CHATHAM COUNTY
NORTH CAROLINA

WATERSHED PROTECTION DEPARTMENT

P.O. Box 548
Pittsboro, NC 27312
Phone: (919) 545-8394

Fax: (919) 542-2698 ● E-mail: drew.blake@chathamnc.org ● Website: www.chathamnc.org

August 25, 2020

Ms. Lauren Norris-Heflin
Timmons Group
5410 Trinity Road, Suite 102
Raleigh, NC 27607

Project Name:	Savannah Ridge (Parcel 11229)
Location:	1052 Moncure School Road, Chatham County
Subject Features:	Three (3) ephemeral segments, two (2) intermittent segments, one (1) perennial segment, eleven (11) wetlands
Date of Determination:	July 28, 2020

Explanation:
The site visit was completed on July 28, 2020 by Drew Blake with the Chatham County Watershed Protection Department and Morgan Gilbert & Lauren Norris-Heflin of Timmons Group on a property identified as Chatham County Parcel# 11229 that is located outside of the Jordan Lake watershed. Timmons Group submitted a request for Chatham County to complete a formal review to determine if the features would be subject to riparian buffers according to Section 304 of the Chatham County Watershed Protection Ordinance. All points of origin, stream type transitions, and wetland boundaries were reviewed in the field.

Required Riparian Buffers:
The required riparian buffers described below are based on the surface water features identified on the included Figure 6 and its associated table, completed by Timmons Group. The ephemeral streams will require a 30-ft buffer from the top of bank landward. The intermittent streams will require a 50-ft buffer from the top of bank landward on both sides of the feature. The perennial streams will require a 100-ft buffer from the top of bank landward on both sides of the feature.

The wetland boundaries flagged in the field by Timmons Group have been reviewed and confirmed by the US Army Corps of Engineers (USACE). A 50-ft buffer will be required beginning at the flagged boundary and proceeding landward of any flagged wetlands determined jurisdictional by the USACE. Eight (8) of the eleven (11) wetlands identified on the property were deemed non-jurisdictional by the USACE. Per Section 304 (A) of the Chatham County Watershed Protection Ordinance, non-jurisdictional wetlands will require a 50-ft buffer from the flagged boundary.

Impacts to Riparian Buffers:
Impacts to the riparian buffers may require a Riparian Buffer Authorization depending on the size and scope of the impacts. Please refer to Section 304 (J) of the Chatham County Watershed Protection Ordinance to determine if your impacts will require a Riparian Buffer Authorization. If you determine that a Riparian Buffer Authorization is required please contact Drew Blake to receive the required application and submittal instructions.

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This on-site determination shall expire five (5) years from the date of this letter. Landowners or affected parties that dispute a determination made by Chatham County, on parcels outside of the Jordan Lake watershed, may submit a request for appeal in writing to the Watershed Review Board. A request for a determination by the Watershed Review Board shall be made in accordance with Section 304 of the Chatham County Watershed Protection Ordinance. Landowners or affected parties that dispute a determination made by Chatham County, on parcels inside the Jordan Lake watershed, shall submit a request for appeal in writing to NC DWR, 401 & Buffer Permitting Unit, 1650 Mail Service Center, Raleigh, NC 27669-1650 attention of the Director of the NC Division of Water Quality.

Should this project result in any direct impacts to surface water features (i.e., crossing and/or filling streams or wetlands) additional reviews may be necessary. Additionally, a Section 404/401 Permit may be required. Any inquiries regarding Section 404/401 permitting should be directed to the Division of Water Resources (Central Office) at (919)-807-6364 and the US Army Corp of Engineers (Raleigh Regulatory Field Office) at (919)-554-4884.

Respectfully,

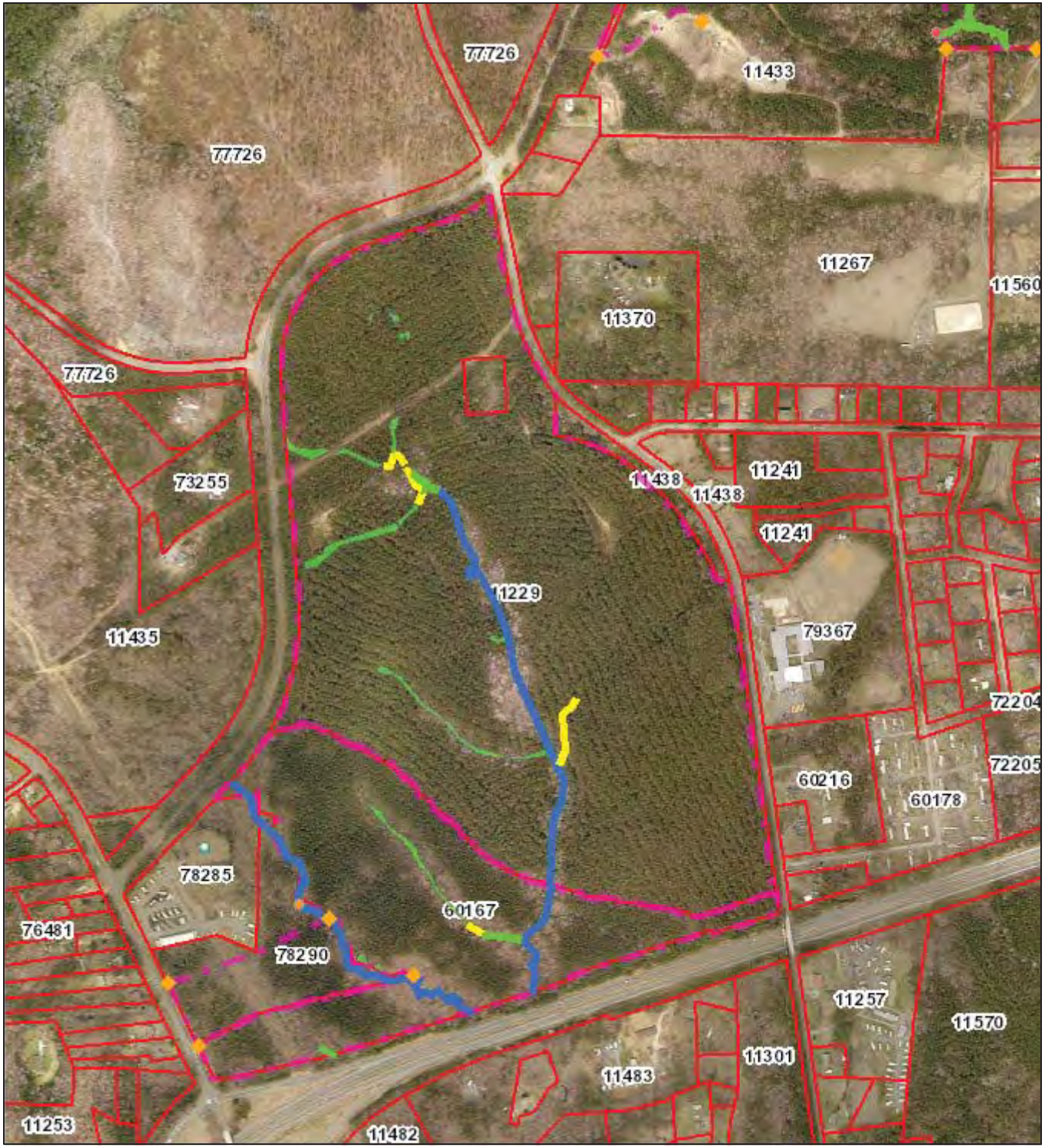
Drew Blake

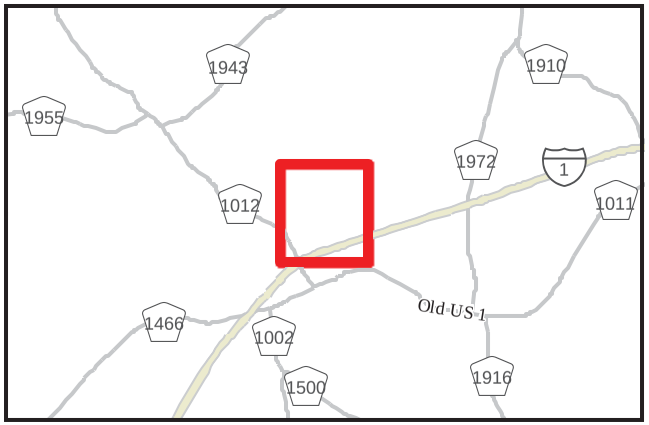
Drew Blake
Senior Watershed Specialist, CESSWI

Enclosures:
Exhibit 1: Surface Water Features Approximate Locations – Completed by Chatham County
Figure 1: Site Vicinity Map –completed by Timmons Group
Figure 2: Hydrologic Unit Code Map – Completed by Timmons Group
Figure 3: Environmental Inventory Map – Completed by Timmons Group
Figure 4: Parcel Map – Completed by Timmons Group
Figure 5: NRCS Soil Survey – Completed by Timmons Group
Figure 6: Wetlands & Waters of the US Delineation Map – completed by Timmons Group
Timmons Group Stream ID Forms
Timmons Group Wetland Determination Forms
Major Subdivision Riparian Buffer Application
Authorized Agent Form
Authorization to Enter Property Form

cc: Rachael Thorn, Director, Chatham County Watershed Protection Department
Kimberly Tyson, Planner II/Subdivision Administrator, Chatham County Planning Department
Angela Birchett, Planner II/Zoning Administrator, Chatham County Planning Department
Jason Sullivan, Director, Chatham County Planning Department

Exhibit 1





Legend

GPSDataCollection_RiparianTransitionPoints_62

- Origin-Intermittent
- Origin-Perennial
- Review Corners
- GPSDataCollection_SCM_427

GPSDataCollection_RiparianStreams_7499

- Ephemeral
- Intermittent
- Perennial
- GPSDataCollection_WetlandBoundaries_8192
- GPSDataCollection_ReviewBoundaries_9921
- Parcels

Service Layer Credits: Chatham County, Chatham County Environmental Quality, Chatham County GIS

0 0.075 0.15 mi

N

Date: 8/20/2020
Time: 2:23:38 PM

CHATHAM COUNTY
NORTH CAROLINA

Path: Y:\805\99999 - TCI 154 Acres\GIS\Common Shared Exhibits\99999-VIC.mxd

TCI 154 MONCURE

CHATHAM COUNTY, NORTH CAROLINA

FIGURE 1: VICINITY MAP

TIMMONS GROUP

YOUR VISION ACHIEVED THROUGH OURS.

TIMMONS GROUP JOB NUMBER: *99999*
PROJECT STUDY LIMITS: *150.0 ACRES*
LATITUDE: *35°37'55.905"N*
LONGITUDE: *79°4'59.244"W*

U.S.G.S. QUADRANGLE(S): *MERRY OAKS*
DATE(S): *2016*
WATERSHED(S): *DEEP & HAW (CAPE FEAR RIVER BASIN)*
HYDROLOGIC UNIT CODE(S): *03030003 & 03030002*

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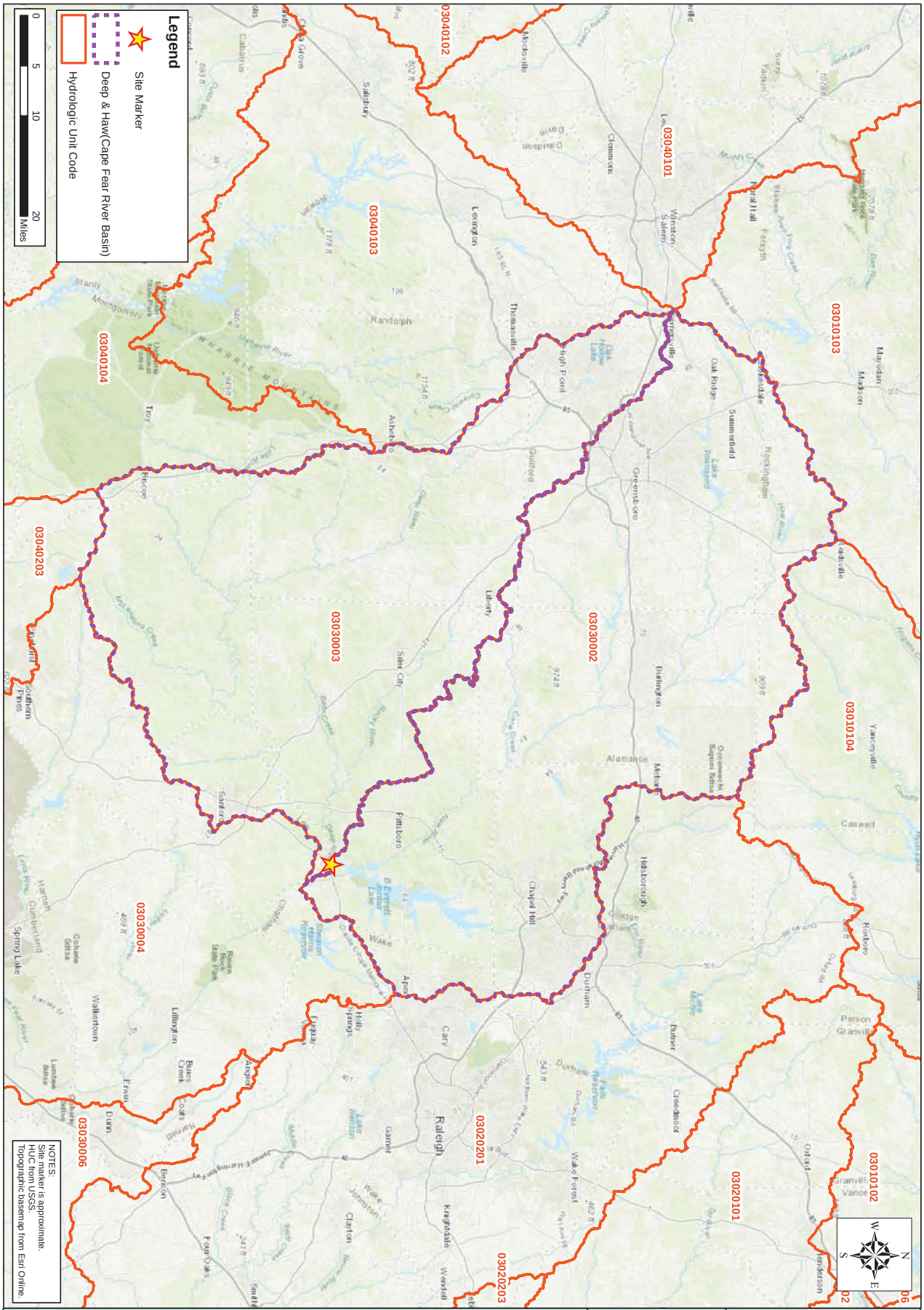

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TEL 804.200.6500 FAX 804.560.1648 www.timmons.com

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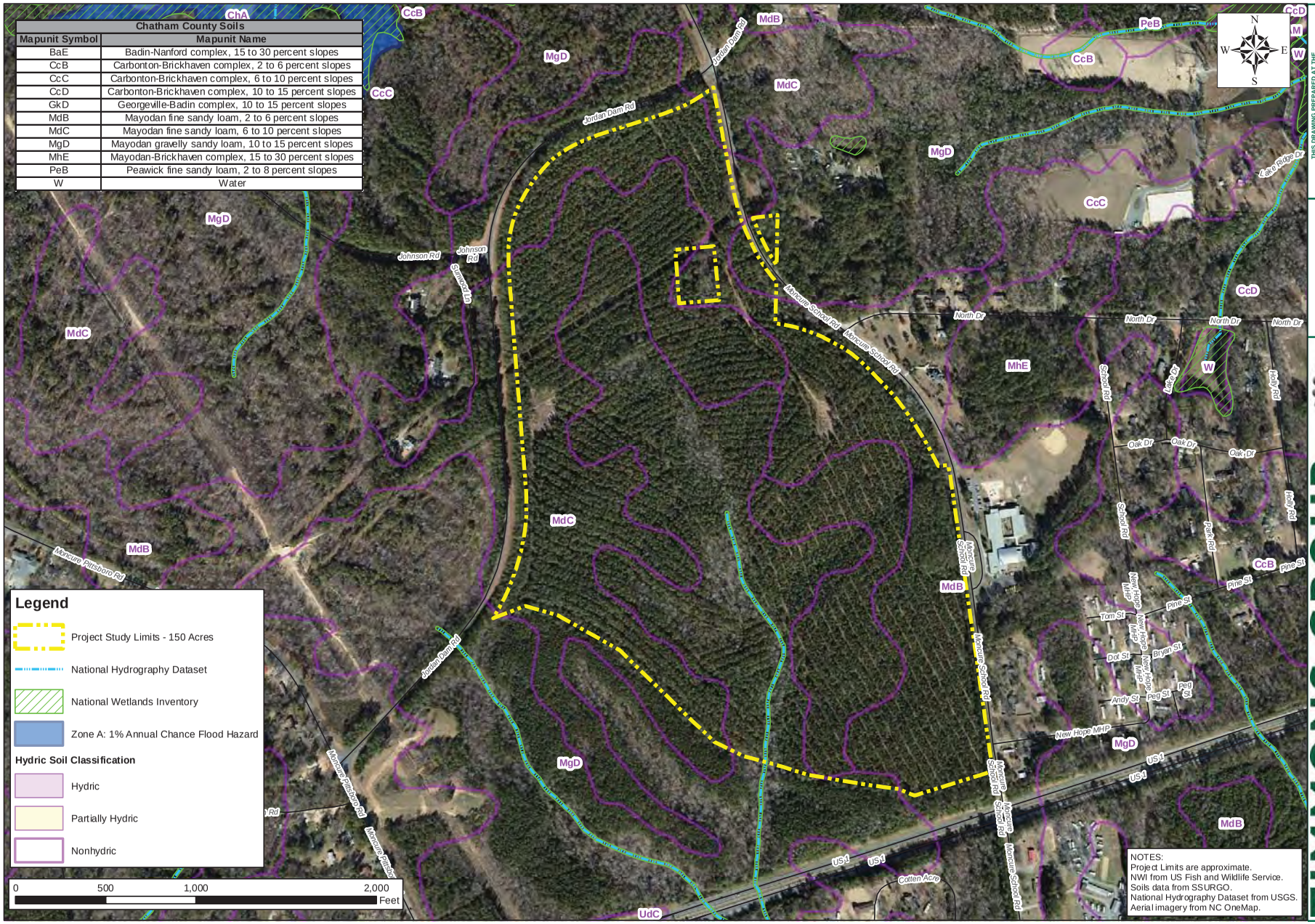
TCI 154 MONCURE

CHATHAM COUNTY, NORTH CAROLINA

FIGURE 2: HYDROLOGIC UNIT CODE MAP

JOB NUMBER	SHEET NO.	SCALE	CHECKED BY	DESIGNED BY	DRAWN BY	DATE
99999	1 OF 1	1" = 9 Miles	LNORRIS-HERLIN	M.COOLEY	M.COOLEY	01/07/2020

