> No
Iron Deposits (85) Irundation Visible on Aerial Imag Water-Stained Leaves (89) Aquatic Fauna (813) Field Observations: Surface Water Present? Yes_ Water Table Present? Yes_ Saturation Present? Yes_ Saturation Present? Yes_ Saturation Present? Yes_ Mater Table Present? Yes_ Mater Table Present? Yes_ Saturation Present? Yes_ Mater Table Present? Yes_ Saturation Present? Yes_ Mater Table Present? Yes_ Saturation Present? Yes_ Saturation Present? Yes_ Water Table Present? Yes_ Saturation Present	pery (B7) No \checkmark Depth (inches): No \checkmark Depth (inches): No \checkmark Depth (inches): ige, monitoring well, senial photos Getter flass flass	Shallow Aquitard 	(D4) (D5) Yes <u>V</u> No
Iron Deposits (85) Irundation Visible on Aerial Imag Water-Stained Leaves (89) Aquatic Fauna (813) Field Observations: Surface Water Present? Yes_ Water Table Present? Yes_ Saturation Present? Yes_ Includes capillary fringe) Describe Recorded Data (stream gau Remarks: WtHlood within	pery (B7) No V Depth (inches): No V Depth (inches): No V Depth (inches): ige, monitoring well, senial photos are file. Flags of pla	Shallow Aquitard 	(D4) Yes <u>V</u> No
Iron Deposits (85) Irundation Visible on Aerial Imag Water-Stained Leaves (89) Aquatic Fauna (813) Field Observations: Surface Water Present? Yes_ Water Table Present? Yes_ Mater Table Present? Yes_ includes capitary fringe) Describe Recorded Data (stream gau Remarks: Withfood within	pery (B7) No \checkmark Depth (inches): No \checkmark Depth (inches): No \checkmark Depth (inches): ige, monitoring well, serial photos are file. $flas f pla$	- Shallow Aquitard - Microtopographic - FAC-Neutral Test Wetland Hydrology Present? . previous inspections), if available:	Yes <u>V</u> No
Iron Deposits (85) Irundation Visible on Aerial Imag Water-Stained Leaves (89) Aquatic Fauna (813) Field Observations: Surface Water Present? Yes_ Water Table Present? Yes_ Saturation Present? Yes_ Includes capillary Iringe) Describe Recorded Data (stream gas Remarks: With Low With Yes	pery (B7) No \checkmark Depth (inches): No \checkmark Depth (inches): No \checkmark Depth (inches): up, monitoring well, serial photos active flaced pla	Shallow Aquitard 	Ves <u>V</u> No
Iron Deposits (85) Irundation Visible on Aerial Imag Water-Stained Leaves (89) Aquatic Fauna (813) Field Observations: Surface Water Present? Yes_ Mater Table Present? Yes_ Saturation Present? Yes_ Includes capillary fringe) Describe Recorded Data (stream gau Remarks: Withford within	pery (B7) No \checkmark Depth (inches): No \checkmark Depth (inches): No \checkmark Depth (inches): upe, monitoring well, serial photos active flood ple	Shallow Aquitard 	Ves <u>No</u>

