CHATHAM COUNTY
NORTH CAROLINA

WATERSHED PROTECTION DEPARTMENT

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

Phone: (919) 548-6715 ● E-mail: drew.blake@chathamcountync.gov

July 12, 2024

Mr. Kevin Murphrey
Soil & Environmental Consultants, Inc.
8412 Falls of Neuse Road, Suite 105
Raleigh, NC 27615

Project Name:	Parcel # 19725
Location:	80 New Hope Church Road
Project Number	WP-24-317
Subject Features:	Two (2) ephemeral segments, two (2) intermittent segments, and four (4) potential wetlands

Dear Mr. Murphrey,

Explanation:
The site visit was completed by Kevin Murphrey of Soil & Environmental Consultants, Inc., (S&EC), on a property identified as Chatham County Parcel # 19725 that is located within the Jordan Lake watershed. S&EC personnel completed a previous site visit in April and June 2024, and identified two (2) ephemeral segments, two (2) intermittent segments, and four (4) potential wetlands within the review area that are potentially subject to riparian buffers through the Chatham County Watershed Protection Ordinance. S&EC 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.

Summary of Findings
Chatham County staff confirms the findings of S&EC personnel.

Required Buffers Required
The required riparian buffers provided below are in accordance with Section 304(D) of the Chatham County Watershed Protection Ordinance.

Section 304(D)(2) – Intermittent Streams
The riparian buffer shall be fifty (50') feet landward, measured horizontally on a line perpendicular from top of bank; this distance shall be measured on all sides of intermittent streams.

Section 304(D)(3) – Ephemeral Streams
The riparian buffer shall be thirty (30') feet landward, measured horizontally on a line perpendicular from top of bank; this distance shall be measured on all sides along all ephemeral streams.

Section 304(D)(4) – Jurisdictional and Non-Jurisdictional Wetlands
The riparian buffer shall be fifty (50') feet landward, measured horizontally on a line perpendicular from the delineated boundary, surrounding all features classified as wetlands and linear wetlands. **The potential wetlands identified by S&EC have not been confirmed by the US Army Corps of Engineers. Once the USACE confirmation is received the 50-ft riparian buffers will be required from the flagged confirmed wetland boundaries.**

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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)(3) 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.

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.