DATE	REVISION DESCRIPTION



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DATE	REVISION DESCRIPTION

DATE 01/07/2020
DRAWN BY M.COOLEY
DESIGNED BY M.COOLEY
CHECKED BY L.NORRIS-HEFLIN
SCALE 1 " = 500 '

TCI 154 MONCURE
CHATHAM COUNTY, NORTH CAROLINA

FIGURE 3: ENVIRONMENTAL INVENTORY MAP

JOB NUMBER 99999
SHEET NO. 1 OF 1

Path: Y:\805\43779 - Moncure-Pittsboro Road TCI 154 Acres\GIS\Common Shared Exhibits\49779-Parcel.mxd

MONCURE- PITTSBORO TCI 154 ACRES

CHATHAM COUNTY, NORTH CAROLINA

FIGURE 4: PARCEL MAP

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

TIMMONS GROUP JOB NUMBER: *49779*
PROJECT STUDY LIMITS: *150 ACRES*
LATITUDE: *35°38'0.041"N*
LONGITUDE: *79°5'4.667"W*

U.S.G.S. QUADRANGLE(S): *MERRY OAKS*
DATE(S): *2016*
WATERSHED(S): *DEEP & HAW (CAPE FEAR RIVER BASIN)*
HYDROLOGIC UNIT CODE(S): *03030003 & 03030002*

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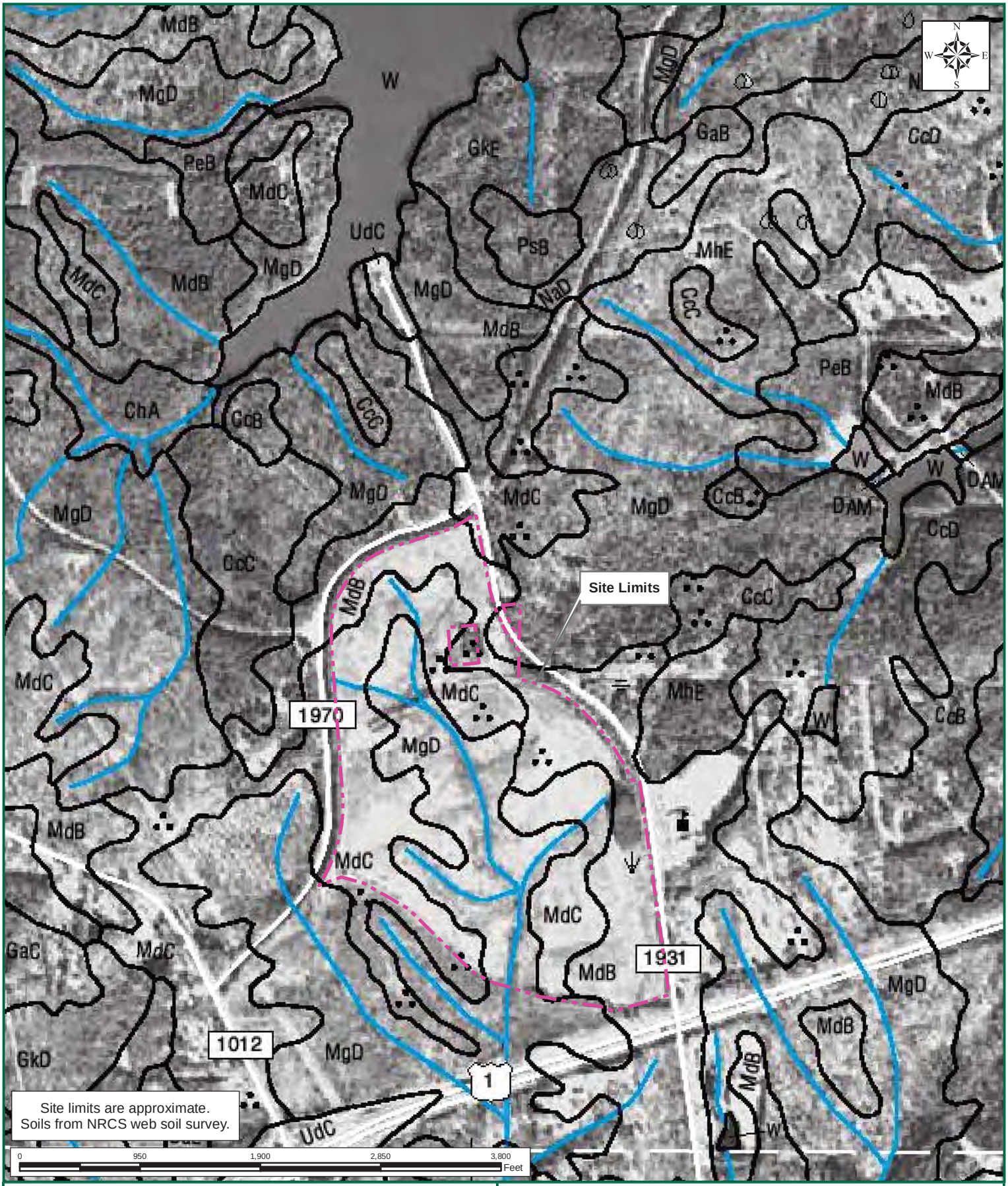

MONCURE- PITTSBORO TCI 154 ACRES

CHATHAM COUNTY, NORTH CAROLINA

FIGURE 5: NRCS SOIL SURVEY MAP

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TIMMONS GROUP JOB NUMBER: *49779*
PROJECT STUDY LIMITS: *150 ACRES*
LATITUDE: *35°38'0.041"N*
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U.S.G.S. QUADRANGLE(S): *MERRY OAKS*
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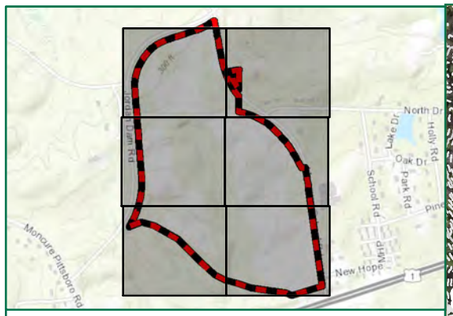

Resource Identification	Confirmation (USACE) Jurisdictional Features								WOUS Regulatory Category**	Resource Description Notes*
	PFO (sq ft)	PSS (sq ft)	PEM (sq ft)	POW (sq ft)	R3 (lf)	R4 (lf)	R6 (lf)	Ditch (lf)		
A					2,870	109			a(2)	NT/NV
L	632								a(4)	NT/V
M				186					a(4)	NT/NV
N	13,078								a(4)	NT/V
O						33			a(2)	NT/NV
Total	**13,710**	**0**	**0**	**186**	**2,870**	**142**	**0**	**0**		
Total Wetland Area =			**13,896 sq ft**			**0.32 ac**				
Total Stream Length =			**3,012 lf**							

Resource Identification	Chatham County Potential Waters								NWPR WOUS Exclusion**	Resource Description Notes*
	PFO (sq ft)	PSS (sq ft)	PEM (sq ft)	POW (sq ft)	R3 (lf)	R4 (lf)	R6 (lf)	Ditch (lf)		
A							365		b(3)	NT/NV
B							263		b(3)	NT/NV
C							308		b(3)	NT/NV
D	391								b(1)	NT/V
E	547								b(1)	NT/V
F	708								b(1)	NT/V
G	6,467								b(1)	NT/V
H	144								b(1)	NT/V
I	2,204								b(1)	NT/V
J	5,506								b(1)	NT/V
K	20,990		2,801						b(1)	NT/V
Total	**36,957**	**0**	**2,801**	**0**	**0**	**0**	**936**	**0**		
Total Wetland Area =			**39,758 sq ft**			**0.91 ac**				
Total Stream Length =			**936 lf**							

* T=Tidal; NT=Non-tidal; V=Vegetated; NV=Non-Vegetated; PFO=Palustrine Forested Wetland; PSS=Palustrine Scrub-Shrub Wetland; PEM=Palustrine Emergent Wetland; POW= Palustrine Open Water; EW= Estuarine Interdal Wetlands; R3= Upper Perennial Streams; R4=Intermittent Streams; R6 = Ephemeral Streams

**See Title 33 Section 328.3 for Regulatory Category

Legend

- Project Study Limits - 150 Acres
- Stream Identifier
- Wetland Identifier
- Flag
- Field Data Station
- Culvert
- Perennial Stream (R3)
- Intermittent Stream (R4)
- Ephemeral Stream (R6)
- Palustrine Emergent (PEM) Wetlands
- Palustrine Forested (PFO) Wetlands
- Palustrine Open Water (POW)

Topographic Contours

- Major - 10 Feet
- Minor - 1 Foot

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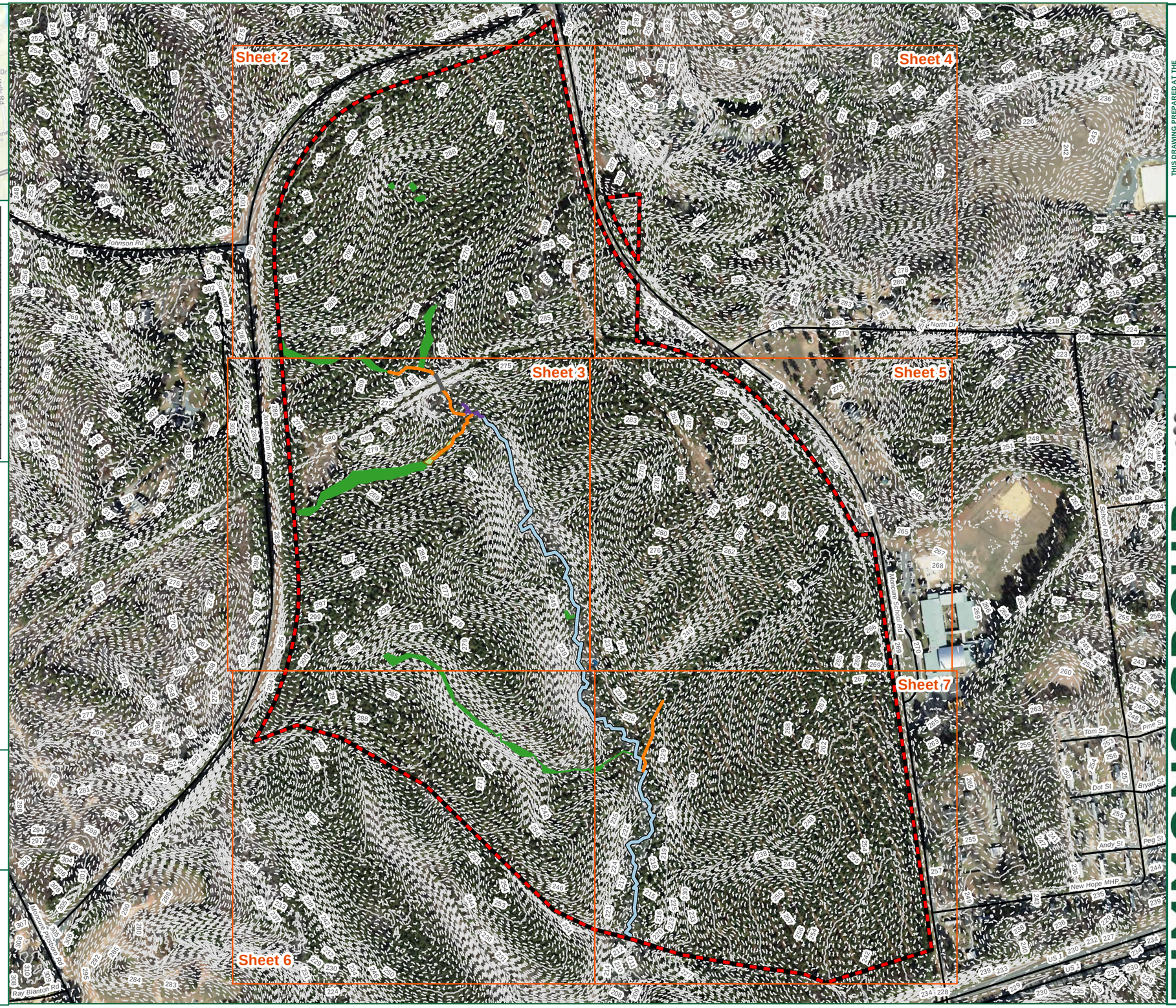
3. Project limits are approximate.
4. Topography based on USGS LiDAR.
5. Cowardin Stream Classifications are based on NC DWQ Stream Identification form version 4.11.

N

0 200 400 800

Feet



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DATE	REVISION DESCRIPTION

DATE 01/17/2020

DRAWN BY M.COOLEY

DESIGNED BY M.COOLEY

CHECKED BY M.GILBERT

SCALE 1 " = 400 '

TIMMONS GROUP

MONCURE-PITTSBORO ROAD

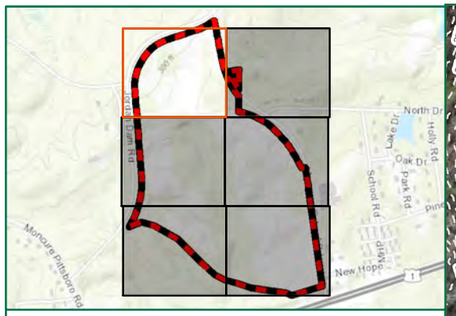
CHATHAM COUNTY, NORTH CAROLINA

FIGURE 6: WETLANDS AND WATERS OF THE U.S. DELINEATION MAP

JOB NUMBER 43779

SHEET NO. 1 of 7

Path: Y:\80\43779 - Moncure-Pittsboro Road TCI 154 A cres\GIS\WTDM\43779-WTDM-Chatham.mxd



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A					2,870	109			a(2)	NT/NV
L	632								a(4)	NT/V
M				186					a(4)	NT/NV
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Total Stream Length =	**3,012 lf**									

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E	547								b(1)	NT/V
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G	6,467								b(1)	NT/V
H	144								b(1)	NT/V
I	2,204								b(1)	NT/V
J	5,506								b(1)	NT/V
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**See Title 33 Section 328.3 for Regulatory Category

Legend

- Project Study Limits - 150 Acres
- Stream Identifier
- Wetland Identifier
- Flag
- Field Data Station
- Culvert
- Perennial Stream (R3)
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- Ephemeral Stream (R6)
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Topographic Contours

- Major - 10 Feet
- Minor - 1 Foot

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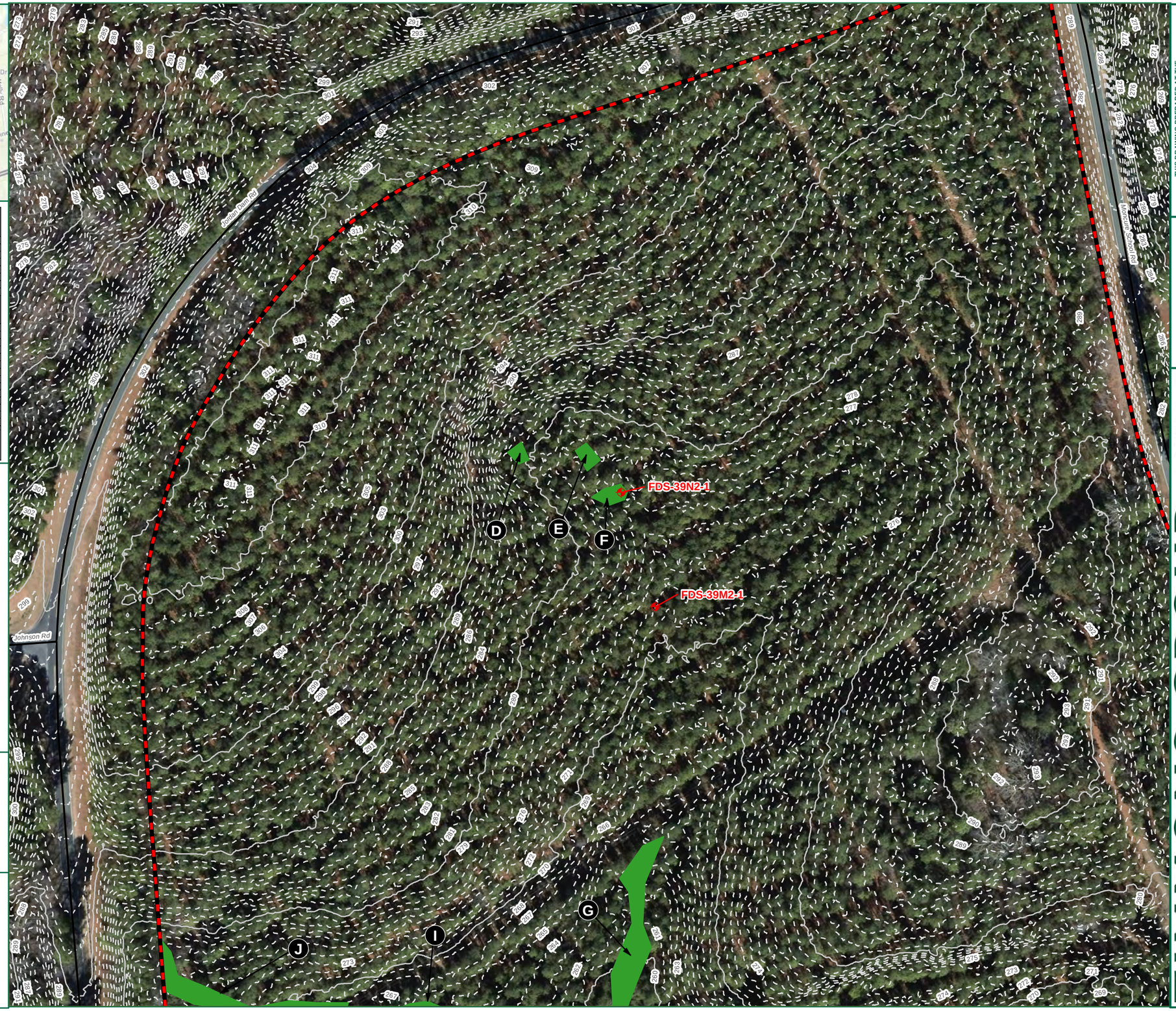
3. Project limits are approximate.
4. Topography based on USGS LiDAR.
5. Cowardin Stream Classifications are based on NC DWQ Stream Identification form version 4.11.