Tree Stratum (Piot size: <u>Z = > /U=</u>) 1. <u>S. ava</u> ra	Absolute % Cover \$5	Dominant Species? Y	Status OBL	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC:	(A)
2			_	Total Number of Dominant Species Across All Strata:	(B)
5		_	_	Percent of Dominant Species That Are OBL, FACW, or FAC:	100 (A)
6 7				Prevalence index worksheet:	Contra a sur su
8.			4	Total % Cover of	Multiply by:
2-*/1)	55	= Total Cov	er 🚽	OBL species X 1	-
Sapling/Shrub Stratum (Plot size:)	10	V	Enr?	FACW species X 2	=
. A. rubrum			FAC.	AC species X 3	-
2. H. tenticosm			TACM	FACU species X 4	=
3. F. PERRSYlVENCE	10	-1-	FACH	UPL species x 5	=
۶				Column Totals: (A)	(E
5				Prevalence Index = B/A =	
5				Hydrophytic Vegetation Indicat	ors:
1				1 Rapid Test for Hydrophyti	c Vegetation
8				2 - Dominance Test is >60%	
9		45-11	2 - 3	3 - Prevalence Index is <3 01	
10				A - Morphalogical Adaptation	¹ /Provide support
2 . 2.	25	= Total Cov	er v	deta in Demetre or on a s	enerste shoef)
Herb Stratum (Plot size: <u>c = c = c = c</u>) 1. <u>M. vilition</u> (de	10	Y	FAC	Problematic Hydrophytic Veg	etation ¹ (Explain)
2				1213101100.000-000000000000000000000000000	
3				'Indicators of hydric soil and wella	and hydrology must
4	-			be present, unless disturbed of pr	oolematic.
5				Dennitions of Four vegetation :	strata:
5				Tree - Woody plants, excluding v more in diameter at breast height	ines, 3 in. (7.6 cm) (DBH), regardless
	2.5	-		height.	
2		-		Sapling/Shrub - Woody plants, e	excluding vines, les
10				than 3 in. DBH and greater than o	or equal to 3.28 ft (1
				my tail.	
12				Herb - All herbaceous (non-wood	ty) plants, regardles
12.	10	- Total Cau		of size, and woody plants less that	in 3.28 ft tall.
Woody Vine Stratum (Plot size: 2-12,)		- 10081004		Woody vine - All woody vines gr	eater than 3.28 ft in
1. 1. a Rinica	45	Y	FAL	/height.	
	10	N	FAC	¥.	
2 Parkit 01/2 3					
C. Codicars					
2. U. Calicero 3.					
2. (<i>J. TestiLetre</i>) 3 4			_	Hydrophytic	/
2. (<i>J. TestiLetre</i>) 3 4 5		_	Ξ	Hydrophytic Vegetation Present?	No
2. (<i>J. TexiLetre</i> 5 3 4 5 6	55	- Tabel Cou		Hydrophytic Vegetation Present? Yes	No

WET

rofile Desc	ription: (Describ	e to the dep	th needed to docum	ent the in	ndicator	or confirm	the absence	e of indicators.)	
Depth	Matrix		Redox	Features	100	1000			
(inches)	Color (moist)		Color (moist)	- %	Type	Loc	Texture	B	emarks
4	104R 41	12 10	107R 4/6	30	6	M.PL	6	Orditel	rost changes
161	1078 5/	2 65	101R 4/6	35	6	m	SEL		
				20070	-	-			
			2	4					
_									
						-		-	
		_		8 8			Sector Sector		
				-141	P+++ 0		acation D	-Dom Lining M	-Matrix
Type: C=Co	incentration, D=D	epieçon, rom	Hequoed Metrix, Ma	TANESKED	Saud Or	arra.	Indie	ators for Proble	matic Hydric Soils
lyanc son i	noicators:		Deal Distance	10.00			in the second	2 cm Muck (A10)	MI RA 1471
Histosol	(A1)		Dark Surrace	(S/)	-	E PA 147	-	Coast Prairie Red	ox (A16)
Pastic Ep	special (A2)		This Dark Ser	face (99)	(MLRA	47, 1481	- 191	(MLRA 147, 14	8)
_ Black His	e Sulfde (Ad)		Loamy Gleve	d Matrix ()	F21			Pledmont Floodpl	ain Soils (F19)
Stratifier	Lavers (AS)		Depleted Mat	fix (F3)				(MLRA 136, 14	(7)
2 cm Mu	CR (A10) (LRR N)		Redox Dark 5	iurface (F	6)		-	Very Shallow Dar	k Surface (TF12)
Depletes	Below Dark Surf	ace (A11)	_ Depleted Dar	k Surface	(F7)			Other (Explain in	Remarks)
Thick Da	ark Surface (A12)	harrison	Redox Depre	ssions (FI	8)				
Sandy N	lucky Mineral (S1)) (LRR N,	Iron-Mangane	ose Masse	es (F12) (LRR N.			
MLRA	4 147, 148)		MLRA 13	5)					
Sandy G	Reyed Matrix (S4)		Umbric Surfa	ce (F13) (MLRA 1	16, 122)		dicators of hydrog	snytic vegetation and
Sandy R	ledax (S5)		Piedmont Flo	odplain S	ols (F19)	(MLRA 14	5) W	retand hydrology	must be preserv.
Stripped	Matrix (S6)			naneriai (r	21) (MLP	UN 121, 141		ringas diaturideo di	In owner manage
Restrictive	Layer (if observe	(d);							1
Type:							10.000 00	Basses Ve	No.
Depth (in	ches):						Hydric 30	is Present? Te	6 HV