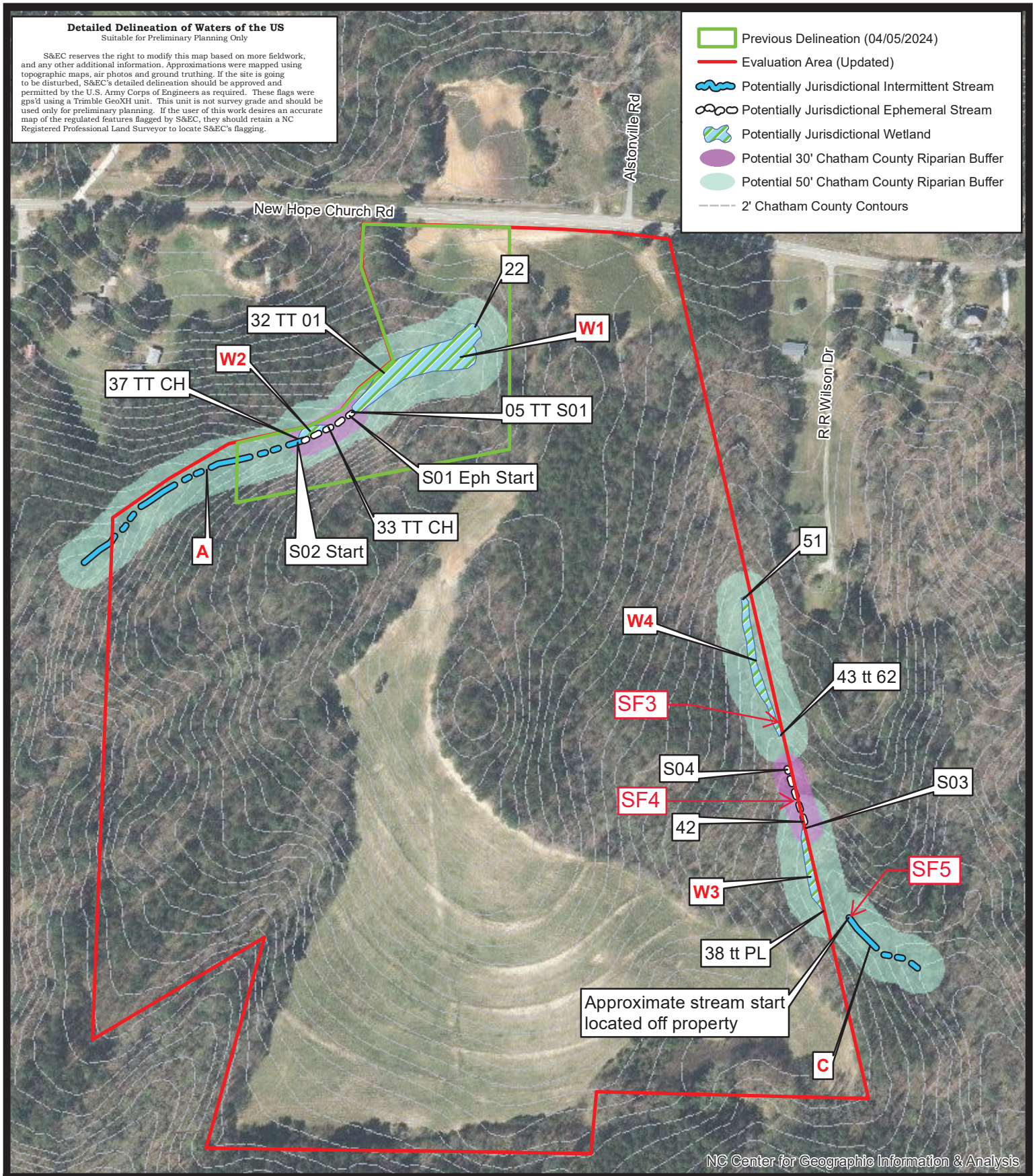
Respectfully,

Drew Blake

Drew Blake
Assistant Director, CESSWI
Chatham County Watershed Protection Department

Enclosures:
Wetland Sketch Map – Completed by S&EC
NC DWQ – Stream Determination forms v. 4.11 – Completed by S&EC
USACE Wetland Determination Data Sheets – Completed by S&EC
Major Subdivision Riparian Buffer Application
Authorized Agent Form
Authorization to Enter Property Form

cc: Taylor Burton, Sr. Watershed Specialist, Chatham County Watershed Protection Department
Phillip Cox, Sr. Watershed Specialist, Chatham County Watershed Protection Department
Justin Hasenfus, Erosion Control Program Manager, Chatham County Watershed Protection Dept
Rachael Thorn, Director, Chatham County Watershed Protection Department
Kimberly Tyson, Planner II/Subdivision Administrator, Chatham County Planning Department
Angela Plummer, Planner II/Zoning Administrator, Chatham County Planning Department
Jason Sullivan, Director, Chatham County Planning Department
Rachel Capito, Regulatory Project Manager, US Army Corps of Engineers, Raleigh Field Office
Zachary Thomas, Environmental Program Consultant, NCDEQ - Division of Water Resources



Project Number:	12950.W6
Project Manager:	SB
Scale:	1" = 250'
Date:	06/17/2024

Map Title:

Wetland Sketch Map

New Hope Overlook (Nunn)
Chatham County, NC

Source: Aerials from NC OneMap

0 250 500
Feet

N

S&EC
Soil & Environmental Consultants, Inc.
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sandec.com

SF1

NC DWQ Stream Identification Form Version 4.11

Date: 4/5/2024	**Project/Site:** Nunn Property	**Latitude:** 35.817401
Evaluator: S&EC- K. Murphrey	**County:** Chatham	**Longitude:** -78.962084
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 15.5	**Stream Determination (circle one)** Ephemeral Intermittent Perennial	**Other** *e.g. Quad Name*:

A. Geomorphology (Subtotal = 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	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 = 5.5)				
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 = 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:

SF2

NC DWQ Stream Identification Form Version 4.11

Date: 4/5/2024	**Project/Site:** Nunn Property	**Latitude:** 35.817267
Evaluator: S&EC- K. Murphrey	**County:** Chatham	**Longitude:** -78.962552
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 23	**Stream Determination (circle one)** Ephemeral **Intermittent** Perennial	**Other** *e.g. Quad Name*:

A. Geomorphology (Subtotal = 8)	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 = 8.5)				
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 = 6.5)				
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:

NC DWQ Stream Identification Form Version 4.11

SF3

Date: 06/17/24	Project/Site: Nunn prop	Latitude: 35.8158444
Evaluator: SJEC-K.Murphrey	County: Chatham	Longitude: -78.959189
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 6.5	Stream Determination (circle one) Ephemeral Intermittent Perennial	Other *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)				
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:

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.11

NC DWQ Stream Identification Form Version 4.11

SFH

Date: 06/17/24	Project/Site: Nunn Prop	Latitude: 35.815444
Evaluator: SJEC-K.Murphrey	County: Chatham	Longitude: -78.959056
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 15	**Stream Determination (circle one)** (Ephemeral) Intermittent Perennial	**Other** *e.g. Quad Name:*

A. Geomorphology (Subtotal = 5.5)	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 = 4.5)				
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 = 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:

NC DWQ Stream Identification Form Version 4.11

SFS

Date: 06/17/24	**Project/Site:** Nann PUP	**Latitude:** 35.814794
Evaluator: SEC- K. Murphrey	**County:** Chatham	**Longitude:** -78.958695
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 19	**Stream Determination (circle one)** Ephemeral (Intermittent) Perennial	**Other** *e.g. Quad Name:*

A. Geomorphology (Subtotal = 9)	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 = 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:

U.S. Army Corps of Engineers

WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region

See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: New Hope Overlook Property City/County: Chatham Sampling Date: 06/1712024

Applicant/Owner: Maurice Nunn State: NC Sampling Point: DP_UP

Investigator(s): S&EC - Kevin Murphrey Section, Township, Range: NA

Landform (hillside, terrace, etc.): Hillslope Local relief (concave, convex, none): convex Slope (%): 2-4

Subregion (LRR or MLRA): LRR P, MLRA 136 Lat: 35.816799 Long: -78.959487 Datum: NAD 83

Soil Map Unit Name: CrC NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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 X	No ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No x	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

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 x	Depth (inches): ____
Water Table Present?	Yes ____	No x	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No x	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

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

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: DP_UP

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Liquidambar styraciflua*	10	Yes	FAC
2. *Pinus taeda*	5	Yes	FAC
3. *Acer rubrum*	10	Yes	FAC
4.			
5.			
6.			
7.			
	25	=Total Cover	
50% of total cover: 13	20% of total cover: 5		
Sapling/Shrub Stratum (Plot size: 15' r)			
1. *Liquidambar styraciflua*	10	Yes	FAC
2. *Ligustrum sinense*	10	Yes	FACU
3. *Pinus taeda*			
4.			
5.			
6.			
7.			
8.			
9.			
	20	=Total Cover	
50% of total cover: 10	20% of total cover: 4		
Herb Stratum (Plot size: 5' r)			
1. *Polystichum acrostichoides*	10	Yes	FACU
2. *Mitchella repens*	5	Yes	FACU
3. *Lonicera japonica*	5	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	20	=Total Cover	
50% of total cover: 10	20% of total cover: 4		
Woody Vine Stratum (Plot size: 30' r)			
1. *Smilax rotundifolia*	5	Yes	FAC
2.			
3.			
4.			
5.			
	5	=Total Cover	
50% of total cover: 3	20% of total cover: 1		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 55.6% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	40	x 3 =	120
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals:	70 (A)		240 (B)

Prevalence Index = B/A = 3.43

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 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 Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: DP_UP

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
0-20	7.5YR 5/4	100					Loamy/Clayey	

[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)
- ___ 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 Mucky Mineral (F1) **(MLRA 136)**
- ___ 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 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

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)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ 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** x

Remarks:

U.S. Army Corps of Engineers

WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region

See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: New Hope Overlook Property City/County: Chatham Sampling Date: 06/1712024

Applicant/Owner: Maurice Nunn State: NC Sampling Point: DP_wet

Investigator(s): S&EC - Kevin Murphrey Section, Township, Range: NA

Landform (hillside, terrace, etc.): Drainage Local relief (concave, convex, none): concave Slope (%): 0-2

Subregion (LRR or MLRA): LRR P, MLRA 136 Lat: 35.816038 Long: -78.959299 Datum: NAD 83

Soil Map Unit Name: CrC NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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 X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:

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)
- X 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)
- X 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 x	Depth (inches): ____
Water Table Present?	Yes ____	No x	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No x	Depth (inches): ____