N

0 62.5 125 250

Feet



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DATE	REVISION DESCRIPTION

DATE 01/17/2020

DRAWN BY M.COOLEY

DESIGNED BY M.COOLEY

CHECKED BY M.GILBERT

SCALE 1 " = 125 '

TIMMONS GROUP

MONCURE-PITTSBORO ROAD
CHATHAM COUNTY, NORTH CAROLINA

FIGURE 6: WETLANDS AND WATERS OF THE U.S. DELINEATION MAP

JOB NUMBER 43779

SHEET NO. 2 of 7

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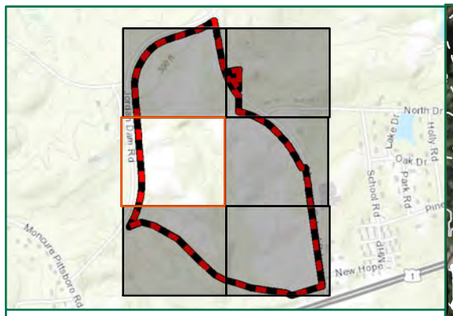

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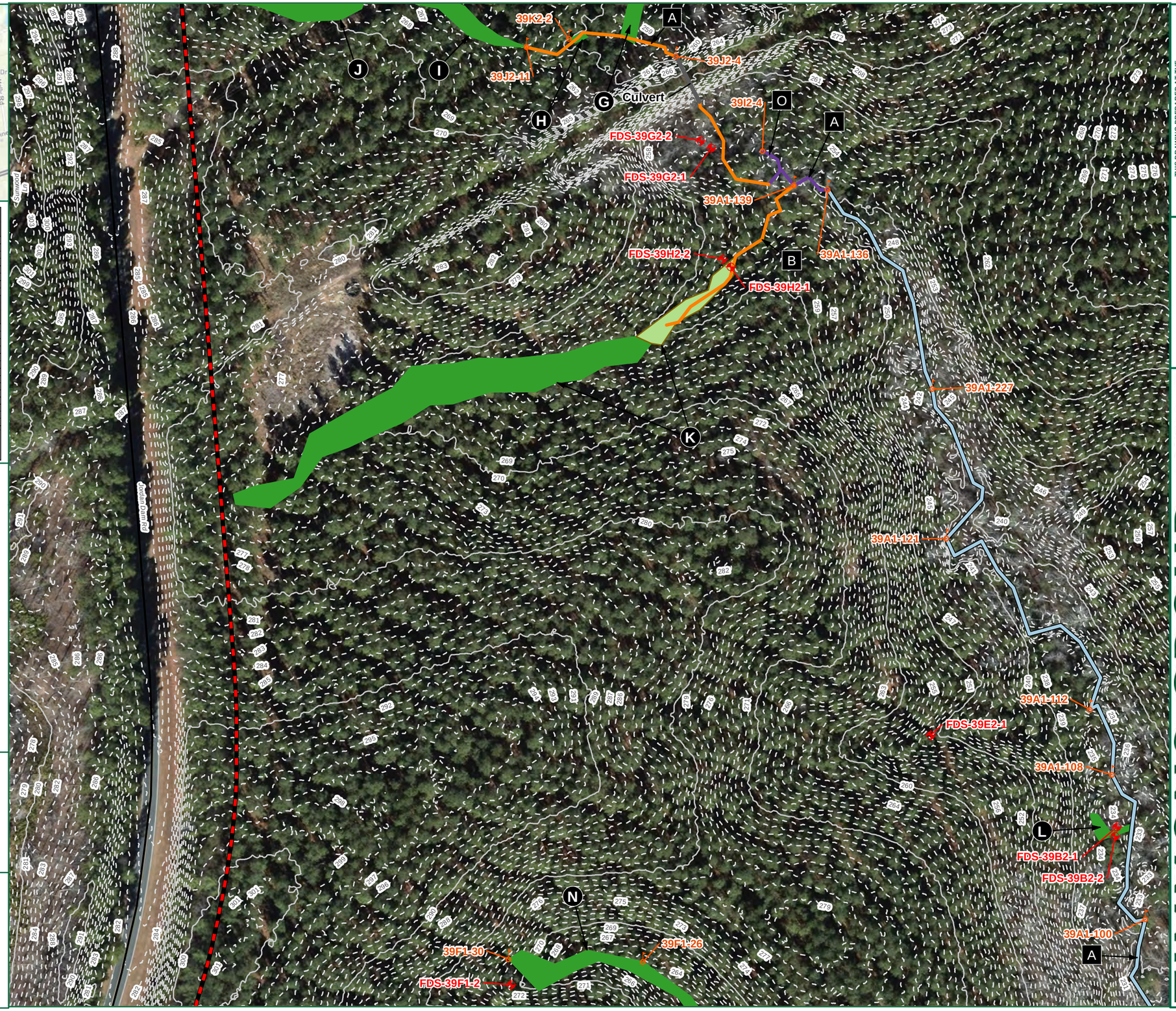
N

0 62.5 125 250

Feet



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DRAWN BY M.COOLEY

DESIGNED BY M.COOLEY

CHECKED BY M.GILBERT

SCALE 1 " = 125 '

MONCURE-PITTSBORO ROAD

CHATHAM COUNTY, NORTH CAROLINA

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JOB NUMBER 43779

SHEET NO. 3 of 7

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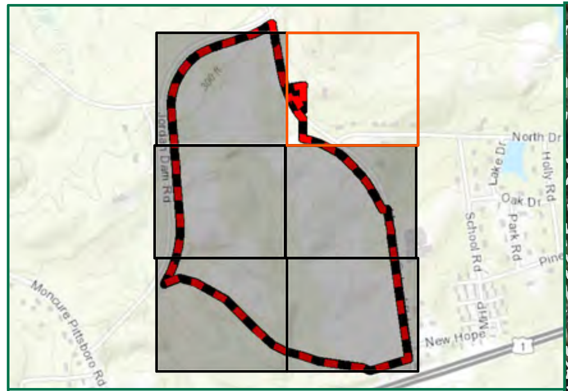

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O						33			a(2)	NT/NV
Total	**13,710**	**0**	**0**	**186**	**2,870**	**142**	**0**	**0**		
Total Wetland Area =			**13,896 sq ft**		**0.32 ac**					
Total Stream Length =			**3,012 lf**							

Resource Identification	Chatham County Potential Waters								NWPR WOUS Exclusion**	Resource Description Notes*
	PFO (sq ft)	PSS (sq ft)	PEM (sq ft)	POW (sq ft)	R3 (lf)	R4 (lf)	R6 (lf)	Ditch (lf)		
A							365		b(3)	NT/NV
B							263		b(3)	NT/NV
C							308		b(3)	NT/NV
D	391								b(1)	NT/V
E	547								b(1)	NT/V
F	708								b(1)	NT/V
G	6,467								b(1)	NT/V
H	144								b(1)	NT/V
I	2,204								b(1)	NT/V
J	5,506								b(1)	NT/V
K	20,990		2,801						b(1)	NT/V
Total	**36,957**	**0**	**2,801**	**0**	**0**	**0**	**936**	**0**		
Total Wetland Area =			**39,758 sq ft**		**0.91 ac**					
Total Stream Length =			**936 lf**							

* T=Tidal; NT=Non-tidal; V=Vegetated; NV=Non-Vegetated; PFO=Palustrine Forested Wetland; PSS=Palustrine Scrub-Shrub Wetland; PEM=Palustrine Emergent Wetland; POW= Palustrine Open Water; EIW= Estuarine Intertidal Wetlands; R3= Upper Perennial Streams; R4=Intermittent Streams; R6 = Ephemeral Streams

**See Title 33 Section 328.3 for Regulatory Category

Legend

- Project Study Limits - 150 Acres
- Stream Identifier
- Wetland Identifier
- Flag
- Field Data Station
- Culvert
- Perennial Stream (R3)
- Intermittent Stream (R4)
- Ephemeral Stream (R6)
- Palustrine Emergent (PEM) Wetlands
- Palustrine Forested (PFO) Wetlands
- Palustrine Open Water (POW)

Topographic Contours

- Major - 10 Feet
- Minor - 1 Foot

1. Waters of the U.S. within the project study limits have been located using submeter, Bluetooth GPS antennas by Timmons Group.
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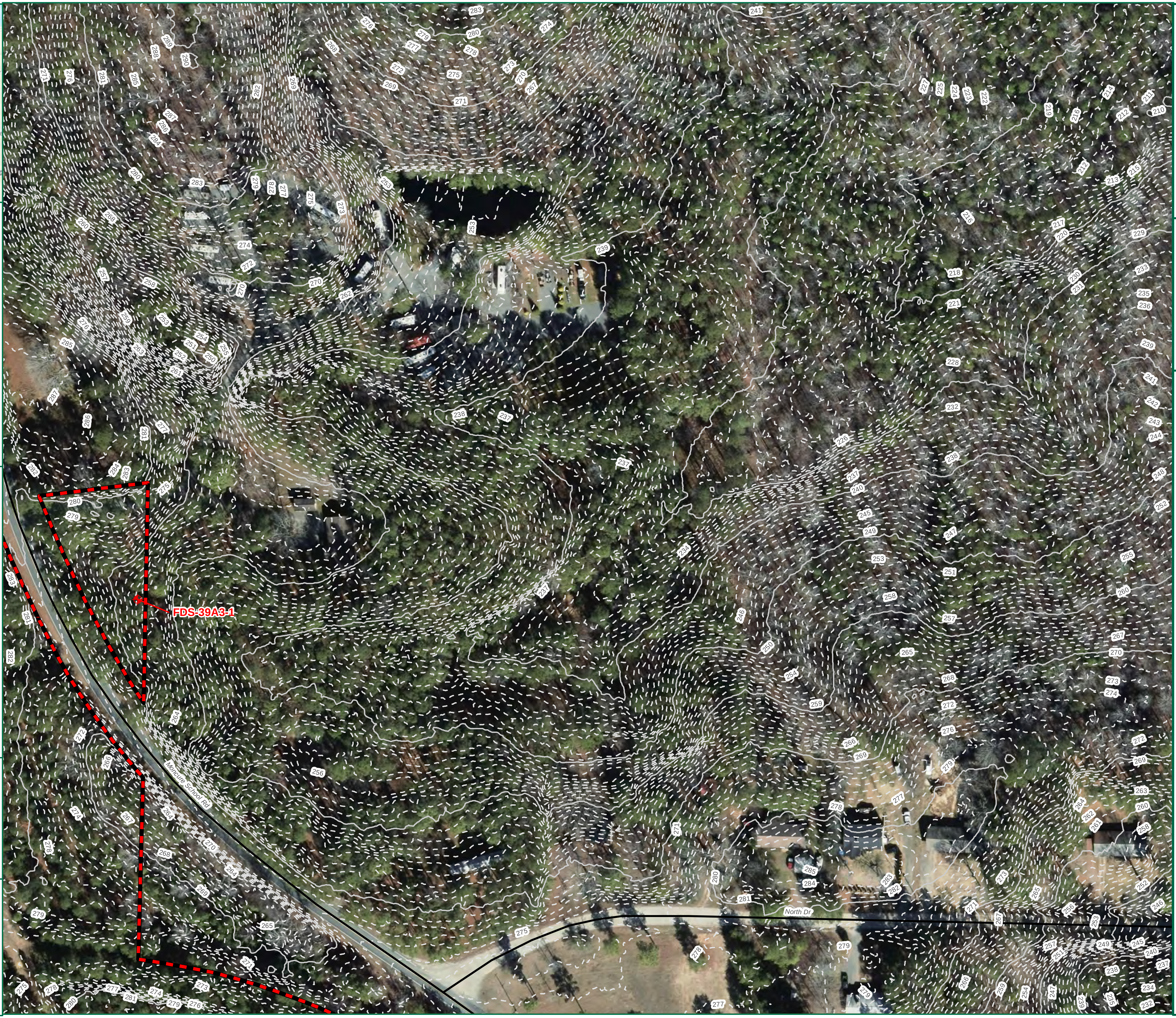
3. Project limits are approximate.
4. Topography based on USGS LiDAR.
5. Cowardin Stream Classifications are based on NC DWQ Stream Identification form version 4.11.

N

0 62.5 125 250
Feet

Path: Y:\805\43779 - Moncure-Pittsboro Road TCI 154 Acres\GIS\WTDM\43779-WTDM-Chatham.mxd



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DATE 01/17/2020
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DESIGNED BY M.COOLEY
CHECKED BY M.GILBERT
SCALE 1 " = 125 '

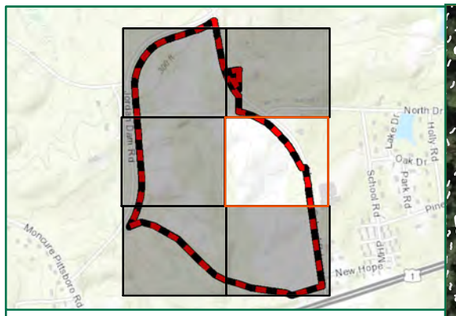
TIMMONS GROUP

MONCURE-PITTSBORO ROAD

CHATHAM COUNTY, NORTH CAROLINA

FIGURE 6: WETLANDS AND WATERS OF THE U.S. DELINEATION MAP

JOB NUMBER 43779



Resource Identification	Confirmation (USACE) Jurisdictional Features								WOUS Regulatory Category**	Resource Description Notes*
	PFO (sq ft)	PSS (sq ft)	PEM (sq ft)	POW (sq ft)	R3 (lf)	R4 (lf)	R6 (lf)	Ditch (lf)		
A					2,870	109			a(2)	NT/NV
L	632								a(4)	NT/V
M				186					a(4)	NT/NV
N	13,078								a(4)	NT/V
O						33			a(2)	NT/NV
Total	**13,710**	**0**	**0**	**186**	**2,870**	**142**	**0**	**0**		
Total Wetland Area =	**13,896 sq ft**				**0.32 ac**					
Total Stream Length =	**3,012 lf**									

Resource Identification	Chatham County Potential Waters								NWPR WOUS Exclusion**	Resource Description Notes*
	PFO (sq ft)	PSS (sq ft)	PEM (sq ft)	POW (sq ft)	R3 (lf)	R4 (lf)	R6 (lf)	Ditch (lf)		
A							365		b(3)	NT/NV
B							263		b(3)	NT/NV
C							308		b(3)	NT/NV
D	391								b(1)	NT/V
E	547								b(1)	NT/V
F	708								b(1)	NT/V
G	6,467								b(1)	NT/V
H	144								b(1)	NT/V
I	2,204								b(1)	NT/V
J	5,506								b(1)	NT/V
K	20,990		2,801						b(1)	NT/V
Total	**36,957**	**0**	**2,801**	**0**	**0**	**0**	**936**	**0**		
Total Wetland Area =	**39,758 sq ft**				**0.91 ac**					
Total Stream Length =	**936 lf**									

* T=Tidal; NT=Non-tidal; V=Vegetated; NV=Non-Vegetated; PFO=Palustrine Forested Wetland; PSS=Palustrine Scrub-Shrub Wetland; PEM=Palustrine Emergent Wetland; POW= Palustrine Open Water; EIW= Estuarine Interidal Wetlands; R3= Upper Perennial Streams; R4=Intermittent Streams; R6 = Ephemeral Streams

**See Title 33 Section 328.3 for Regulatory Category

Legend

- Project Study Limits - 150 Acres
- Stream Identifier
- Wetland Identifier
- Flag
- Field Data Station
- Culvert
- Perennial Stream (R3)
- Intermittent Stream (R4)
- Ephemeral Stream (R6)
- Palustrine Emergent (PEM) Wetlands
- Palustrine Forested (PFO) Wetlands
- Palustrine Open Water (POW)

Topographic Contours

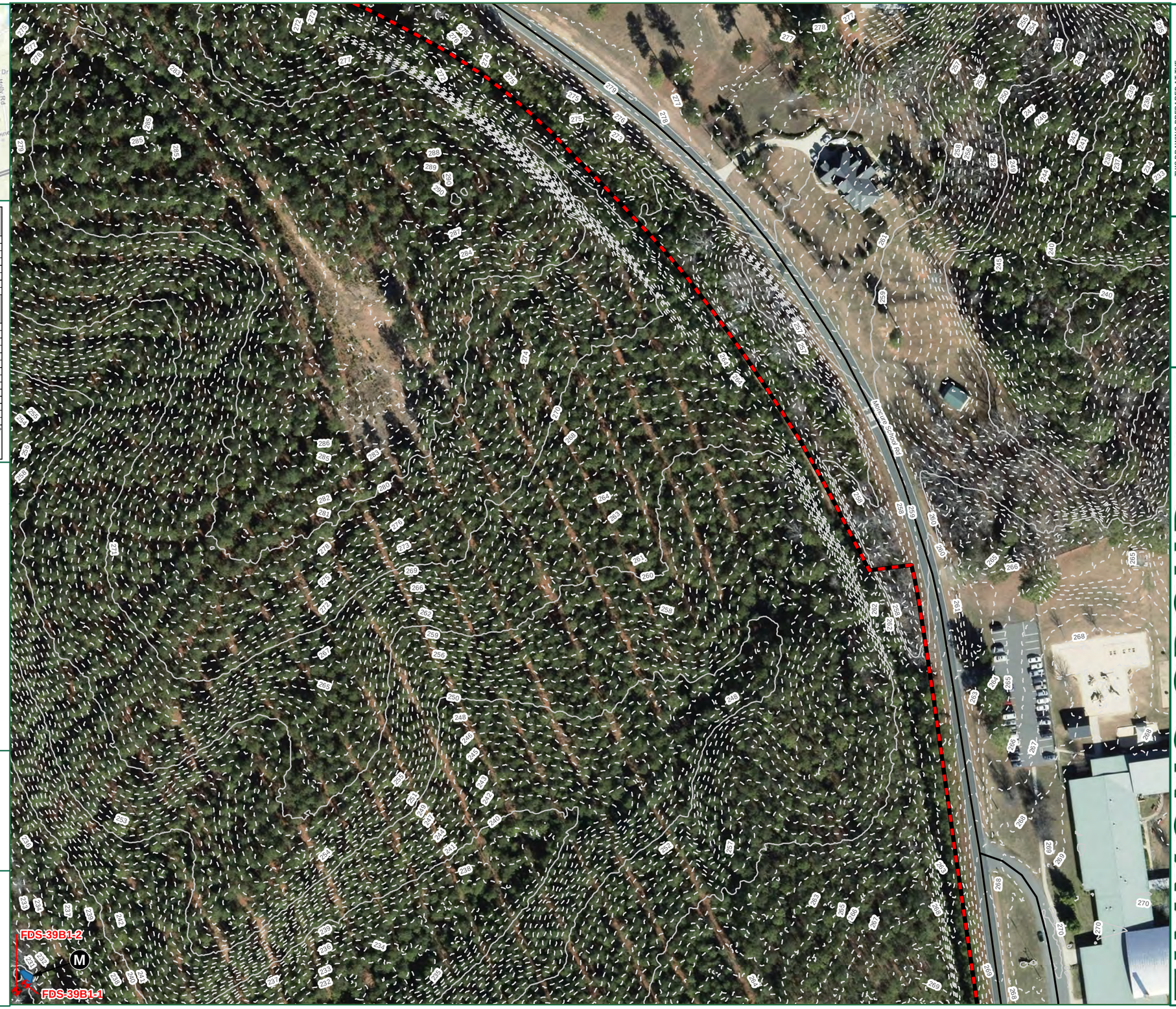
- Major - 10 Feet
- Minor - 1 Foot

1. Waters of the U.S. within the project study limits have been located using submeter, Bluetooth GPS antennas by Timmons Group.
2. Waters of the U.S. have not been confirmed by the U.S. Army Corps of Engineers until stamped.
3. Project limits are approximate.
4. Topography based on USGS LiDAR.
5. Cowardin Stream Classifications are based on NC DWQ Stream Identification form version 4.11.