WETLAN Project/Site:	ND DETERMINATION $C_{RR} \in WE$ $C \in P$ $V \in S$ $V \in $	ON DATA FORM	A - Eastern Mounta (County:A A A A A A A A A A A A A A A A	Ins and Piedmo / Dus how State: State: State: NVI classifior (if no, explain in Re al Circumstances' pr explain any answer	Sampling Date: /b-2 _ Sampling Point: Lu _ Slope (%) Datum: * stion:	Up 12-14 10-5 10 WAD \$
SUMMARY OF FINDIN Hydrophytic Vegetation Pres Hydric Soil Present? Wetland Hydrology Present? Remarks:	IGS – Attach site m ent? Yes Yes Yes	ap showing sa - N0 - N0 V - N0 V - N0 V	In the Sampled Area Is the Sampled Area within a Wetland?	Yes	Important featur	es, etc.
HYDROLOGY Wetland Hydrology Indicat	ors:			Secondary Indicat	ors (minimum of two m	ouired)
Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Seduration (A3) Water Marks (B1) Sediment Deposits (B3) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Ae Water-Stained Leaves (I Aquatic Fauna (B13) Field Observations:	of one is required; check 	call that apply) True Aquatic Plants Hydrogen Suffde C Oxidized Rhizosph Presence of Reduc Recent Iron Reduct Thin Muck Surface Other (Explain In R	s (814) Idor (C1) eres on Living Roots (C3) ed Iron (C4) 5on in Tilled Sells (C6) (C7) emarka)	Surface Sol C Sparsely Veg Drainage Pati Moss Trim Lin Dry-Season V Crayfah Burre Saturation Vis Stunted or Str Geomorphic F Shallow Aquit Microtopograg FAC-Neutral T	racks (86) frated Concave Surface arms (810) less (816) Vater Table (C2) wass (C8) lible on Aerial Imagery essed Plants (D1) fosition (D2) ard (D3) phic Relief (D4) feat (D5)	e (68) (C9)
Surface Water Present? Water Table Present? Saturation Present? (includes capilary finge) Describe Recorded Data (str	Yes No No Yes No	Depth (inches): Depth (inches): Depth (inches): rell, aerial photos, p	Wetland revious inspections), if av	Hydrology Present silable	? Yes No	~
Remarka:						

JP

12 14	Absolute	Dominant	Indicator	Dominance Test worksheet:		
Tree Stratum (Plot size: C m > 10 m)	S Cover	Species?	<u>Status</u> FAC	Number of Dominant Species That Are OBL, FACW, or FAC:	7	(A)
2 A Labram	30	Y	FAD	5	12	
- I educate Class	30	Y	FAC	Species Across All Strate:	3	(B)
- C HIYFARITIN				openes no usa ni onala.		100
4				Percent of Dominant Species	87.5	
5			-	That Are OBL, FACW, or FAC:		(A/B
6				Prevalence Index worksheet:		-
7				Total % Cover of	Multiniv by:	
8				OBL species X	1=	
7 /4	10	= Total Cov	er	EACH species	2 -	
Saping/Shrub Stratum (Plot size: C = × (9_))	10	Y	FALN	Chow apedies A	2-	
1. C. Silvase	10		TACU	FAC species X	3-	
2 <u>A. negundo</u>	20	1_	FAG.	FACU species X	4=	
3				UPL species x	5 =	
4.	_			Column Totals: (/	ÿ	_ (B)
5						
8			2	Prevalence Index = B/A =		
	_	1		Hydrophytic Vegetation Indica	itors:	
				Rapid Test for Hydrophy	tic Vegetation	
8			_	2 - Dominance Test is >509	6	
9				3 - Prevalence Index is ≤3.0	1	
10	-			4 - Morphological Adaptatio	ns ¹ (Provide sup	portin
1 . 5	30	= Total Cov	er	data in Remarks or on a	separate sheet)	
Herb Stratum (Plot size: / m >)	1-		Earl	Brahlomatic Hudroshutic Via	ceparate aneco	-
1. M. Simplom			1-AL	- Problematic Hydrophytic ve	Betanou (codue)	12
2				140 at 10 10 20 10 10 10 10 10 10	200.220.200.000	3932
3	AL INC.			Indicators of hydric soil and we	tiand hydrology n	nust
4	_		_	Beffeldens of Faur Manatellan	- Otrata	-
5				Definitions of Four vegetation	ocrata:	
6		Sec. 10	1	Tree - Woody plants, excluding	vines, 3 in. (7.6	cm) o
7		_		more in diameter at breast heigh	nt (DBH), regardie	ess of
8	10			neight.		
0				Sapling/Shrub - Woody plants,	excluding vines,	less
			—	than 3 in. DBH and greater than	or equal to 3.28	ft (1
10				m) tall.		
11				Herb - All herbaceous (non-woo	dy) plants, regar	diess
12				of size, and woody plants less th	nan 3.28 ft tall.	
7.15	<u> 1</u>	= Total Cov	er	Mineda Star Allowed a long	mater then 3.00	
Woody Vine Stratum (Plot size: C P. A. J. t.)	10	1	Ene	height.	freater stati 2.50	0.61
1. II CERICONS	- 10		LAC?			
2. Si Japanica	35	<u> </u>	TAG 7	7		
3. Contractors	25	<u> </u>	PAC			
4	_			-1010-0110-0110-010		
5				Hydrophytic	/	
				Present? Yes	No	
6		= Total Cou	er	changestate COA-		
6	65					