Wetland Hydrology Present? **Yes** X **No** ____

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

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: DP_wet

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Liquidambar styraciflua*	10	Yes	FAC
2. *Carpinus caroliniana*	5	Yes	FAC
3. *Acer rubrum*	10	Yes	FAC
4.			
5.			
6.			
7.			
	25	=Total Cover	
50% of total cover: 13		20% of total cover:	5
Sapling/Shrub Stratum (Plot size: 15' r)			
1. *Liquidambar styraciflua*	10	Yes	FAC
2. *Ligustrum sinense*	10	Yes	FACU
3. *Pinus taeda*			
4.			
5.			
6.			
7.			
8.			
9.			
	20	=Total Cover	
50% of total cover: 10		20% of total cover:	4
Herb Stratum (Plot size: 5' r)			
1. *Boehmeria cylindrica*	5	No	FACW
2. *Saururus cernuus*	5	No	FACW
3. *Microstegium vimineum*	20	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	30	=Total Cover	
50% of total cover: 15		20% of total cover:	6
Woody Vine Stratum (Plot size: 30' r)			
1. *Smilax rotundifolia*	5	Yes	FAC
2.			
3.			
4.			
5.			
	5	=Total Cover	
50% of total cover: 3		20% of total cover:	1

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 85.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	60	x 3 =	180
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	80 (A)		240 (B)

Prevalence Index = B/A = 3.00

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 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 Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: DP_wet

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
0-20	10YR 4/2	90	2.5YR 4/4	10	C	M	Loamy/Clayey	Prominent redox concentrations

[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)
- ___ 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 Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- X 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 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

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)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

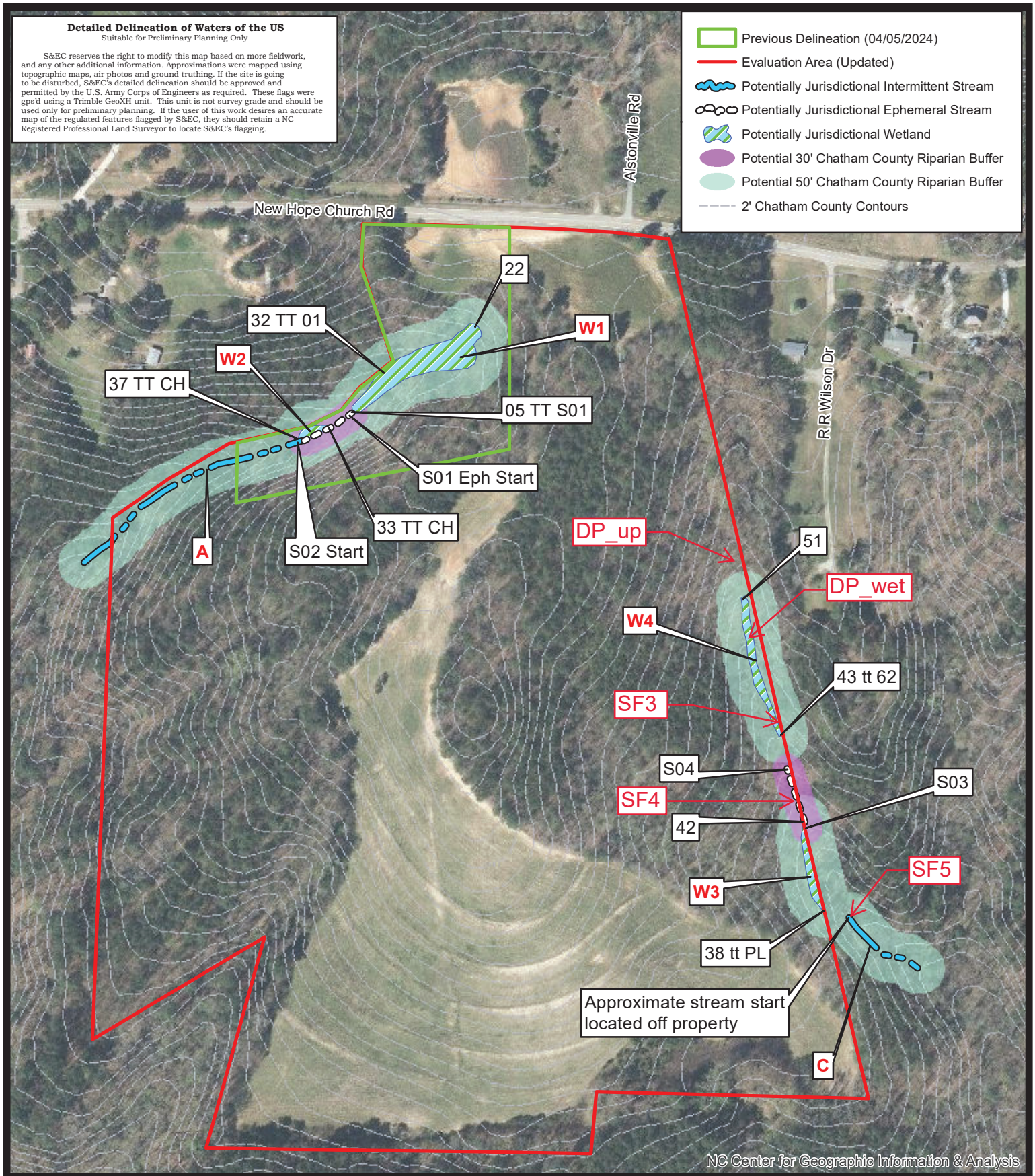
Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:



Project Number:	12950.W6
Project Manager:	SB
Scale:	1" = 250'
Date:	06/17/2024

Map Title:

Wetland Sketch Map

New Hope Overlook (Nunn)
Chatham County, NC

Source: Aerials from NC OneMap

0 250 500
Feet

N

S&EC
Soil & Environmental Consultants, Inc.
8412 Falls of Neuse Road, Suite 104, Raleigh, NC 27615 • Phone (919) 846-5900 • Fax (919) 846-9467
sandec.com

County of Chatham, NC

July 2, 2024

WP-24-317

On-site Riparian Buffer Review

Status: Active

Submitted On: 6/24/2024

Primary Location

80 New Hope Church Rd
Apex, North Carolina 27523

Owner

DAVIS ARNETA N
2320 LOCH HAVEN DR
ROANOKE , VA 24019

Applicant

Kevin Murphrey
919-916-0201
kmurphrey@sandec.com
8412 Falls of Neuse Rd
Suite 104
Raleigh, NC 27615

Project Information

Review Type*

Major Subdivision

If your project is a Major Subdivision please contact a private consulting firm to complete the surface water determination. For stream determinations the consultant must have successfully completed the NCDWQ/NC State University Surface Waters Classification. For wetland delineations the consultant must demonstrate at least 2 years of experience delineating jurisdictional wetlands in accordance with the Eastern Mountains and Piedmont Regional Supplement to the 1987 US Corps of Engineers Wetland Delineation Manual. Please visit the Watershed Protection Department website for a list of consultants that regularly complete work within Chatham County.

Has this review been completed by an environmental consultant prior to submittal to the county?*

Yes

Number of Features Found*

8

Feature is defined as any surface water that is subject to Chatham County Riparian Buffers (streams, wetlands, ponds). Include each stream type transition, with corresponding forms, and individual wetland in your total. Total is total features found before USACE or County site visit.

Date Field Work Was Completed*

06/17/2024

Has USACE on-site review been scheduled or completed

–

Number of Lots Being Created*

1

Parcel Information

Parcel Number (s)*

2

Watershed District

Critical Area

Is the property within the Jordan Lake Watershed*

Yes

Property Owner Name*

DAVIS ARNETTA N

Location of Tract (address if applicable)*

0 New Hope Church Road

Driving Directions from Pittsboro*

HWY 64 East to HWY 751 North 5 miles to New Hope Church Road make right property is past 2nd house on right

Subdivision Name (if applicable)

Olde Farm

Please describe access issues (provide gate codes, or information for scheduling site visit)*

NA

Applicants Information

Are you the Landowner or an Agent*

Agent

Full Name*

Kevin Murphrey

Primary Phone Number*

919-916-0201

Primary Email*

kmurphrey@sandec.com

Mailing Address*

8412 Falls of Neuse Road

City/State*

Raleigh/NC

Zip Code*

27615

How would you like to receive the completed review letter?

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.

☑

Statement of Understanding

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.