N

0 62.5 125 250

Feet



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TIMMONS GROUP

DATE 01/17/2020

DRAWN BY M.COOLEY

DESIGNED BY M.COOLEY

CHECKED BY M.GILBERT

SCALE 1 " = 125 '

MONCURE-PITTSBORO ROAD

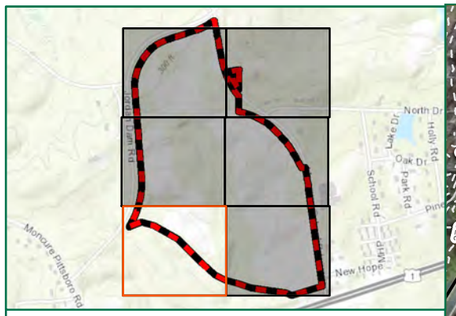
CHATHAM COUNTY, NORTH CAROLINA

FIGURE 6: WETLANDS AND WATERS OF THE U.S. DELINEATION MAP

JOB NUMBER 43779

SHEET NO. 5 of 7

Path: Y:\80\43779 - Moncure-Pittsboro Road TCI 154 Acres\GIS\WTDM\43779-WTDM-Chatham.mxd



Resource Identification	Confirmation (USACE) Jurisdictional Features								WOUS Regulatory Category**	Resource Description Notes*
	PFO (sq ft)	PSS (sq ft)	PEM (sq ft)	POW (sq ft)	R3 (lf)	R4 (lf)	R6 (lf)	Ditch (lf)		
A					2,870	109			a(2)	NT/NV
L	632								a(4)	NT/V
M				186					a(4)	NT/NV
N	13,078								a(4)	NT/V
O						33			a(2)	NT/NV
Total	**13,710**	**0**	**0**	**186**	**2,870**	**142**	**0**	**0**		
Total Wetland Area =	**13,896 sq ft**				**0.32 ac**					
Total Stream Length =	**3,012 lf**									

Resource Identification	Chatham County Potential Waters								NWPR WOUS Exclusion**	Resource Description Notes*
	PFO (sq ft)	PSS (sq ft)	PEM (sq ft)	POW (sq ft)	R3 (lf)	R4 (lf)	R6 (lf)	Ditch (lf)		
A							365		b(3)	NT/NV
B							263		b(3)	NT/NV
C							308		b(3)	NT/NV
D	391								b(1)	NT/V
E	547								b(1)	NT/V
F	708								b(1)	NT/V
G	6,467								b(1)	NT/V
H	144								b(1)	NT/V
I	2,204								b(1)	NT/V
J	5,506								b(1)	NT/V
K	20,990		2,801						b(1)	NT/V
Total	**36,957**	**0**	**2,801**	**0**	**0**	**0**	**936**	**0**		
Total Wetland Area =	**39,758 sq ft**				**0.91 ac**					
Total Stream Length =	**936 lf**									

* T=Tidal; NT=Non-tidal; V=Vegetated; NV=Non-Vegetated; PFO=Palustrine Forested Wetland; PSS=Palustrine Scrub-Shrub Wetland; PEM=Palustrine Emergent Wetland; POW= Palustrine Open Water; EIW= Estuarine Interidal Wetlands; R3= Upper Perennial Streams; R4=Intermittent Streams; R6 = Ephemeral Streams

**See Title 33 Section 328.3 for Regulatory Category

Legend

- Project Study Limits - 150 Acres
- Stream Identifier
- Wetland Identifier
- Flag
- Field Data Station
- Culvert
- Perennial Stream (R3)
- Intermittent Stream (R4)
- Ephemeral Stream (R6)
- Palustrine Emergent (PEM) Wetlands
- Palustrine Forested (PFO) Wetlands
- Palustrine Open Water (POW)

Topographic Contours

- Major - 10 Feet
- Minor - 1 Foot

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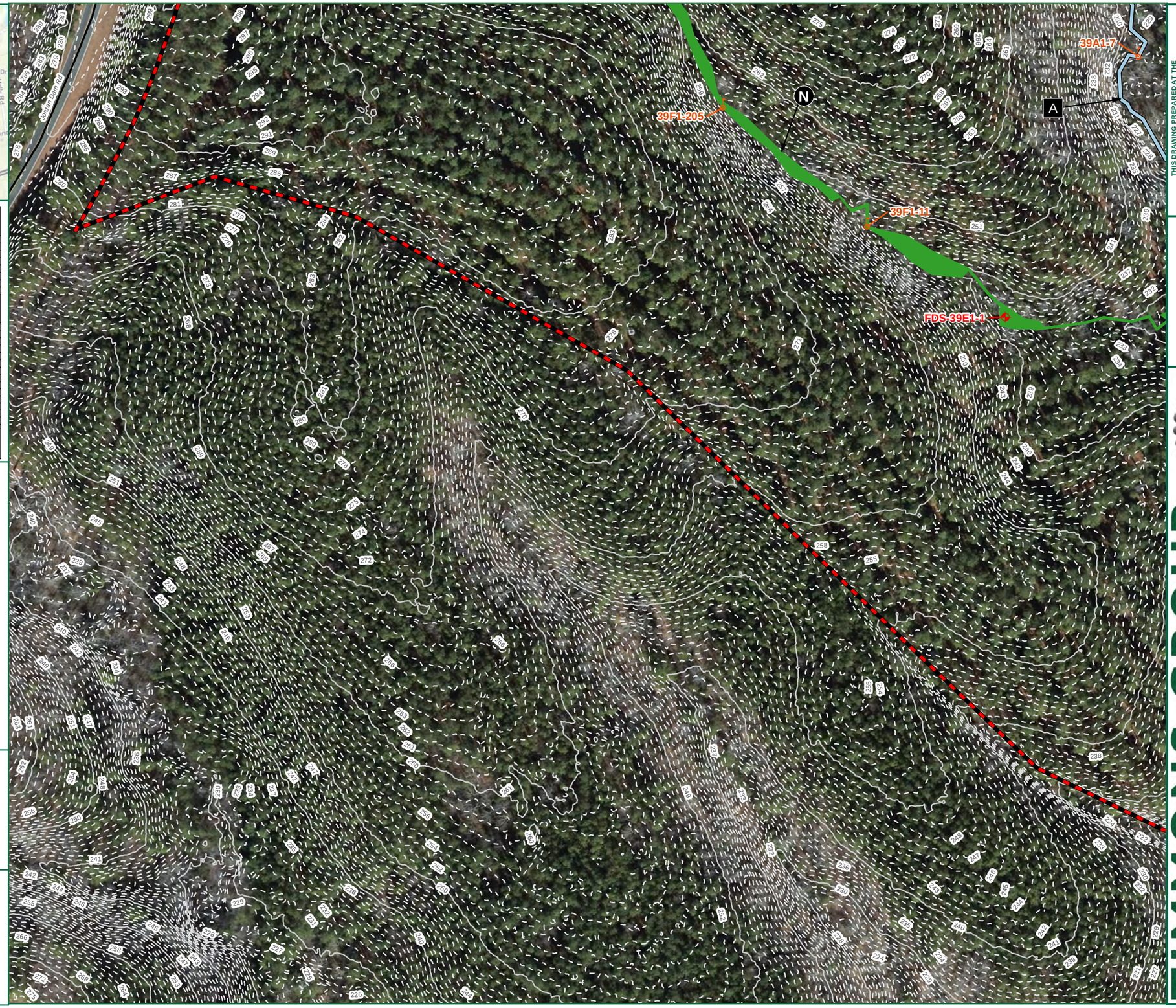
N

0 62.5 125 250

Feet



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DESIGNED BY M.COOLEY

CHECKED BY M.GILBERT

SCALE 1 " = 125 '

TIMMONS GROUP

MONCURE-PITTSBORO ROAD

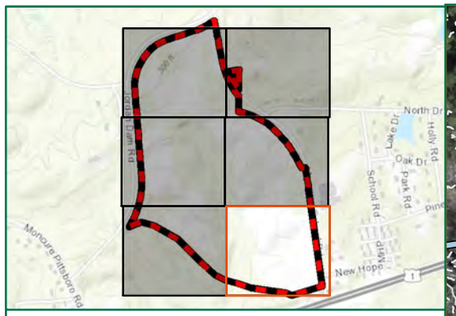
CHATHAM COUNTY, NORTH CAROLINA

FIGURE 6: WETLANDS AND WATERS OF THE U.S. DELINEATION MAP

JOB NUMBER 43779

SHEET NO. 6 of 7

Path: Y:\80\43779 - Moncure-Pittsboro Road TCI 154 A.ces\GIS\WTDM\43779-WTDM-Chatham.mxd



Resource Identification	Confirmation (USACE) Jurisdictional Features								WOUS Regulatory Category**	Resource Description Notes*
	PFO (sq ft)	PSS (sq ft)	PEM (sq ft)	POW (sq ft)	R3 (lf)	R4 (lf)	R6 (lf)	Ditch (lf)		
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L	632								a(4)	NT/V
M				186					a(4)	NT/NV
N	13,078								a(4)	NT/V
O						33			a(2)	NT/NV
Total	**13,710**	**0**	**0**	**186**	**2,870**	**142**	**0**	**0**		
Total Wetland Area =	**13,896 sq ft**			**0.32 ac**						
Total Stream Length =	**3,012 lf**									

Resource Identification	Chatham County Potential Waters								NWPR WOUS Exclusion**	Resource Description Notes*
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B							263		b(3)	NT/NV
C							308		b(3)	NT/NV
D	391								b(1)	NT/V
E	547								b(1)	NT/V
F	708								b(1)	NT/V
G	6,467								b(1)	NT/V
H	144								b(1)	NT/V
I	2,204								b(1)	NT/V
J	5,506								b(1)	NT/V
K	20,990		2,801						b(1)	NT/V
Total	**36,957**	**0**	**2,801**	**0**	**0**	**0**	**936**	**0**		
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Total Stream Length =	**936 lf**									

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**See Title 33 Section 328.3 for Regulatory Category

Legend

- Project Study Limits - 150 Acres
- Stream Identifier
- Wetland Identifier
- Flag
- Field Data Station
- Culvert
- Perennial Stream (R3)
- Intermittent Stream (R4)
- Ephemeral Stream (R6)
- Palustrine Emergent (PEM) Wetlands
- Palustrine Forested (PFO) Wetlands
- Palustrine Open Water (POW)

Topographic Contours

- Major - 10 Feet
- Minor - 1 Foot

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3. Project limits are approximate.
4. Topography based on USGS LiDAR.
5. Cowardin Stream Classifications are based on NC DWQ Stream Identification form version 4.11.

N

0 62.5 125 250

Feet

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DATE 01/17/2020

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DESIGNED BY M.COOLEY

CHECKED BY M.GILBERT

SCALE 1 " = 125 '

TIMMONS GROUP

MONCURE-PITTSBORO ROAD

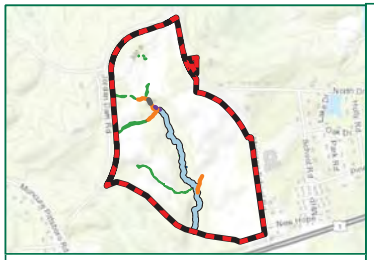
CHATHAM COUNTY, NORTH CAROLINA

FIGURE 6: WETLANDS AND WATERS OF THE U.S. DELINEATION MAP

JOB NUMBER 43779

SHEET NO. 7 of 7

Path: Y:\80\43779 - Moncure-Pittsboro Road TCI 154 A.ces\GIS\WTDM\43779-WTDM-Chatham.mxd



Legend

- Project Study Limits - 150 Acres
- Culvert
- Perennial Stream (R3)
- Intermittent Stream (R4)
- Ephemeral Stream (R6)
- Palustrine Emergent (PEM) Wetlands
- Palustrine Forested (PFO) Wetlands
- Palustrine Open Water (POW)

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4. Topography based on USGS LiDAR.
5. Cowardin Stream Classifications are based on NC DWQ Stream Identification form version 4.11.
6. *Feature O is considred part of Feature A by the USACE, but has been separated out per the Chatham County on-site inspection.
7. ** The northern 365-ft of Feature A is an Ephemeral Stream.

N

0 62.5 125 250
Feet

Path: Y:\80543779 - Moncure-Pittsboro Road TO 154 Acres\GIS\SWTDM\43779-WTDM- Jurisdictional Table.mxd

Chatham County Potential Waters

Feature A	Perennial/Intermittent Stream
Feature L	Jurisdictional Wetland
Feature M	Jurisdictional Wetland
Feature N	Jurisdictional Wetland
Feature O	Intermittent Stream*
Feature A	Ephemeral Stream**
Feature B	Ephemeral Stream
Feature C	Ephemeral Stream
Feature D	Non-jurisdictional Wetland
Feature E	Non-jurisdictional Wetland
Feature F	Non-jurisdictional Wetland
Feature G	Non-jurisdictional Wetland
Feature H	Non-jurisdictional Wetland
Feature I	Non-jurisdictional Wetland
Feature J	Non-jurisdictional Wetland
Feature K	Non-jurisdictional Wetland

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TIMMONS GROUP

MONCURE-PITTSBORO ROAD
CHATHAM COUNTY, NORTH CAROLINA

FIGURE 6: WETLANDS AND WATERS OF THE U.S. DELINEATION MAP

DATE 01/17/2020
DRAWN BY M.COOLEY
DESIGNED BY M.COOLEY
CHECKED BY M.GILBERT
SCALE 1" = 125'
JOB NUMBER 43779
SHEET NO. 1

PSA-39H1-1

NC DWQ Stream Identification Form Version 4.11

Date: 1/9/20	**Project/Site:** Moncure	**Latitude:** 35.628467
Evaluator: S. Thebeau, M. Gilbert	**County:** Chatham	**Longitude:** -79.082224
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 42	**Stream Determination (circle one)** Ephemeral Intermittent (Perennial)	**Other** Merry Oaks *e.g. Quad Name:*

A. Geomorphology (Subtotal = 26-25.5)	Absent	Weak	Moderate	Strong
1[a] Continuity of channel bed and bank	0	1	2	(3)
2. Sinuosity of channel along thalweg	0	1	2	(3)
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	2	(3)
4. Particle size of stream substrate	0	1	2	(3)
5. Active/relict floodplain	0	1	(2)	3
6. Depositional bars or benches	0	1	2	(3)
7. Recent alluvial deposits	0	1	2	(3)
8. Headcuts	0	(1)	2	3
9. Grade control	0	0.5	(1)	1.5
10. Natural valley	0	(0.5)	(1)	1.5
11. Second or greater order channel	No = 0		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 10)				
12. Presence of Baseflow	0	1	2	(3)
13. Iron oxidizing bacteria	0	(1)	2	3
14. Leaf litter	1.5	(1)	0.5	0
15. Sediment on plants or debris	0	(0.5)	1	1.5
16. Organic debris lines or piles	0	0.5	1	(1.5)
17. Soil-based evidence of high water table?	No = 0		Yes = 3	

C. Biology (Subtotal = 6)				
18. Fibrous roots in streambed	3	(2)	1	0
19. Rooted upland plants in streambed	(3)	2	1	0
20. Macrobenthos (note diversity and abundance)	0	(1)	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 (Other = 0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

PSA-39 A1-2

NC DWQ Stream Identification Form Version 4.11

Date: 1/10/20	**Project/Site:** Moncure	**Latitude:** 35.63424
Evaluator: S. Thebert, M. Gilbert	**County:** Chatham	**Longitude:** -79.084076
Total Points: 30 *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30**	**Stream Determination (circle one)** Ephemeral Intermittent (Perennial)	**Other** Merry Oaks *e.g. Quad Name:*

A. Geomorphology (Subtotal = 13)	Absent	Weak	Moderate	Strong
1[a] Continuity of channel bed and bank	0	1	2	(3)
2. Sinuosity of channel along thalweg	0	1	2	(3)
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	(2)	3
4. Particle size of stream substrate	0	1	2	(3)
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	0	0.5	(1)	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel	(No = 0)		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 9)				
12. Presence of Baseflow	0	1	(2)	3
13. Iron oxidizing bacteria	0	(1)	2	3
14. Leaf litter	(1.5)	1	0.5	0
15. Sediment on plants or debris	(0)	0.5	1	1.5
16. Organic debris lines or piles	0	0.5	1	(1.5)
17. Soil-based evidence of high water table?	No = 0		(Yes = 3)	

C. Biology (Subtotal = 8)				
18. Fibrous roots in streambed	3	(2)	1	0
19. Rooted upland plants in streambed	(3)	2	1	0
20. Macrobenthos (note diversity and abundance)	0	(1)	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	0	(0.5)	1	1.5
25. Algae	0	0.5	1	(1.5)
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 (Other = 0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

PSA-39C1-1

NC DWQ Stream Identification Form Version 4.11

Date: 1/9/2020	**Project/Site:** Moncure	**Latitude:** 35.63058
Evaluator: S. Thebert, M. Gilbert	**County:** Chatham	**Longitude:** -79.0823
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 16.5	**Stream Determination (circle one)** (Ephemeral) Intermittent Perennial	**Other** Merry Oaks *e.g. Quad Name:*

A. Geomorphology (Subtotal = 7.5-6.5)	Absent	Weak	Moderate	Strong
1[a] Continuity of channel bed and bank	0	1	(2)	3
2. Sinuosity of channel along thalweg	0	(1)	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	(2)	3
4. Particle size of stream substrate	0	1	(2)	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	0	(0.5)	1	1.5
11. Second or greater order channel	(No = 0)		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 5)				
12. Presence of Baseflow	0	(1)	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	1	(0.5)	0
15. Sediment on plants or debris	(0)	0.5	1	1.5
16. Organic debris lines or piles	0	(0.5)	1	1.5
17. Soil-based evidence of high water table?	No = 0		(Yes = 3)	

C. Biology (Subtotal = 4)				
18. Fibrous roots in streambed	3	2	(1)	0
19. Rooted upland plants in streambed	(3)	2	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 (Other = 0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

PSA-3961-1

NC DWQ Stream Identification Form Version 4.11

Date: 1/19/20	**Project/Site:** Monroe	**Latitude:** 35.63037
Evaluator: S. Thebert, M. Gilbert	**County:** Chatham	**Longitude:** -79.0820
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 15.5-18.5	**Stream Determination (circle one)** (Ephemeral) Intermittent Perennial	**Other** Merry Oaks *e.g. Quad Name:*