	unberging finances	an increase here	n meesee s	o docum	nent the in	dicator	or contin	n the absence	e of indicators.)
pth	Matrix	A1	Coloria	Redp	x Features	Trend	12	Tautom	Remarks
2126)	Color (moist)	100	Color (m	0051		1928_	_196		DEUIARINA
1	104 10 - 13	100		1.1					
14	104R 574	95	1048	*/3	2	0	M	SUL	
							1.5		
					84 B	7		2/2010	19-11-1 C
	· · · · · · · · · · · · · · · · · · ·		2				-		
	33. 						-		
		<u> </u>	-	_					
	77.					-	_	-	
					<u> </u>		-		
e: C=Ca	oncentration, D=Dep	letion, RM=	Reduced N	latrix, MS	S=Masked	Sand Gr	ains.	² Location: P	L=Pore Lining, M=Matrix.
Iric Soil I	Indicators:	adulation for a 2017	100000000000000000000000000000000000000					Indic	ators for Problematic Hydric Soils'
Histosol	(A1)		Dark	Surface	(57)				2 cm Muck (A10) (MLRA 147)
Histic Es	pipedon (A2)		_ Poly	value Be	low Surfac	oe (S8) (8	ILRA 147	, 148)	Coest Prairie Redox (A16)
Black Hi	istic (A3)		Thin	Dark Su	rface (S9)	(MLRA	47, 148}		(MLRA 147, 148)
Hydroge	m Sulfide (A4)		Loss	ny Gleye	ed Matrix (F	F2)			Piedmont Floodplain Soils (F19)
Stratified	d Layers (A5)		Dep	leted Ma	trix (F3)				(MLRA 136, 147)
2 cm Mu	uck (A10) (LRR N)		Red	ox Dark	Surface (F	6)		-	Very Shallow Dark Surface (1F12)
Depieter	d Below Dark Surfac	e (A11)	Dep	leted Da	rk Surface	(F7)			Other (Explain in Remarks)
Thick Di	ark Surface (A12)		Red	ox Depre	rssions (F8	2) 	DON		
Sandy N	Aucky Mineral (S1) (I	LRR N,	_ 100	Mangan	41	10 (714)	LINK M.		
MLRA	A 147, 148)		1100	ILKA 13	9) 108 (E13) (MIRAT	6 1221	*Im	dicators of hydrophytic vegetation and
Sandy G	Reyed Matrix (S4)		- Diad	mont Fla	odolain Sc	oils (F19)	(MLRA 1	48) w	retiand hydrology must be present.
Stringer	(Matrix (SS)		Red	Parent I	Material (F)	21) (MLF	A 127, 14	17) u	niess disturbed or problematic.
striction	aver (if observed)	0							and the property of the state o
Tune	cayer, in enterines,								ſ
eype.								Hydric So	il Present? Yes No \/
Danie Ca	about 1								
Depth (in	ches):								
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Appendix G

Invasive Species Treatments

Appendix H

Watershed Planning Summary
Appendix I

Land Ownership and Protection

Appendix J

401/401 Permits and Related Correspondence

Appendix K

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