Name*

Kevin Murphrey

New Field*

06/24/2024

Attachments

Review Area Map REQUIRED
Pages from sec06062024.pdf
Uploaded by Kevin Murphrey on Jun 24, 2024 at 3:14 PM

Signed Right to Enter Property Form REQUIRED
Parcels 19725 and 72513 - Riparian Buffer Report.pdf
Uploaded by Kevin Murphrey on Jun 24, 2024 at 3:14 PM

Signed Owner's Agent Designation Form
Owner_Agent Auth.pdf
Uploaded by Kevin Murphrey on Jun 24, 2024 at 3:03 PM

Consultant Findings Report REQUIRED
SEC_New Hope Overlook Property_Mapset.pdf
Uploaded by Kevin Murphrey on Jun 24, 2024 at 3:59 PM

Consultants Findings Map REQUIRED
SEC New Hope Overlook Property Wetland Sketch Map.pdf
Uploaded by Kevin Murphrey on Jun 24, 2024 at 3:48 PM

NCDWQ Stream Identification Forms & Wetland Data Forms REQUIRED
Stream forms.pdf
Uploaded by Kevin Murphrey on Jun 24, 2024 at 3:53 PM

USGS Topographic Map REQUIRED
Figure 1 - USGS Map.pdf
Uploaded by Kevin Murphrey on Jun 24, 2024 at 3:01 PM

Figure 2 - Soil Survey Map.pdf
Figure 2 - Soil Survey Map.pdf
Uploaded by Kevin Murphrey on Jun 24, 2024 at 3:02 PM

History

Date	Activity
7/2/2024, 12:46:41 PM	Hollie Squires altered multi-entry field Watershed District, changed value from "" to "Critical Area" on Record WP-24-317
7/2/2024, 12:46:27 PM	Drew Blake added a guest: sballsball@sandec.com to Record WP-24-317
7/2/2024, 12:43:48 PM	Drew Blake approved approval step Watershed Intake Approval on Record WP-24-317
7/2/2024, 12:43:35 PM	Drew Blake changed Number of Features Found from "4" to "8" on Record WP-24-317
7/2/2024, 12:42:37 PM	approval step Watershed Intake Approval was assigned to Hollie Squires on Record WP-24-317
7/2/2024, 12:42:36 PM	Drew Blake changed Review Type from "Minor Subdivision" to "Major Subdivision" on Record WP-24-317
7/1/2024, 3:59:33 PM	Drew Blake altered approval step Planning Department Intake Approval, changed status from Active to On Hold on Record WP-24-317
6/24/2024, 4:00:05 PM	approval step Planning Department Intake Approval was assigned to Paula Phillips on Record WP-24-317
6/24/2024, 4:00:05 PM	Kevin Murphrey submitted Record WP-24-317
6/24/2024, 2:42:26 PM	Kevin Murphrey started a draft of Record WP-24-317

Timeline

Label	Activated	Completed	Assignee	Due Date	Status
✔ Watershed Intake Approval	7/2/2024, 12:42:36 PM	7/2/2024, 12:43:48 PM	Hollie Squires	-	Completed
$ Major Subdivision Riparian Buffer Review Fee	7/2/2024, 12:43:48 PM	-	Kevin Murphrey	-	Active
✔ Field Review	-	-	-	-	Inactive
Major Subdivision Riparian Buffer Confirmation Report	-	-	-	-	Inactive

CHATHAM COUNTY
NORTH CAROLINA

Watershed Protection Department

P.O. Box 548
Pittsboro, NC 27312

Website: www.chathamnc.org

Authorization to Enter Property Form

Date: Feb. 18, 2024

PARCEL No. (AKPAR) 19725

I, (print name) Renee Thompson POA for Arnetta Davis Heirs 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.

Renee Thompson POA for Arnetta Davis Heirs
(Print Owner's Name)

(Signature of Owner)
(Date)

Maurice Nunn
(Print Authorized Agent Name)

Maurice Nunn 2/18/24
(Signature of Authorized Agent)
(Date)

CHATHAM COUNTY

AUTHORIZED AGENT FOR FORM

PROPERTY LEGAL DESCRIPTION:

LOT NO. 1 PARCEL ID (PIN) 19725 PARCEL SIZE 1.75 ac

STREET ADDRESS: _____

_____

Please print:
Property Owner: Renee Thompson POA for Arnetta Davis Hurs

Property Owner: _____

The undersigned owner(s) of the above described property, do hereby authorize

Maurice Nunn, of _____
(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):
2320 Loch Haven Dr., Roanoke VA 24019

Telephone: 540-819-1958 E-mail: Rthompson4540@gmail.com

We hereby certify the above information submitted in this application is true and accurate to the best of our knowledge.

Renee Thompson POA for Arnetta
Owner Authorized Signature Davis Hurs
Date: _____

Maurice Nunn
Agent Authorized Signature
Date: 2/18/24