A. Geomorphology (Subtotal =)	Absent	Weak	Moderate	Strong
1[a] Continuity of channel bed and bank	0	1	(2)	3
2. Sinuosity of channel along thalweg	0	(1)	(2)	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	(2)	3
4. Particle size of stream substrate	0	1	(2)	3
5. Active/relict floodplain	0	(1)	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	0	(0.5)	1	1.5
11. Second or greater order channel	(No = 0)		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal =)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	(1)	(0.5)	0
15. Sediment on plants or debris	0	(0.5)	1	1.5
16. Organic debris lines or piles	0	(0.5)	1	1.5
17. Soil-based evidence of high water table?	No = 0		(Yes = 3)	

C. Biology (Subtotal =)				
18. Fibrous roots in streambed	3	2	(1)	0
19. Rooted upland plants in streambed	(3)	2	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 (Other = 0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

PSA-39H-1-1

NC DWQ Stream Identification Form Version 4.11

Date: 1/9/20	**Project/Site:** Monroe	**Latitude:** 35.629914
Evaluator: S. Thebart, M. Gilbert	**County:** Chatham	**Longitude:** -79.081836
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 7	**Stream Determination (circle one)** Ephemeral Intermittent Perennial	**Other** Merry Oaks *e.g. Quad Name:*

A. Geomorphology (Subtotal = 1.5)	Absent	Weak	Moderate	Strong
1[a] Continuity of channel bed and bank	0	(1)	2	3
2. Sinuosity of channel along thalweg	(0)	1	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	(0)	1	2	3
4. Particle size of stream substrate	(0)	1	2	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	0	(0.5)	1	1.5
11. Second or greater order channel	(No = 0)		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 1.5)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	1	(0.5)	0
15. Sediment on plants or debris	0	(0.5)	1	1.5
16. Organic debris lines or piles	0	(0.5)	1	1.5
17. Soil-based evidence of high water table?	(No = 0)		Yes = 3	

C. Biology (Subtotal = 4)				
18. Fibrous roots in streambed	3	2	(1)	0
19. Rooted upland plants in streambed	(3)	2	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 (Other = 0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

PSA-39J1-1

NC DWQ Stream Identification Form Version 4.11

Date: 1/9/20	**Project/Site:** Moncure	**Latitude:** 35.628465
Evaluator: S. Thebart, M. Gilbert	**County:** Chatham	**Longitude:** -79.082201
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 13-14	**Stream Determination (circle one)** (Ephemeral) Intermittent Perennial	**Other** Merry Oaks *e.g. Quad Name:*

A. Geomorphology (Subtotal = 6-7)	Absent	Weak	Moderate	Strong
1[a] Continuity of channel bed and bank	0	(1)	2	3
2. Sinuosity of channel along thalweg	0	1	(2)	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	0	(1) →	(2)	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	[illegible]	0.5	(1)	1.5
11. Second or greater order channel	(No = 0)		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 4)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	1	(0.5)	0
15. Sediment on plants or debris	(0)	0.5	1	1.5
16. Organic debris lines or piles	0	(0.5)	1	1.5
17. Soil-based evidence of high water table?	No = 0		(Yes = 3)	

C. Biology (Subtotal = 3)				
18. Fibrous roots in streambed	3	2	(1)	0
19. Rooted upland plants in streambed	3	(2)	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 (Other = 0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

PSA-39K1-1

NC DWQ Stream Identification Form Version 4.11

Date: 1/9/20	Project/Site: Moncure	Latitude: 35.629266
Evaluator: S. Thebert, M. Gilbert	County: Chatham	Longitude: -79.082269
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 15.5	Stream Determination (circle one) (Ephemeral) Intermittent Perennial	Other Merry Oaks *e.g. Quad Name:*

A. Geomorphology (Subtotal = 9.5)	Absent	Weak	Moderate	Strong
1[a] Continuity of channel bed and bank	0	1	(2)	3
2. Sinuosity of channel along thalweg	0	1	2	(3)
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	(2)	3
4. Particle size of stream substrate	0	1	(2)	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	0	(0.5)	1	1.5
11. Second or greater order channel	(No = 0)		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 3)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	1	0.5	(0)
15. Sediment on plants or debris	(0)	0.5	1	1.5
16. Organic debris lines or piles	(0)	0.5	1	1.5
17. Soil-based evidence of high water table?	No = 0		(Yes = 3)	

C. Biology (Subtotal = 3)				
18. Fibrous roots in streambed	3	2	(1)	0
19. Rooted upland plants in streambed	3	(2)	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 (Other = 0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

PSA - 39A2-1

NC DWQ Stream Identification Form Version 4.11

Date: 1/10/20	Project/Site: Moncure	Latitude: 35.63321
Evaluator: S. Thebert, M. Gilbert	County: Chatham	Longitude: -79.08366
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 12.5	Stream Determination (circle one) Ephemeral Intermittent Perennial	Other Merry Oaks *e.g. Quad Name:*

A. Geomorphology (Subtotal = 7.5-6.5)	Absent	Weak	Moderate	Strong
1[a] Continuity of channel bed and bank	0	1	(2)	3
2. Sinuosity of channel along thalweg	0	(1)	(2)	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	0	1	(2)	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	0	(0.5)	1	1.5
11. Second or greater order channel	(No = 0)		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 3)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	1	0.5	(0)
15. Sediment on plants or debris	(0)	0.5	1	1.5
16. Organic debris lines or piles	(0)	0.5	1	1.5
17. Soil-based evidence of high water table?	No = 0		(Yes = 3) 10YR 4/2	

C. Biology (Subtotal = 2-3)				
18. Fibrous roots in streambed	3	2	(1)	0
19. Rooted upland plants in streambed	3	(2)	(1)	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 (Other = 0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

PSA-39F2-1

NC DWQ Stream Identification Form Version 4.11

Date: 1/10/20	**Project/Site:** Monroe	**Latitude:** 35.63436
Evaluator: S. Thebert, M. Gilbert	**County:** Chatham	**Longitude:** -79.084418
Total Points: 16-15 *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30**	**Stream Determination (circle one)** (Ephemeral) Intermittent Perennial	**Other** Merry Oaks *e.g. Quad Name:*

A. Geomorphology (Subtotal = 9.5-8.5)	Absent	Weak	Moderate	Strong
1[a] Continuity of channel bed and bank	0	(1)	(2)	3
2. Sinuosity of channel along thalweg	0	1	(2)	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	0	1	(2)	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	0	(1)	2	3
8. Headcuts	0	(1)	2	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	0	(0.5)	1	1.5
11. Second or greater order channel	(No = 0)		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 3)				
12. Presence of Baseflow	0	(1)	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	(1)	0.5	0
15. Sediment on plants or debris	0	(0.5)	1	1.5
16. Organic debris lines or piles	0	(0.5)	1	1.5
17. Soil-based evidence of high water table?	(No = 0)		Yes = 3	

C. Biology (Subtotal = 3.5)				
18. Fibrous roots in streambed	3	2	(1)	0
19. Rooted upland plants in streambed	3	(2)	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	0	(0.5)	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 (Other = 0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

PSA-39J2-1

NC DWQ Stream Identification Form Version 4.11

Date: 1/10/20	Project/Site: Monroe	Latitude: 35.63461
Evaluator: S. Thebert, M. Gilbert	County: Chatham	Longitude: -79.084778
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 25.5 - 24.5	Stream Determination (circle one) Ephemeral (Intermittent) Perennial	Other Merry Oaks *e.g. Quad Name:*

A. Geomorphology (Subtotal = 11 - 10)	Absent	Weak	Moderate	Strong
1[a] Continuity of channel bed and bank	0	1	(2)	3
2. Sinuosity of channel along thalweg	0	(1)	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	0	(1)	2	(3)
5. Active/relict floodplain	0	(1)	(2)	3
6. Depositional bars or benches	0	(1)	2	3
7. Recent alluvial deposits	0	(1)	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	(0)	0.5	1	1.5
11. Second or greater order channel	(No = 0)		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 6.5)				
12. Presence of Baseflow	0	1	(2)	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	1	(0.5)	0
15. Sediment on plants or debris	(0)	0.5	1	1.5
16. Organic debris lines or piles	0	0.5	(1)	1.5
17. Soil-based evidence of high water table?	No = 0		(Yes = 3)	

C. Biology (Subtotal = 6)				
18. Fibrous roots in streambed	3	(2)	1	0
19. Rooted upland plants in streambed	(3)	2	1	0
20. Macrobenthos (note diversity and abundance)	0	(1)	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 (Other = 0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Moncure-Pittsboro Road TCI 154 Acres City/County: Chatham Sampling Date: 01/14/2020
Applicant/Owner: TC&I Timber Company LLC State: NC Sampling Point: FDS-39A3-1
Investigator(s): S. Thebert, M. Gilbert Section, Township, Range:
Landform (hillslope, terrace, etc.): draw Local relief (concave, convex, none): concave Slope (%): 3-6
Subregion (LRR or MLRA): P, 136 Lat: 35.63644188 Long: -79.08213954 Datum: NAD 83
Soil Map Unit Name: Mayoden gravelly sandy loam, 10 to 15 percent slopes NWI classification: Upland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)
Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes [✓] No [ ]
Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes [ ]	No [✓]	**Is the Sampled Area within a Wetland?** Yes [ ] No [✓]
Hydric Soil Present?	Yes [ ]	No [✓]	
Wetland Hydrology Present?	Yes [ ]	No [✓]	

Remarks:
Point taken in a draw east of Moncure School Road.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] True Aquatic Plants (B14)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres on Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Stunted or Stressed Plants (D1)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] Microtopographic Relief (D4)
- [ ] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes [ ]	No [✓]	Depth (inches): 0
Water Table Present?	Yes [ ]	No [✓]	Depth (inches): >18 in
Saturation Present? (includes capillary fringe)	Yes [ ]	No [✓]	Depth (inches): >18 in

Wetland Hydrology Present? Yes [ ] No [✓]

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: FDS-39A3-1

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	60	YES	FAC
2. Quercus rubra	25	YES	FACU
3. Acer rubrum	15	NO	FAC
4.			
5.			
6.			
	100	= Total Cover	

50% of total cover: 50.0 20% of total cover: 20.0

Sapling Stratum (Plot size: 15 feet)			
1. Quercus rubra	15	YES	FACU
2. Quercus stellata	10	YES	UPL
3.			
4.			
5.			
6.			
	25	= Total Cover	

50% of total cover: 12.5 20% of total cover: 5.0

Shrub Stratum (Plot size: 15 feet)			
1. Quercus rubra	5	YES	FACU
2.			
3.			
4.			
5.			
6.			
	5	= Total Cover	

50% of total cover: 2.5 20% of total cover: 1.0

Herb Stratum (Plot size: 5 feet)			
1. Lonicera japonica	10	YES	FACU
2. Quercus rubra	8	YES	FACU
3. Smilax rotundifolia	8	YES	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	26	= Total Cover	

50% of total cover: 13.0 20% of total cover: 5.2

Woody Vine Stratum (Plot size: 30 feet)			
1. Vitis rotundifolia	10	YES	FAC
2.			
3.			
4.			
5.			
	10	= Total Cover	

50% of total cover: 5.0 20% of total cover: 2.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	93	x 3 =	279
FACU species	63	x 4 =	252
UPL species	10	x 5 =	50
Column Totals:	166 (A)		581 (B)

Prevalence Index = B/A = 3.50

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☐ No ☑

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

SOIL

Sampling Point: FDS-39A3-1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR3/2	100					CL	
3-8	10YR6/3	95	5YR5/3	5	C	M	SCL	
8-12	10YR6/3	80	10YR6/6	20	C	M	CL	gravelly
12-18	10YR6/3	60	10YR6/8	40	C	M	CL	gravelly

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☐ **No** ☑

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Moncure-Pittsboro Road TCI 154 Acres City/County: Chatham Sampling Date: 01/09/2020
Applicant/Owner: TC&I Timber Company LLC State: NC Sampling Point: FDS-39B1-1
Investigator(s): S. Thebert, M. Gilbert Section, Township, Range:
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope (%): 0-1
Subregion (LRR or MLRA): P, 136 Lat: 35.63157424 Long: -79.08270407 Datum: NAD 83
Soil Map Unit Name: Mayoden gravelly sandy loam, 10 to 15 percent slopes NWI classification: Upland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)
Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes [✓] No [ ]
Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes [✓]	No [ ]	**Is the Sampled Area within a Wetland?** Yes [✓] No [ ]
Hydric Soil Present?	Yes [✓]	No [ ]	
Wetland Hydrology Present?	Yes [✓]	No [ ]	

Remarks:
Point taken in a depression with standing water up to 6 in. over 90% of the POW wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- [✓] Surface Water (A1)
- [✓] High Water Table (A2)
- [✓] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [✓] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] True Aquatic Plants (B14)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres on Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [✓] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Stunted or Stressed Plants (D1)
- [✓] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] Microtopographic Relief (D4)
- [ ] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes [✓]	No [ ]	Depth (inches): 0-6
Water Table Present?	Yes [✓]	No [ ]	Depth (inches): 3
Saturation Present? (includes capillary fringe)	Yes [✓]	No [ ]	Depth (inches): 0

Wetland Hydrology Present? Yes [✓] No [ ]

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Standing water 0-6 inches in about 90% of the wetland.

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: FDS-39B1-1

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 feet)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		
Sapling Stratum (Plot size: 15 feet)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		
Shrub Stratum (Plot size: 15 feet)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		
Herb Stratum (Plot size: 5 feet)			
1. Arundinaria gigantea	8	YES	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	8 = Total Cover		
50% of total cover: 4.0	20% of total cover: 1.6		
Woody Vine Stratum (Plot size: 30 feet)			
1. N/A			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 8	x 2 = 16
FAC species 0	x 3 = 0
FACU species 0	x 4 = 0
UPL species 0	x 5 = 0
Column Totals: 8 (A)	16 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☑ No ☐

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

Wetland area was primarily open water, with vegetation sparsely covering 8% of the area.

SOIL

Sampling Point: FDS-39B1-1

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR3/2	100					L	
6-18	10YR6/2	90	5YR4/6	10			CL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☑ **No** ☐

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Moncure-Pittsboro Road TCI 154 Acres City/County: Chatham Sampling Date: 01/09/2020
Applicant/Owner: TC&I Timber Company LLC State: NC Sampling Point: FDS-39B1-2
Investigator(s): S. Thebert, M. Gilbert Section, Township, Range:
Landform (hillslope, terrace, etc.): Stream terrace Local relief (concave, convex, none): convex Slope (%): 2
Subregion (LRR or MLRA): P, 136 Lat: 35.63154981 Long: -79.08274463 Datum: NAD 83
Soil Map Unit Name: Mayoden gravelly sandy loam, 10 to 15 percent slopes NWI classification: Upland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)
Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes [✓] No [ ]
Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes [✓]	No [ ]	**Is the Sampled Area within a Wetland?** Yes [ ] No [✓]
Hydric Soil Present?	Yes [ ]	No [✓]	
Wetland Hydrology Present?	Yes [ ]	No [✓]	

Remarks:
Point taken in a stream terrace adjacent to observed open water.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] True Aquatic Plants (B14)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres on Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Stunted or Stressed Plants (D1)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] Microtopographic Relief (D4)
- [ ] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes [ ]	No [✓]	Depth (inches): 0 in
Water Table Present?	Yes [ ]	No [✓]	Depth (inches): >18 in
Saturation Present? (includes capillary fringe)	Yes [ ]	No [✓]	Depth (inches): > 18 in

Wetland Hydrology Present? Yes [ ] No [✓]

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: FDS-39B1-2

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum	25	YES	FAC
2. Quercus alba	20	YES	FACU
3. Pinus taeda	15	NO	FAC
4. Liriodendron tulipifera	12	NO	FACU
5. Betula nigra	8	NO	FACW
6.			
	80	= Total Cover	

50% of total cover: 40.0 20% of total cover: 16.0

Sapling Stratum (Plot size: 15 feet)			
1. Liquidambar styraciflua	10	YES	FAC
2.			
3.			
4.			
5.			
6.			
	10	= Total Cover	

50% of total cover: 5.0 20% of total cover: 2.0

Shrub Stratum (Plot size: 15 feet)			
1. Liquidambar styraciflua	5	YES	FAC
2. Acer rubrum	4	YES	FAC
3. Quercus alba	2	NO	FACU
4.			
5.			
6.			
	11	= Total Cover	

50% of total cover: 5.5 20% of total cover: 2.2

Herb Stratum (Plot size: 5 feet)			
1. Arundinaria gigantea	30	YES	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	30	= Total Cover	

50% of total cover: 15.0 20% of total cover: 6.0

Woody Vine Stratum (Plot size: 30 feet)			
1. N/A			
2.			
3.			
4.			
5.			
	0	= Total Cover	

50% of total cover: 0.0 20% of total cover: 0.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 83.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	38	x 2 =	76
FAC species	59	x 3 =	177
FACU species	34	x 4 =	136
UPL species	0	x 5 =	0
Column Totals:	131 (A)		389 (B)

Prevalence Index = B/A = 2.97

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☑ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☑ No ☐

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

SOIL

Sampling Point: FDS-39B1-2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR3/2	100					L	
8-11	10YR4/2	100					CL	
11-15	10YR4/2	80	5YR3/4	20			C	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: 15

Depth (inches): clay

Hydric Soil Present? Yes ☐ No ☑

Remarks: Restrictive clay layer at 15 in.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Moncure-Pittsboro Road TCI 154 Acres City/County: Chatham Sampling Date: 01/10/2020
Applicant/Owner: TC&I Timber Company LLC State: NC Sampling Point: FDS-39B2-1
Investigator(s): S. Thebert, M. Gilbert Section, Township, Range:
Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): concave Slope (%): 1
Subregion (LRR or MLRA): P, 136 Lat: 35.63212914 Long: -79.0830084 Datum: NAD 83
Soil Map Unit Name: Mayoden gravelly sandy loam, 10 to 15 percent slopes NWI classification: Upland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)
Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes [✓] No [ ]
Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes [✓]	No [ ]	**Is the Sampled Area within a Wetland?** Yes [ ] No [ ]
Hydric Soil Present?	Yes [✓]	No [ ]	
Wetland Hydrology Present?	Yes [✓]	No [ ]	

Remarks:
Point taken in a floodplain.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- [ ] Surface Water (A1)
- [✓] High Water Table (A2)
- [✓] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [✓] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] True Aquatic Plants (B14)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres on Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [✓] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Stunted or Stressed Plants (D1)
- [✓] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] Microtopographic Relief (D4)
- [ ] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes [ ] No [✓] Depth (inches): n/a
Water Table Present? Yes [✓] No [ ] Depth (inches): 7
Saturation Present? (includes capillary fringe) Yes [✓] No [ ] Depth (inches): 0

Wetland Hydrology Present? Yes [✓] No [ ]

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: FDS-39B2-1

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 feet)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		
Sapling Stratum (Plot size: 15 feet)			
1. N/A		YES	
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		
Shrub Stratum (Plot size: 15 feet)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		
Herb Stratum (Plot size: 5 feet)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		
Woody Vine Stratum (Plot size: 30 feet)			
1. N/A			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☑ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☑ No ☐

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

Vegetation is absent due to time of year (winter) and herbaceous wetland vegetation is likely present in warmer months.

SOIL

Sampling Point: FDS-39B2-1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR3/2	98	10YR4/6	2	C	M	CL	
10-12	10YR5/2	95	10YR4/6	5	C	M	SCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: clay

Depth (inches): 12

Hydric Soil Present? **Yes** ☑ **No** ☐

Remarks: Restrictive clay layer at 12 in.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Moncure-Pittsboro Road TCI 154 Acres City/County: Chatham Sampling Date: 01/10/2020
Applicant/Owner: TC&I Timber Company LLC State: NC Sampling Point: FDS-39B2-2
Investigator(s): S. Thebert, M. Gilbert Section, Township, Range:
Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR or MLRA): P, 136 Lat: 35.63209598 Long: -79.0830169 Datum: NAD 83
Soil Map Unit Name: Mayoden gravelly sandy loam, 10 to 15 percent slopes NWI classification: Upland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)
Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes [✓] No [ ]
Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes [ ]	No [✓]	**Is the Sampled Area within a Wetland?** Yes [ ] No [✓]
Hydric Soil Present?	Yes [✓]	No [ ]	
Wetland Hydrology Present?	Yes [ ]	No [✓]	

Remarks:
Point taken in a floodplain.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] True Aquatic Plants (B14)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres on Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Stunted or Stressed Plants (D1)
- [✓] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] Microtopographic Relief (D4)
- [ ] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes [ ] No [✓] Depth (inches): n/a
Water Table Present? Yes [ ] No [✓] Depth (inches): >18
Saturation Present? (includes capillary fringe) Yes [ ] No [✓] Depth (inches): >18

Wetland Hydrology Present? Yes [ ] No [✓]

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: FDS-39B2-2

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	40	YES	FAC
2. Quercus alba	10	YES	FACU
3. Platanus occidentalis	8	NO	FACW
4.			
5.			
6.			
	58 = Total Cover		
50% of total cover: 29.0	20% of total cover: 11.6		
Sapling Stratum (Plot size: 15 feet)			
1. Acer rubrum	30	YES	FAC
2. Liquidambar styraciflua	20	YES	FAC
3. Quercus alba	10	NO	FACU
4. Ulmus rubra	3	NO	FAC
5.			
6.			
	63 = Total Cover		
50% of total cover: 31.5	20% of total cover: 12.6		
Shrub Stratum (Plot size: 15 feet)			
1. Ilex opaca	10	YES	FACU
2.			
3.			
4.			
5.			
6.			
	10 = Total Cover		
50% of total cover: 5.0	20% of total cover: 2.0		
Herb Stratum (Plot size: 5 feet)			
1. Lonicera japonica	10	YES	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	10 = Total Cover		
50% of total cover: 5.0	20% of total cover: 2.0		
Woody Vine Stratum (Plot size: 30 feet)			
1. N/A			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	8	x 2 =	16
FAC species	93	x 3 =	279
FACU species	40	x 4 =	160
UPL species	0	x 5 =	0
Column Totals:	141 (A)		455 (B)

Prevalence Index = B/A = 3.23

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☐ No ☑

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

SOIL

Sampling Point: FDS-39B2-2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR4/3	100					CL	
8-12	10YR3/2	95	5YR4/4	5	C	M	GCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☑ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: rock/gravel

Depth (inches): 12

Hydric Soil Present? **Yes** ☑ **No** ☐

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Moncure-Pittsboro Road TCI 154 Acres City/County: Chatham Sampling Date: 01/09/2020
Applicant/Owner: TC&I Timber Company LLC State: NC Sampling Point: FDS-39D1-1
Investigator(s): S. Thebert, M. Gilbert Section, Township, Range:
Landform (hillslope, terrace, etc.): Drainageway Local relief (concave, convex, none): concave Slope (%): 3-5
Subregion (LRR or MLRA): P, 136 Lat: 35.63039835 Long: -79.08271058 Datum: NAD 83
Soil Map Unit Name: Mayoden gravelly sandy loam, 10 to 15 percent slopes NWI classification: Upland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)
Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes [✓] No [ ]
Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes [✓]	No [ ]	**Is the Sampled Area within a Wetland?** Yes [✓] No [ ]
Hydric Soil Present?	Yes [✓]	No [ ]	
Wetland Hydrology Present?	Yes [✓]	No [ ]	

Remarks:
Point taken in a drainageway depression.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- [ ] Surface Water (A1)
- [✓] High Water Table (A2)
- [✓] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [✓] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] True Aquatic Plants (B14)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres on Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [✓] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Stunted or Stressed Plants (D1)
- [✓] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] Microtopographic Relief (D4)
- [✓] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes [ ] No [✓] Depth (inches): n/a
Water Table Present? Yes [✓] No [ ] Depth (inches): 0
Saturation Present? (includes capillary fringe) Yes [✓] No [ ] Depth (inches): 0

Wetland Hydrology Present? Yes [✓] No [ ]

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: FDS-39D1-1

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	15	YES	FAC
2.			
3.			
4.			
5.			
6.			
	15 = Total Cover		
50% of total cover: 7.5	20% of total cover: 3.0		
Sapling Stratum (Plot size: 15 feet)			
1. Acer rubrum	5	YES	FAC
2.			
3.			
4.			
5.			
6.			
	5 = Total Cover		
50% of total cover: 2.5	20% of total cover: 1.0		
Shrub Stratum (Plot size: 15 feet)			
1. Liquidambar styraciflua	20	YES	FAC
2. Acer rubrum	10	YES	FAC
3.			
4.			
5.			
6.			
	30 = Total Cover		
50% of total cover: 15.0	20% of total cover: 6.0		
Herb Stratum (Plot size: 5 feet)			
1. Arthraxon hispidus	20	YES	FAC
2. Carex caroliniana	15	YES	FACW
3. Lonicera japonica	8	NO	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	43 = Total Cover		
50% of total cover: 21.5	20% of total cover: 8.6		
Woody Vine Stratum (Plot size: 30 feet)			
1. N/A			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	70	x 3 =	210
FACU species	8	x 4 =	32
UPL species	0	x 5 =	0
Column Totals:	93 (A)		272 (B)

Prevalence Index = B/A = 2.92

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☑ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☑ No ☐

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

SOIL

Sampling Point: FDS-39D1-1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR3/2	100					L	
3-12	10YR4/2	85	2.5YR3/6	15	C	M	CL	gravelly texture
12-18	10YR6/2	65	7.5YR5/4	35	C	M	CL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☑ **No** ☐

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Moncure-Pittsboro Road TCI 154 Acres City/County: Chatham Sampling Date: 01/09/2020
Applicant/Owner: TC&I Timber Company LLC State: NC Sampling Point: FDS-39D1-2
Investigator(s): S. Thebert, M. Gilbert Section, Township, Range:
Landform (hillslope, terrace, etc.): sideslope Local relief (concave, convex, none): convex Slope (%): 5
Subregion (LRR or MLRA): P, 136 Lat: 35.63034255 Long: -79.08267203 Datum: NAD 83
Soil Map Unit Name: Mayoden gravelly sandy loam, 10 to 15 percent slopes NWI classification: Upland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)
Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes [✓] No [ ]
Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes [✓]	No [ ]	**Is the Sampled Area within a Wetland?** Yes [ ] No [✓]
Hydric Soil Present?	Yes [ ]	No [✓]	
Wetland Hydrology Present?	Yes [ ]	No [✓]	

Remarks:
Point taken on a sideslope.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] True Aquatic Plants (B14)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres on Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Stunted or Stressed Plants (D1)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] Microtopographic Relief (D4)
- [ ] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes [ ]	No [✓]	Depth (inches): n/a
Water Table Present?	Yes [ ]	No [✓]	Depth (inches): >18
Saturation Present? (includes capillary fringe)	Yes [ ]	No [✓]	Depth (inches): >18

Wetland Hydrology Present? Yes [ ] No [✓]

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: FDS-39D1-2

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	65	YES	FAC
2. Quercus alba	15	YES	FACU
3.			
4.			
5.			
6.			
	80 = Total Cover		
50% of total cover: 40.0	20% of total cover: 16.0		
Sapling Stratum (Plot size: 15 feet)			
1. Pinus taeda	8	YES	FAC
2.			
3.			
4.			
5.			
6.			
	8 = Total Cover		
50% of total cover: 4.0	20% of total cover: 1.6		
Shrub Stratum (Plot size: 15 feet)			
1. Acer rubrum	20	YES	FAC
2. Liquidambar styraciflua	20	YES	FAC
3. Ilex opaca	15	YES	FACU
4. Pinus taeda	8	NO	FAC
5.			
6.			
	63 = Total Cover		
50% of total cover: 31.5	20% of total cover: 12.6		
Herb Stratum (Plot size: 5 feet)			
1. Ilex opaca	15	YES	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	15 = Total Cover		
50% of total cover: 7.5	20% of total cover: 3.0		
Woody Vine Stratum (Plot size: 30 feet)			
1. N/A			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 57.1% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	121	x 3 =	363
FACU species	45	x 4 =	180
UPL species	0	x 5 =	0
Column Totals:	166 (A)		543 (B)

Prevalence Index = B/A = 3.27

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☑ No ☐

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

SOIL

Sampling Point: FDS-39D1-2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR3/2	100					L	
4-12	10YR5/2	100					L	
12-18	10YR6/3	75	10YR5/6	25	C	M	CL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☐ **No** ☑

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Moncure-Pittsboro Road TCI 154 Acres City/County: Chatham Sampling Date: 01/09/2020
Applicant/Owner: TC&I Timber Company LLC State: NC Sampling Point: FDS-39E1-1
Investigator(s): S. Thebert, M. Gilbert Section, Township, Range:
Landform (hillslope, terrace, etc.): drainage way Local relief (concave, convex, none): concave Slope (%): 2
Subregion (LRR or MLRA): P, 136 Lat: 35.63040295 Long: -79.08340289 Datum: NAD 83
Soil Map Unit Name: Mayoden gravelly sandy loam, 10 to 15 percent slopes NWI classification: Upland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)
Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes [✓] No [ ]
Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes [✓] No [ ]
Hydric Soil Present? Yes [✓] No [ ]
Wetland Hydrology Present? Yes [✓] No [ ]

Is the Sampled Area within a Wetland? Yes [✓] No [ ]

Remarks:
Point taken in a drainage-way.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- [ ] Surface Water (A1)
- [✓] High Water Table (A2)
- [✓] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [✓] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] True Aquatic Plants (B14)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres on Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Stunted or Stressed Plants (D1)
- [✓] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] Microtopographic Relief (D4)
- [✓] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes [ ] No [✓] Depth (inches): n/a
Water Table Present? Yes [✓] No [ ] Depth (inches): 5
Saturation Present? (includes capillary fringe) Yes [✓] No [ ] Depth (inches): 0

Wetland Hydrology Present? Yes [✓] No [ ]

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: FDS-39E1-1

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	15	YES	FAC
2. Acer rubrum	8	YES	FAC
3.			
4.			
5.			
6.			
	23	= Total Cover	
50% of total cover: 11.5	20% of total cover: 4.6		
Sapling Stratum (Plot size: 15 feet)			
1. Pinus taeda	15	YES	FAC
2.			
3.			
4.			
5.			
6.			
	15	= Total Cover	
50% of total cover: 7.5	20% of total cover: 3.0		
Shrub Stratum (Plot size: 15 feet)			
1. Alnus serrulata	20	YES	OBL
2. Acer rubrum	5	YES	FAC
3.			
4.			
5.			
6.			
	25	= Total Cover	
50% of total cover: 12.5	20% of total cover: 5.0		
Herb Stratum (Plot size: 5 feet)			
1. Juncus effusus	5	YES	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	5	= Total Cover	
50% of total cover: 2.5	20% of total cover: 1.0		
Woody Vine Stratum (Plot size: 30 feet)			
1. N/A			
2.			
3.			
4.			
5.			
	0	= Total Cover	
50% of total cover: 0.0	20% of total cover: 0.0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	5	x 2 =	10
FAC species	43	x 3 =	129
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	68 (A)		159 (B)

Prevalence Index = B/A = 2.34

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☑ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☑ No ☐

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

SOIL

Sampling Point: FDS-39E1-1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR3/2	100					L	
3-14	10YR5/2	95	7.5YR4/6	5	C	M	CL	
14-18	10YR6/2	95	10YR5/6	5	C	M	CL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☑ **No** ☐

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Moncure-Pittsboro Road TCI 154 Acres City/County: Chatham Sampling Date: 01/10/2020
Applicant/Owner: TC&I Timber Company LLC State: NC Sampling Point: FDS-39E2-1
Investigator(s): S. Thebert, M. Gilbert Section, Township, Range:
Landform (hillslope, terrace, etc.): draw Local relief (concave, convex, none): concave Slope (%): 2
Subregion (LRR or MLRA): P, 136 Lat: 35.63244774 Long: -79.0838059 Datum: NAD 83
Soil Map Unit Name: Mayoden gravelly sandy loam, 10 to 15 percent slopes NWI classification: Upland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)
Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes [✓] No [ ]
Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes [ ]	No [✓]	**Is the Sampled Area within a Wetland?** Yes [ ] No [✓]
Hydric Soil Present?	Yes [ ]	No [✓]	
Wetland Hydrology Present?	Yes [ ]	No [✓]	

Remarks:
Point taken in a draw.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] True Aquatic Plants (B14)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres on Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Stunted or Stressed Plants (D1)
- [✓] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] Microtopographic Relief (D4)
- [ ] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes [ ] No [✓] Depth (inches): n/a
Water Table Present? Yes [ ] No [✓] Depth (inches): >18
Saturation Present? (includes capillary fringe) Yes [ ] No [✓] Depth (inches): >18

Wetland Hydrology Present? Yes [ ] No [✓]

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: FDS-39E2-1

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	70	YES	FAC
2. Liriodendron tulipifera	8	NO	FACU
3.			
4.			
5.			
6.			
	78	= Total Cover	

50% of total cover: 39.0 20% of total cover: 15.6

Sapling Stratum (Plot size: 15 feet)			
1. Liquidambar styraciflua	15	YES	FAC
2. Liriodendron tulipifera	8	YES	FACU
3. Quercus rubra	5	YES	FACU
4.			
5.			
6.			
	28	= Total Cover	

50% of total cover: 14.0 20% of total cover: 5.6

Shrub Stratum (Plot size: 15 feet)			
1. Liquidambar styraciflua	20	YES	FAC
2.			
3.			
4.			
5.			
6.			
	20	= Total Cover	

50% of total cover: 10.0 20% of total cover: 4.0

Herb Stratum (Plot size: 5 feet)			
1. Rubus argutus	12	YES	FACU
2. Lonicera japonica	10	YES	FACU
3. Osmunda cinnamomea	8	YES	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	30	= Total Cover	

50% of total cover: 15.0 20% of total cover: 6.0

Woody Vine Stratum (Plot size: 30 feet)			
1. N/A			
2.			
3.			
4.			
5.			
	0	= Total Cover	

50% of total cover: 0.0 20% of total cover: 0.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	8	x 2 =	16
FAC species	105	x 3 =	315
FACU species	43	x 4 =	172
UPL species	0	x 5 =	0
Column Totals:	156 (A)		503 (B)

Prevalence Index = B/A = 3.22

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☐ No ☑

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

SOIL

Sampling Point: FDS-39E2-1

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR4/3	100					CL	
6-12	10YR5/3	95	10YR5/6	5	C	M	SL	
12-18	10YR5/4	95	10YR5/6	5	C	M	SCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☐ **No** ☑

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Moncure-Pittsboro Road TCI 154 Acres City/County: Chatham Sampling Date: 01/09/2020
Applicant/Owner: TC&I Timber Company LLC State: NC Sampling Point: FDS-39F1-2
Investigator(s): S. Thebert, M. Gilbert Section, Township, Range:
Landform (hillslope, terrace, etc.): Draw Local relief (concave, convex, none): convex Slope (%): 3
Subregion (LRR or MLRA): P, 136 Lat: 35.63157703 Long: -79.08559932 Datum: NAD 83
Soil Map Unit Name: Mayoden fine sandy loam, 6 to 10 percent slopes NWI classification: Upland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)
Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes [✓] No [ ]
Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes [✓]	No [ ]	**Is the Sampled Area within a Wetland?** Yes [ ] No [✓]
Hydric Soil Present?	Yes [✓]	No [ ]	
Wetland Hydrology Present?	Yes [ ]	No [✓]	

Remarks:
Point taken in the same wetland system as FDS-39E1-1.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] True Aquatic Plants (B14)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres on Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Stunted or Stressed Plants (D1)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] Microtopographic Relief (D4)
- [✓] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes [ ]	No [✓]	Depth (inches): n/a
Water Table Present?	Yes [ ]	No [✓]	Depth (inches): >18
Saturation Present? (includes capillary fringe)	Yes [ ]	No [✓]	Depth (inches): >18

Wetland Hydrology Present? Yes [ ] No [✓]

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: FDS-39F1-2

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	70	YES	FAC
2.			
3.			
4.			
5.			
6.			
	70 = Total Cover		
50% of total cover: 35.0	20% of total cover: 14.0		
Sapling Stratum (Plot size: 15 feet)			
1. Pinus taeda	15	YES	FAC
2.			
3.			
4.			
5.			
6.			
	15 = Total Cover		
50% of total cover: 7.5	20% of total cover: 3.0		
Shrub Stratum (Plot size: 15 feet)			
1. Acer rubrum	13	YES	FAC
2. Morella cerifera	10	YES	FAC
3. Pinus taeda	10	YES	FAC
4.			
5.			
6.			
	33 = Total Cover		
50% of total cover: 16.5	20% of total cover: 6.6		
Herb Stratum (Plot size: 5 feet)			
1. Arthraxon hispidus	15	YES	FAC
2. Juncus effusus	8	YES	FACW
3. Pinus taeda	5	NO	FAC
4. Lonicera japonica	5	NO	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	33 = Total Cover		
50% of total cover: 16.5	20% of total cover: 6.6		
Woody Vine Stratum (Plot size: 30 feet)			
1. N/A			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	8	x 2 =	16
FAC species	138	x 3 =	414
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	151 (A)		450 (B)

Prevalence Index = B/A = 2.98

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☑ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☑ No ☐

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

SOIL

Sampling Point: FDS-39F1-2

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR4/2	99	10YR3/6	1	C	M	CL	
8-18	10YR6/2	75	2.5YR4/8	25	C	M	L	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☑ **No** ☐

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Moncure-Pittsboro Road TCI 154 Acres City/County: Chatham Sampling Date: 01/10/2020
Applicant/Owner: TC&I Timber Company LLC State: NC Sampling Point: FDS-39G1-2
Investigator(s): S. Thebert, M. Gilbert Section, Township, Range:
Landform (hillslope, terrace, etc.): draw Local relief (concave, convex, none): concave Slope (%): 3
Subregion (LRR or MLRA): P, 136 Lat: 35.6313959 Long: -79.0814708 Datum: NAD 83
Soil Map Unit Name: Mayoden gravelly sandy loam, 10 to 15 percent slopes NWI classification: Upland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)
Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes [✓] No [ ]
Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes [✓]	No [ ]	**Is the Sampled Area within a Wetland?** Yes [ ] No [✓]
Hydric Soil Present?	Yes [ ]	No [✓]	
Wetland Hydrology Present?	Yes [ ]	No [✓]	

Remarks:
Point taken in a draw.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] True Aquatic Plants (B14)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres on Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Stunted or Stressed Plants (D1)
- [✓] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] Microtopographic Relief (D4)
- [ ] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes [ ]	No [✓]	Depth (inches): n/a
Water Table Present?	Yes [ ]	No [✓]	Depth (inches): >18
Saturation Present? (includes capillary fringe)	Yes [ ]	No [✓]	Depth (inches): >18

Wetland Hydrology Present? Yes [ ] No [✓]

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: FDS-39G1-2

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	80	YES	FAC
2.			
3.			
4.			
5.			
6.			
	80 = Total Cover		
50% of total cover: 40.0	20% of total cover: 16.0		
Sapling Stratum (Plot size: 15 feet)			
1. Pinus taeda	20	YES	FAC
2. Liquidambar styraciflua	10	NO	FAC
3.			
4.			
5.			
6.			
	30 = Total Cover		
50% of total cover: 15.0	20% of total cover: 6.0		
Shrub Stratum (Plot size: 15 feet)			
1. Liquidambar styraciflua	20	YES	FAC
2. Ilex opaca	5	YES	FACU
3.			
4.			
5.			
6.			
	25 = Total Cover		
50% of total cover: 12.5	20% of total cover: 5.0		
Herb Stratum (Plot size: 5 feet)			
1. Lonicera japonica	15	YES	FACU
2. Liquidambar styraciflua	5	YES	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	20 = Total Cover		
50% of total cover: 10.0	20% of total cover: 4.0		
Woody Vine Stratum (Plot size: 30 feet)			
1. N/A			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 0	x 2 = 0
FAC species 135	x 3 = 405
FACU species 20	x 4 = 80
UPL species 0	x 5 = 0
Column Totals: 155 (A)	485 (B)

Prevalence Index = B/A = 3.13

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☑ No ☐

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

SOIL Sampling Point: FDS-39G1-2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR4/3	90	5YR4/6	10	C	M	CL	
8-15	10YR6/3	90	5YR5/6	10	C	M	CL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: clay

Depth (inches): 15

Hydric Soil Present? Yes ☐ No ☑

Remarks: Restrictive layer of clay at 15 in.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Moncure-Pittsboro Road TCI 154 Acres City/County: Chatham Sampling Date: 01/10/2020
Applicant/Owner: TC&I Timber Company LLC State: NC Sampling Point: FDS-39G2-1
Investigator(s): S. Thebert, M. Gilbert Section, Township, Range:
Landform (hillslope, terrace, etc.): drainage way Local relief (concave, convex, none): concave Slope (%): 0-1
Subregion (LRR or MLRA): P, 136 Lat: 35.63449726 Long: -79.08474534 Datum: NAD 83
Soil Map Unit Name: Mayoden gravelly sandy loam , 10 to 15 percent slopes NWI classification: Upland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)
Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes [✓] No [ ]
Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes [✓]	No [ ]	**Is the Sampled Area within a Wetland?** Yes [ ] No [✓]
Hydric Soil Present?	Yes [ ]	No [✓]	
Wetland Hydrology Present?	Yes [✓]	No [ ]	

Remarks:
Point taken in a drainageway.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- [ ] Surface Water (A1)
- [✓] High Water Table (A2)
- [✓] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [✓] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] True Aquatic Plants (B14)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres on Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [✓] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Stunted or Stressed Plants (D1)
- [✓] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] Microtopographic Relief (D4)
- [ ] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes [ ]	No [✓]	Depth (inches): n/a
Water Table Present?	Yes [✓]	No [ ]	Depth (inches): 5
Saturation Present? (includes capillary fringe)	Yes [✓]	No [ ]	Depth (inches): 3

Wetland Hydrology Present? Yes [✓] No [ ]

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: FDS-39G2-1

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 feet)			
1. Acer rubrum	25	YES	FAC
2. Liriodendron tulipifera	20	YES	FACU
3. Liquidambar styraciflua	20	YES	FAC
4. Pinus taeda	8	NO	FAC
5.			
6.			
	73	= Total Cover	
50% of total cover: 36.5	20% of total cover: 14.6		
Sapling Stratum (Plot size: 15 feet)			
1. Liriodendron tulipifera	35	YES	FACU
2.			
3.			
4.			
5.			
6.			
	35	= Total Cover	
50% of total cover: 17.5	20% of total cover: 7.0		
Shrub Stratum (Plot size: 15 feet)			
1. Liquidambar styraciflua	3	YES	FAC
2.			
3.			
4.			
5.			
6.			
	3	= Total Cover	
50% of total cover: 1.5	20% of total cover: 0.6		
Herb Stratum (Plot size: 5 feet)			
1. Smilax rotundifolia	8	YES	FAC
2. Arundinaria gigantea	5	YES	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	13	= Total Cover	
50% of total cover: 6.5	20% of total cover: 2.6		
Woody Vine Stratum (Plot size: 30 feet)			
1. N/A			
2.			
3.			
4.			
5.			
	0	= Total Cover	
50% of total cover: 0.0	20% of total cover: 0.0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 71.4% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	64	x 3 =	192
FACU species	55	x 4 =	220
UPL species	0	x 5 =	0
Column Totals:	124 (A)		422 (B)

Prevalence Index = B/A = 3.40

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☑ No ☐

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

SOIL

Sampling Point: FDS-39G2-1

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5YR4/2	85	7.5YR4/3	15	C	M	L	
12-18	10YR5/2	95	5YR4/4	5	C	M	SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☐ **No** ☑

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Moncure-Pittsboro Road TCI 154 Acres City/County: Chatham Sampling Date: 01/10/2020
Applicant/Owner: TC&I Timber Company LLC State: NC Sampling Point: FDS-39G2
Investigator(s): S. Thebert, M. Gilbert Section, Township, Range:
Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): convex Slope (%): 0
Subregion (LRR or MLRA): P, 136 Lat: 35.63452339 Long: -79.0847924 Datum: NAD 83
Soil Map Unit Name: Mayoden gravelly sandy loam, 10 to 15 percent slopes NWI classification: Upland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)
Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes [✓] No [ ]
Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes [✓]	No [ ]	**Is the Sampled Area within a Wetland?** Yes [ ] No [✓]
Hydric Soil Present?	Yes [ ]	No [✓]	
Wetland Hydrology Present?	Yes [✓]	No [ ]	

Remarks:
Point taken in a floodplain.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] True Aquatic Plants (B14)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres on Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Stunted or Stressed Plants (D1)
- [✓] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] Microtopographic Relief (D4)
- [✓] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes [ ] No [✓] Depth (inches): n/a
Water Table Present? Yes [ ] No [✓] Depth (inches): >18
Saturation Present? (includes capillary fringe) Yes [ ] No [✓] Depth (inches): >18

Wetland Hydrology Present? Yes [✓] No [ ]

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: FDS-39G2-2

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum	30	YES	FAC
2. Liriodendron tulipifera	20	YES	FACU
3.			
4.			
5.			
6.			
	50	= Total Cover	

50% of total cover: 25.0 20% of total cover: 10.0

Sapling Stratum (Plot size: 15 feet)			
1. Liriodendron tulipifera	20	YES	FACU
2. Magnolia virginiana	15	YES	FACW
3. Pinus taeda	5	NO	FAC
4. Acer rubrum	3	NO	FAC
5.			
6.			
	43	= Total Cover	

50% of total cover: 21.5 20% of total cover: 8.6

Shrub Stratum (Plot size: 15 feet)			
1. Magnolia virginiana	5	YES	FACW
2.			
3.			
4.			
5.			
6.			
	5	= Total Cover	

50% of total cover: 2.5 20% of total cover: 1.0

Herb Stratum (Plot size: 5 feet)			
1. Arundianria gigantea	10	YES	FACW
2. Smilax rotundifolia	8	YES	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	18	= Total Cover	

50% of total cover: 9.0 20% of total cover: 3.6

Woody Vine Stratum (Plot size: 30 feet)			
1. N/A			
2.			
3.			
4.			
5.			
	0	= Total Cover	

50% of total cover: 0.0 20% of total cover: 0.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 71.4% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	30	x 2 =	60
FAC species	46	x 3 =	138
FACU species	40	x 4 =	160
UPL species	0	x 5 =	0
Column Totals:	116 (A)		358 (B)

Prevalence Index = B/A = 3.09

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☑ No ☐

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

SOIL

Sampling Point: FDS-39G2-2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR3/4	100					CL	
4-11	10YR4/3	90	10YR4/4	C	M	10	CL	
11-18	10YR5/2	92	2.5YR4/6	C	M	8	CL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☐ **No** ☑

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Moncure-Pittsboro Road TCI 154 Acres City/County: Chatham Sampling Date: 01/10/2020
Applicant/Owner: TC&I Timber Company LLC State: NC Sampling Point: FDS-39H2-1
Investigator(s): S. Thebert, M. Gilbert Section, Township, Range:
Landform (hillslope, terrace, etc.): draw Local relief (concave, convex, none): concave Slope (%): 1
Subregion (LRR or MLRA): P, 136 Lat: 35.63408215 Long: -79.08466308 Datum: NAD 83
Soil Map Unit Name: Mayoden gravelly sandy loam, 10 to 15 percent slopes NWI classification: Upland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)
Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes [✓] No [ ]
Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes [✓]	No [ ]	**Is the Sampled Area within a Wetland?** Yes [✓] No [ ]
Hydric Soil Present?	Yes [✓]	No [ ]	
Wetland Hydrology Present?	Yes [✓]	No [ ]	

Remarks:
Point taken in a draw.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- [ ] Surface Water (A1)
- [✓] High Water Table (A2)
- [✓] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] True Aquatic Plants (B14)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres on Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [✓] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Stunted or Stressed Plants (D1)
- [✓] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] Microtopographic Relief (D4)
- [ ] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes [ ] No [✓] Depth (inches): n/a
Water Table Present? Yes [✓] No [ ] Depth (inches): 0
Saturation Present? (includes capillary fringe) Yes [✓] No [ ] Depth (inches): 0

Wetland Hydrology Present? Yes [✓] No [ ]

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: FDS-39H2-1

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 feet)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		
Sapling Stratum (Plot size: 15 feet)			
1. N/A		YES	
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		
Shrub Stratum (Plot size: 15 feet)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		
Herb Stratum (Plot size: 5 feet)			
1. Microstegium vimineum	90	YES	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	90 = Total Cover		
50% of total cover: 45.0	20% of total cover: 18.0		
Woody Vine Stratum (Plot size: 30 feet)			
1. N/A			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	90	x 3 =	270
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	90 (A)		270 (B)

Prevalence Index = B/A = 3.00

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☑ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☑ No ☐

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

SOIL

Sampling Point: FDS-39H2-1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR4/2	92	10YR4/6	8	C	M	SL	
7-15	10YR6/2	85	10YR4/6	15	C	M	S	
15-18	10YR6/2	80	10YR5/6	20	C	M	SCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☑ **No** ☐

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Moncure-Pittsboro Road TCI 154 Acres City/County: Chatham Sampling Date: 01/10/2020
Applicant/Owner: TC&I Timber Company LLC State: NC Sampling Point: FDS-39H2-2
Investigator(s): S. Thebert, M. Gilbert Section, Township, Range:
Landform (hillslope, terrace, etc.): sideslope Local relief (concave, convex, none): convex Slope (%): 3-5
Subregion (LRR or MLRA): P, 136 Lat: 35.63410991 Long: -79.08469553 Datum: NAD 83
Soil Map Unit Name: Mayoden gravelly sandy loam, 10 to 15 percent slopes NWI classification: Upland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)
Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes [✓] No [ ]
Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes [✓]	No [ ]	**Is the Sampled Area within a Wetland?** Yes [ ] No [✓]
Hydric Soil Present?	Yes [ ]	No [✓]	
Wetland Hydrology Present?	Yes [ ]	No [✓]	

Remarks:
Point taken on a sideslope.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] True Aquatic Plants (B14)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres on Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Stunted or Stressed Plants (D1)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] Microtopographic Relief (D4)
- [ ] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes [ ]	No [✓]	Depth (inches): n/a
Water Table Present?	Yes [ ]	No [✓]	Depth (inches): >18
Saturation Present? (includes capillary fringe)	Yes [ ]	No [✓]	Depth (inches): >18

Wetland Hydrology Present? Yes [ ] No [✓]

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: FDS-39H2-2

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	80	YES	FAC
2.			
3.			
4.			
5.			
6.			
	80 = Total Cover		
50% of total cover: 40.0	20% of total cover: 16.0		
Sapling Stratum (Plot size: 15 feet)			
1. Pinus taeda	15	YES	FAC
2. Quercus nigra	10	NO	FAC
3.			
4.			
5.			
6.			
	25 = Total Cover		
50% of total cover: 12.5	20% of total cover: 5.0		
Shrub Stratum (Plot size: 15 feet)			
1. Liquidambar styraciflua	10	YES	FAC
2. Quercus nigra	8	YES	FAC
3. Juniperus virginiana	5	NO	FACU
4. Pinus taeda	5	NO	FAC
5. Ilex opaca	3	NO	FACU
6.			
	31 = Total Cover		
50% of total cover: 15.5	20% of total cover: 6.2		
Herb Stratum (Plot size: 5 feet)			
1. Lonicera japonica	5	YES	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	5 = Total Cover		
50% of total cover: 2.5	20% of total cover: 1.0		
Woody Vine Stratum (Plot size: 30 feet)			
1. N/A			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	128	x 3 =	384
FACU species	13	x 4 =	52
UPL species	0	x 5 =	0
Column Totals:	141 (A)		436 (B)

Prevalence Index = B/A = 3.09

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☑ No ☐

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

SOIL

Sampling Point: FDS-39H2-2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR4/2	100					L	
3-14	10YR6/3	60	10YR4/3	40	C	M	L	
14-18	10YR6/4	70	10YR5/8	30	C	M	SCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☐ **No** ☑

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Moncure-Pittsboro Road TCI 154 Acres City/County: Chatham Sampling Date: 01/09/2020
Applicant/Owner: TC&I Timber Company LLC State: NC Sampling Point: FDS-39I1-1
Investigator(s): S. Thebert, M. Gilbert Section, Township, Range:
Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 0
Subregion (LRR or MLRA): P, 136 Lat: 35.62966593 Long: -79.08217945 Datum: NAD 83
Soil Map Unit Name: Mayoden fine sandy loam, 6 to 10 percent slopes NWI classification: Upland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)
Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes [✓] No [ ]
Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes [✓]	No [ ]	**Is the Sampled Area within a Wetland?** Yes [ ] No [✓]
Hydric Soil Present?	Yes [ ]	No [✓]	
Wetland Hydrology Present?	Yes [ ]	No [✓]	

Remarks:
Point taken in a floodplain.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] True Aquatic Plants (B14)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres on Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Stunted or Stressed Plants (D1)
- [✓] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] Microtopographic Relief (D4)
- [ ] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes [ ]	No [✓]	Depth (inches): n/a
Water Table Present?	Yes [ ]	No [✓]	Depth (inches): >18
Saturation Present? (includes capillary fringe)	Yes [ ]	No [✓]	Depth (inches): >18

Wetland Hydrology Present? Yes [ ] No [✓]

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: FDS-39I1-1

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	50	YES	FAC
2. Liquidambar styraciflua	35	YES	FAC
3. Acer rubrum	15	NO	FAC
4.			
5.			
6.			
	100	= Total Cover	

50% of total cover: 50.0 20% of total cover: 20.0

Sapling Stratum (Plot size: 15 feet)			
1. Acer rubrum	20	YES	FAC
2. Ilex opaca	10	YES	FACU
3. Betula nigra	5	NO	FACW
4.			
5.			
6.			
	35	= Total Cover	

50% of total cover: 17.5 20% of total cover: 7.0

Shrub Stratum (Plot size: 15 feet)			
1. Ilex opaca	25	YES	FACU
2. Quercus nigra	15	YES	FAC
3.			
4.			
5.			
6.			
	40	= Total Cover	

50% of total cover: 20.0 20% of total cover: 8.0

Herb Stratum (Plot size: 5 feet)			
1. Carex caroliniana	10	YES	FAC
2. Smilax rotundifolia	5	YES	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	15	= Total Cover	

50% of total cover: 7.5 20% of total cover: 3.0

Woody Vine Stratum (Plot size: 30 feet)			
1. N/A			
2.			
3.			
4.			
5.			
	0	= Total Cover	

50% of total cover: 0.0 20% of total cover: 0.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	150	x 3 =	450
FACU species	35	x 4 =	140
UPL species	0	x 5 =	0
Column Totals:	190 (A)		600 (B)

Prevalence Index = B/A = 3.16

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☑ No ☐

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

SOIL

Sampling Point: FDS-39I1-1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR3/2	99	10YR5/4	1	C	M	CL	
10-16	10YR4/2	60	10YR5/2	38	D	M		
			10YR5/6	2	C	M	CL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☐ **No** ☑

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Moncure-Pittsboro Road TCI 154 Acres City/County: Chatham Sampling Date: 01/09/2020
Applicant/Owner: TC&I Timber Company LLC State: NC Sampling Point: FDS-39L1-1
Investigator(s): S. Thebert, M. Gilbert Section, Township, Range:
Landform (hillslope, terrace, etc.): draw Local relief (concave, convex, none): concave Slope (%): 1
Subregion (LRR or MLRA): P, 136 Lat: 35.62932334 Long: -79.08135307 Datum: NAD 83
Soil Map Unit Name: Mayoden fine sandy loam, 6 to 10 percent slopes NWI classification: Upland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)
Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes [✓] No [ ]
Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes [✓]	No [ ]	**Is the Sampled Area within a Wetland?** Yes [ ] No [✓]
Hydric Soil Present?	Yes [ ]	No [✓]	
Wetland Hydrology Present?	Yes [ ]	No [✓]	

Remarks:
Point taken in a draw.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] True Aquatic Plants (B14)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres on Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Stunted or Stressed Plants (D1)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] Microtopographic Relief (D4)
- [ ] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes [ ]	No [✓]	Depth (inches): n/a
Water Table Present?	Yes [ ]	No [✓]	Depth (inches): >18
Saturation Present? (includes capillary fringe)	Yes [ ]	No [✓]	Depth (inches): >18

Wetland Hydrology Present? Yes [ ] No [✓]

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: FDS-39L1-1

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	80	YES	FAC
2.			
3.			
4.			
5.			
6.			
	80 = Total Cover		
50% of total cover: 40.0	20% of total cover: 16.0		
Sapling Stratum (Plot size: 15 feet)			
1. Pinus taeda	10	YES	FAC
2. Ilex opaca	10	YES	FACU
3. Acer rubrum	5	YES	FAC
4.			
5.			
6.			
	25 = Total Cover		
50% of total cover: 12.5	20% of total cover: 5.0		
Shrub Stratum (Plot size: 15 feet)			
1. Liquidambar styraciflua	15	YES	FAC
2. Ilex opaca	10	YES	FACU
3. Acer rubrum	8	YES	FAC
4.			
5.			
6.			
	33 = Total Cover		
50% of total cover: 16.5	20% of total cover: 6.6		
Herb Stratum (Plot size: 5 feet)			
1. Rubus pensilvanicus	30	YES	FAC
2. Lonicera japonica	10	NO	FACU
3. Ilex opaca	5	NO	FACU
4. Pinus taeda	3	NO	FAC
5. Rosa multiflora	3	NO	FACU
6.			
7.			
8.			
9.			
10.			
11.			
	51 = Total Cover		
50% of total cover: 25.5	20% of total cover: 10.2		
Woody Vine Stratum (Plot size: 30 feet)			
1. N/A			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	151	x 3 =	453
FACU species	38	x 4 =	152
UPL species	0	x 5 =	0
Column Totals:	189 (A)		605 (B)

Prevalence Index = B/A = 3.20

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☑ No ☐

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

SOIL

Sampling Point: FDS-39L1-1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-11	10YR4/3	90	2.5YR5/4	10	C	M	L	
11-18	10YR5/4	80	2.5YR4/6	20	C	M	L	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☐ **No** ☑

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Moncure-Pittsboro Road TCI 154 Acres City/County: Chatham Sampling Date: 01/10/2020
Applicant/Owner: TC&I Timber Company LLC State: NC Sampling Point: FDS-39M1-1
Investigator(s): S. Thebert, M. Gilbert Section, Township, Range:
Landform (hillslope, terrace, etc.): drainage way Local relief (concave, convex, none): concave Slope (%): 1
Subregion (LRR or MLRA): P, 136 Lat: 35.63066807 Long: -79.0819614 Datum: NAD 83
Soil Map Unit Name: Mayoden gravelly sandy loam, 10 to 15 percent slopes NWI classification: Upland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)
Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes [✓] No [ ]
Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes [ ]	No [✓]	**Is the Sampled Area within a Wetland?** Yes [ ] No [✓]
Hydric Soil Present?	Yes [✓]	No [ ]	
Wetland Hydrology Present?	Yes [✓]	No [ ]	

Remarks:
Point taken in a drainage way.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [✓] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] True Aquatic Plants (B14)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres on Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [✓] Sparsely Vegetated Concave Surface (B8)
- [✓] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Stunted or Stressed Plants (D1)
- [✓] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] Microtopographic Relief (D4)
- [ ] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes [ ] No [✓] Depth (inches): n/a
Water Table Present? Yes [✓] No [ ] Depth (inches): 0
Saturation Present? (includes capillary fringe) Yes [✓] No [ ] Depth (inches): 0

Wetland Hydrology Present? Yes [✓] No [ ]

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: FDS-39M1-1

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: 0.0 20% of total cover: 0.0

Sapling Stratum (Plot size: 15 feet)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: 0.0 20% of total cover: 0.0

Shrub Stratum (Plot size: 15 feet)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: 0.0 20% of total cover: 0.0

Herb Stratum (Plot size: 5 feet)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0 = Total Cover		

50% of total cover: 0.0 20% of total cover: 0.0

Woody Vine Stratum (Plot size: 30 feet)			
1. N/A			
2.			
3.			
4.			
5.			
	0 = Total Cover		

50% of total cover: 0.0 20% of total cover: 0.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☐ No ☑

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

Vegetation was not observed during the site inspection and given the channel-like characteristics it does not appear vegetation would be present year-round.

SOIL

Sampling Point: FDS-39M1-1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR5/2	95	5YR4/6	5	C	M	SL	
7-13	10YR5/2	90	5YR4/6	5	C	M	SL	
			10YR5/6	5	C	M		
13-18	10YR6/2	80	5YR4/6	20	C	M	SCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☑ **No** ☐

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Moncure-Pittsboro Road TCI 154 Acres City/County: Chatham Sampling Date: 01/10/2020
Applicant/Owner: TC&I Timber Company LLC State: NC Sampling Point: FDS-39M1-2
Investigator(s): S. Thebert, M. Gilbert Section, Township, Range:
Landform (hillslope, terrace, etc.): drainage way Local relief (concave, convex, none): concave Slope (%): 1
Subregion (LRR or MLRA): P, 136 Lat: 35.63078824 Long: -79.0818971 Datum: NAD 83
Soil Map Unit Name: Mayoden gravelly sandy loam, 10 to 15 percent slopes NWI classification: Upland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)
Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes [✓] No [ ]
Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes [✓]	No [ ]	**Is the Sampled Area within a Wetland?** Yes [ ] No [✓]
Hydric Soil Present?	Yes [ ]	No [✓]	
Wetland Hydrology Present?	Yes [✓]	No [ ]	

Remarks:
Point taken in a drainage way that was previously a dirt road.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- [ ] Surface Water (A1)
- [✓] High Water Table (A2)
- [✓] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [✓] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] True Aquatic Plants (B14)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres on Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [✓] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Stunted or Stressed Plants (D1)
- [✓] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] Microtopographic Relief (D4)
- [ ] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes [ ] No [✓] Depth (inches): n/a
Water Table Present? Yes [✓] No [ ] Depth (inches): 4
Saturation Present? (includes capillary fringe) Yes [✓] No [ ] Depth (inches): 0

Wetland Hydrology Present? Yes [✓] No [ ]

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: FDS-39M1-2

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	65	YES	FAC
2.			
3.			
4.			
5.			
6.			
	65 = Total Cover		
50% of total cover: 32.5	20% of total cover: 13.0		
Sapling Stratum (Plot size: 15 feet)			
1. Pinus taeda	20	YES	FAC
2. Ilex opaca	8	YES	FACU
3. Acer rubrum	8	YES	FAC
4.			
5.			
6.			
	36 = Total Cover		
50% of total cover: 18.0	20% of total cover: 7.2		
Shrub Stratum (Plot size: 15 feet)			
1. Liquidambar styraciflua	30	YES	FAC
2. Ilex opaca	10	YES	FACU
3. Quercus rubra	8	NO	FACU
4.			
5.			
6.			
	48 = Total Cover		
50% of total cover: 24.0	20% of total cover: 9.6		
Herb Stratum (Plot size: 5 feet)			
1. Arthraxon hispidus	30	YES	FAC
2. Rubus argutus	20	YES	FACU
3. Lonicera japonica	15	NO	FACU
4. Liquidambar styraciflua	15	NO	FAC
5. Juncus effusus	8	NO	FACW
6. Pinus taeda	5	NO	FAC
7.			
8.			
9.			
10.			
11.			
	93 = Total Cover		
50% of total cover: 46.5	20% of total cover: 18.6		
Woody Vine Stratum (Plot size: 30 feet)			
1. N/A			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 62.5% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	8	x 2 =	16
FAC species	173	x 3 =	519
FACU species	61	x 4 =	244
UPL species	0	x 5 =	0
Column Totals:	242 (A)		779 (B)

Prevalence Index = B/A = 3.22

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☑ No ☐

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

SOIL

Sampling Point: FDS-39M1-2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR6/3	75	5YR4/6	25	C	M	SL	
12-18	10YR6/3	70	5YR4/6	30	C	M	SCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☐ **No** ☑

Remarks: Soils are heavily compacted from old road.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Moncure-Pittsboro Road TCI 154 Acres City/County: Chatham Sampling Date: 01/10/2020
Applicant/Owner: TC&I Timber Company LLC State: NC Sampling Point: FDS-39M2-2
Investigator(s): S. Thebert, M. Gilbert Section, Township, Range:
Landform (hillslope, terrace, etc.): drawl Local relief (concave, convex, none): concave Slope (%): 1
Subregion (LRR or MLRA): P, 136 Lat: 35.63639916 Long: -79.08491741 Datum: NAD 83
Soil Map Unit Name: Mayoden gravelly sandy loam , 10 to 15 percent slopes NWI classification: Upland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)
Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes [✓] No [ ]
Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes [✓]	No [ ]	**Is the Sampled Area within a Wetland?** Yes [ ] No [✓]
Hydric Soil Present?	Yes [ ]	No [✓]	
Wetland Hydrology Present?	Yes [✓]	No [ ]	

Remarks:
Point taken in a drawl.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] True Aquatic Plants (B14)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres on Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Stunted or Stressed Plants (D1)
- [✓] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] Microtopographic Relief (D4)
- [✓] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes [ ] No [✓] Depth (inches): n/a
Water Table Present? Yes [ ] No [✓] Depth (inches): >18
Saturation Present? (includes capillary fringe) Yes [ ] No [✓] Depth (inches): >18

Wetland Hydrology Present? Yes [✓] No [ ]

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: FDS-39M2-2

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	70	YES	FAC
2.			
3.			
4.			
5.			
6.			
	70 = Total Cover		
50% of total cover: 35.0	20% of total cover: 14.0		
Sapling Stratum (Plot size: 15 feet)			
1. Pinus taeda	15	YES	FAC
2.			
3.			
4.			
5.			
6.			
	15 = Total Cover		
50% of total cover: 7.5	20% of total cover: 3.0		
Shrub Stratum (Plot size: 15 feet)			
1. Pinus taeda	15	YES	FAC
2. Acer rubrum	8	YES	FAC
3. Magnolia virginiana	8	YES	FACW
4. Ilex opaca	5	NO	FACU
5. Quercus nigra	3	NO	FAC
6.			
	39 = Total Cover		
50% of total cover: 19.5	20% of total cover: 7.8		
Herb Stratum (Plot size: 5 feet)			
1. Pinus taeda	10	YES	FAC
2. Arthraxon hispidus	5	YES	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	15 = Total Cover		
50% of total cover: 7.5	20% of total cover: 3.0		
Woody Vine Stratum (Plot size: 30 feet)			
1. N/A			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	8	x 2 =	16
FAC species	126	x 3 =	378
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	139 (A)		414 (B)

Prevalence Index = B/A = 2.98

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☑ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☑ No ☐

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

SOIL

Sampling Point: FDS-39M2-2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR5/3	100					L	
5-18	10YR5/3	80	5YR4/4	20	C	M	CL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☐ **No** ☑

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Moncure-Pittsboro Road TCI 154 Acres City/County: Chatham Sampling Date: 01/10/2020
Applicant/Owner: TC&I Timber Company LLC State: NC Sampling Point: FDS-39N2
Investigator(s): S. Thebert, M. Gilbert Section, Township, Range:
Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 1
Subregion (LRR or MLRA): P, 136 Lat: 35.63679873 Long: -79.08506318 Datum: NAD 83
Soil Map Unit Name: Mayoden fine sandy loam, 6 to 10 percent slopes NWI classification: Upland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)
Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes [✓] No [ ]
Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes [✓]	No [ ]	**Is the Sampled Area within a Wetland?** Yes [✓] No [ ]
Hydric Soil Present?	Yes [✓]	No [ ]	
Wetland Hydrology Present?	Yes [✓]	No [ ]	

Remarks:
Point taken in a depression.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- [ ] Surface Water (A1)
- [✓] High Water Table (A2)
- [✓] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] True Aquatic Plants (B14)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres on Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Stunted or Stressed Plants (D1)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] Microtopographic Relief (D4)
- [✓] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes [ ]	No [✓]	Depth (inches): n/a
Water Table Present?	Yes [✓]	No [ ]	Depth (inches): 5
Saturation Present? (includes capillary fringe)	Yes [✓]	No [ ]	Depth (inches): 0

Wetland Hydrology Present? Yes [✓] No [ ]

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: FDS-39N2-1

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 feet)			
1. Pinus taeda	5	YES	FAC
2.			
3.			
4.			
5.			
6.			
	5 = Total Cover		
50% of total cover: 2.5	20% of total cover: 1.0		
Sapling Stratum (Plot size: 15 feet)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		
Shrub Stratum (Plot size: 15 feet)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		
Herb Stratum (Plot size: 5 feet)			
1. Microstegium vimineum	35	YES	FAC
2. Juncus effusus	15	YES	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	50 = Total Cover		
50% of total cover: 25.0	20% of total cover: 10.0		
Woody Vine Stratum (Plot size: 30 feet)			
1. N/A			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	40	x 3 =	120
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	55 (A)		150 (B)

Prevalence Index = B/A = 2.73

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☑ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☑ No ☐

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

SOIL

Sampling Point: FDS-39N2-1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR4/2	100					L	
2-18	2.5Y5/2	85	7.5YR4/6	15	C	M	L	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☑ **No** ☐

Remarks:

Watershed Protection Department
Website: www.chathamnc.org

Date Received: 6/18/20 PL# 20200930

Riparian Buffer Review Application
Surface Water Identification Request for
Major Subdivisions

Tract Information

Parcel #: 00112929 Watershed District (and name of creek if known): Southeast district

Property Owner: TC&L Timber Company LLC

Location/Physical Address of Tract: 1052 Moncure School Road, Moncure, NC 27559

Driving Directions from Pittsboro: Turn left on Moncure Pittsboro Rd. (7.6 miles), Turn left onto State Rd. 1970/Jordan Dam Rd (0.9 miles), turn right onto Moncure School right.

Subdivision Name (if applicable): N/A

Owner's/Agent Contact Information (Agent: Consultant, Real Estate Agent, Surveyor, Other) Circle one

Name: Lauren Norris-Heflin

Contact Phone Numbers: (h) _____ (w) 919-866-4943 (c) 919-607-7723

E-mail: lauren.norris-heflin@timmons.com

Mailing Address: 5410 Trinity Rd, Suite 102, Raleigh, NC 27607

Do you wish to be contacted prior to Chatham County staff visiting the property? ☑ Yes ☐ No

How much notice is required prior to arrival onsite? preferably 2-to-3 weeks notice

How would you like to receive the completed review letter? (Please check one of the following)
☐ I would like to pick up the completed Riparian Buffer Review at the County Office
☐ I would like the completed Riparian Buffer Review mailed to me
☑ I would like the completed Riparian Buffer Review e-mailed to me

Please include the following items with this request
☑ Completed consultant findings report including the following:
- ☑ GIS generated or hand drawn sketch of surface water features found onsite (Buffer Plan Sheet)
  No smaller than 1"=60' and paper size 11"x17" or larger
- ☑ NCDWQ Stream Identification Forms, Version 4.11, Wetland Determination Data Form –

Watershed Protection Department
Website: www.chathamnc.org

Riparian Buffer Review Application
Surface Water Identification Request

Eastern Mountains and Piedmont Region, digital photographs, notes, sketches, etc.

☑ NRCS map with property boundary depicted

☑ USGS map with property boundary depicted

☑ Statement of Credentials (Training Certificate for NCDWQ/NC State University Surface Waters Classification course, 2 years of jurisdictional wetland delineation according to the Eastern Mountains and Piedmont Regional Supplement to the 1987 US Corps of Engineers Wetland Delineation Manual)

☑ Signed Right to Enter Property Form

☑ Signed Owner's Agent Designation Form

☑ Fee (make checks payable to Chatham County) **$100 per feature confirmed onsite**

Feature *is defined as any surface water that is subject to Chatham County Riparian Buffers (streams, wetlands, ponds)*

Total Number of Features: ~~28~~ 28 Total Paid: $~~2,800~~ 2,800

I have read and understand the regulations of the Watershed Protection Ordinance, Section 304, and I agree to adhere to these associated policies and guidelines herein.

Owner/Agent Signature: TCI Timber Company, LLC by [signature] Date: 6/15/26

CHATHAM COUNTY

AUTHORIZED AGENT FOR FORM

PROPERTY LEGAL DESCRIPTION:

LOT NO. 00011229 PARCEL ID (PIN) 9678-55-1853.00 PARCEL SIZE 150 acres

STREET ADDRESS: 1052 Moncure School Road, Moncure, NC 27559

Please print:
Property Owner: TCF Timber Company, LLC

Property Owner: _____

The undersigned owner(s) of the above described property, do hereby authorize

Lauren Norris-Heflin, of Timmons Group
(Contractor / Agent) (Name of consulting firm if applicable)

to act on my/our behalf and take all actions, I/we could have taken if present, necessary for the processing, issuance and acceptance of reviews, inspections, or permits and any and all standard and special conditions attached to these approvals. The activities authorized include the following (**Check all that apply**):

☐ **Check here for all of the below options.**

☐ Building Permit
☐ Zoning Compliance Permits
☐ Floodplain Determination
☐ Soil Erosion & Sedimentation Control Permit
☐ Permits to install, repair, evaluate, or expand onsite wastewater system(s)
☐ Evaluation/inspection/permitting of a private drinking water well(s).
☑ Riparian Buffer Review pursuant to §304 of the Chatham Co. Watershed Protection Ordinance.
☐ Other: _____

Property Owner's Address (if different than property above):
1200 N 23rd St. Suite 201 Wilmington NC 28405

Telephone: 910-815-4320 E-mail: nThurman@campbelldda.com

We hereby certify the above information submitted in this application is true and accurate to the best of our knowledge.

TCF Timber Company, LLC by [signature]
Owner Authorized Signature

Date: 6/15/20

[signature]
Agent Authorized Signature

Date: 06/16/2020

Watershed Protection Department

P.O. Box 548
Pittsboro, NC 27312

Website: www.chathamnc.org

Authorization to Enter Property Form

Date: 6/15/20

PARCEL No. (AKPAR) 0011229

I, (print name) TCI Timber Company, as owner of the property described above, or as a representative of the owner(s) do hereby convey permission to Chatham County staff to enter the property at their convenience to conduct a surface water identification (SWID) necessary to determine whether or not water features on my property are subject to the riparian buffer regulations described in Section 304 of the Chatham County Watershed Protection Ordinance. The SWID will be public record and on file at the Planning and Watershed Protection Departments, and may be requested in the future for review by interested parties.

I understand that stream delineations for the property listed above will be made by County staff only once and that if future subdivisions are proposed within this property boundary, it will require a surface water identification by a private consultant at the property owner's expense.

TCI Timber Company, LLC by Matthew H. Thuman
(Print Owner's Name)

(Signature of Owner)
(Date)

Lauren Norris-Heflin
(Print Authorized Agent Name)

(Signature of Authorized Agent)
(Date)