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May 11, 2021

Soil & Environmental Consultants, PA Mr. Bob Zarzecki 8412 Falls of Neuse Road, Suite 104 Raleigh, NC 27615

Project Name:	<u>Herndon Farms Subdivision Parcel #s 2752, 18896, 18897,</u> <u>18750, 18909, 93852</u>
Location:	US 15/501 & Oak Island Road, Chatham County
Subject Features:	<u>Three (3) intermittent streams, one (1) perennial stream,</u> and one (1) wetland
Date of Determination:	<u>April 7, 2021</u>

### Explanation:

The site visit was completed on April 7, 2021 by Drew Blake with Chatham County Watershed Protection and Bob Zarzecki of Soil and Environmental Consultants, PA (S&EC), and James Lastinger of the US Army Corps of Engineers, on Parcel #s 2752, 18896, 18897, 18750, 18909, 93852 that are located within the Jordan Lake watershed. S&EC personnel completed a previous site visit which resulted in the identification of three (3) intermittent streams (streams S1, S2 & S3), one (1) potential wetland, and one (1) non-jurisdictional pond on the property. 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.

All points of origin, stream type transitions, and wetland boundaries were reviewed and agreed to in the field by all parties in attendance. An intermittent to perennial stream type transition was added along S1 at the southern property line.

### **Required Riparian Buffers:**

S2, S3, and a portion of S1 were identified as intermittent streams and will therefore require a 50-ft buffer from the top of bank landward on both sides of the features. The perennial portion of S1 will require a 100-ft buffer from the top of bank landward on both sides of the feature if the transition point is confirmed to be located within the subject property. All jurisdictional wetlands will require a 50-ft buffer proceeding landward from the flagged wetland boundary. The "non-jurisdictional pond" was confirmed as non-jurisdictional due to the pond not being located within a natural drainage way and not fed by an intermittent or perennial stream nor directly discharges into an intermittent or perennial stream. The non-jurisdictional pond will not require a buffer.

### **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



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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,

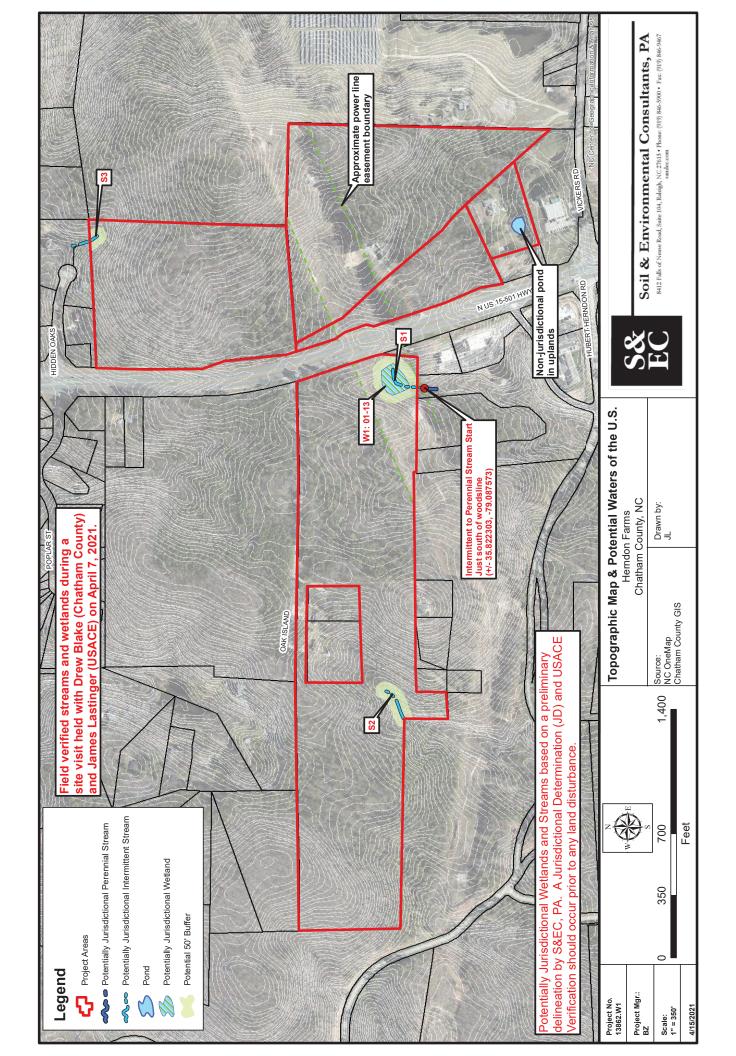
Drew Blake

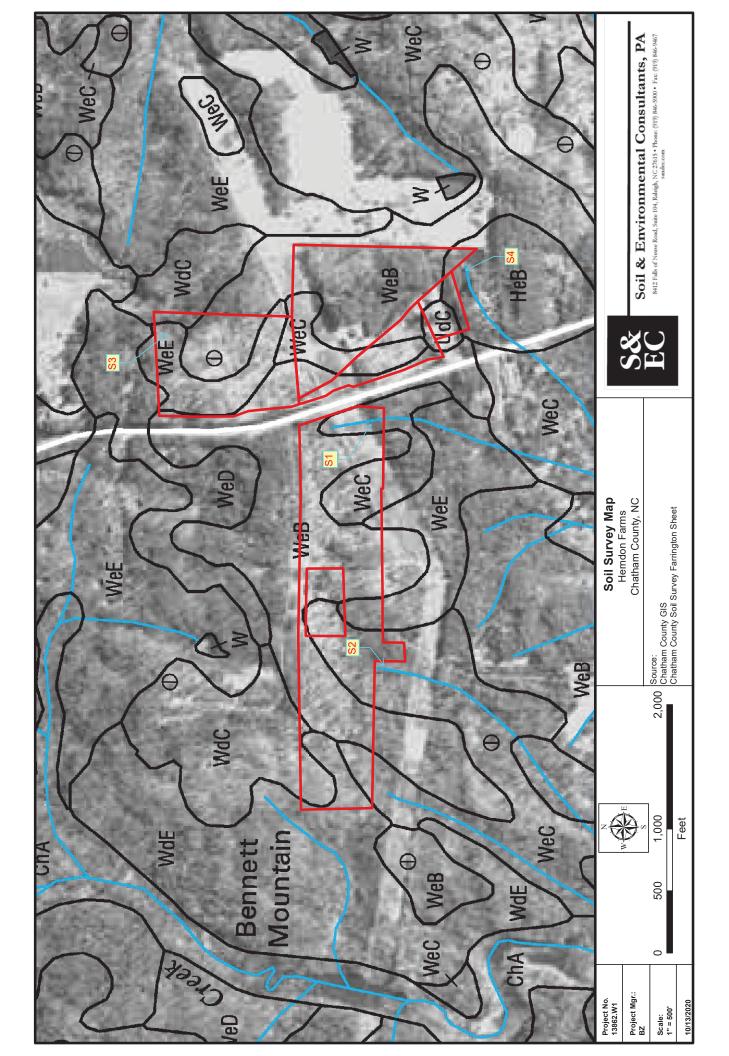
Drew Blake Senior Watershed Specialist, CESSWI

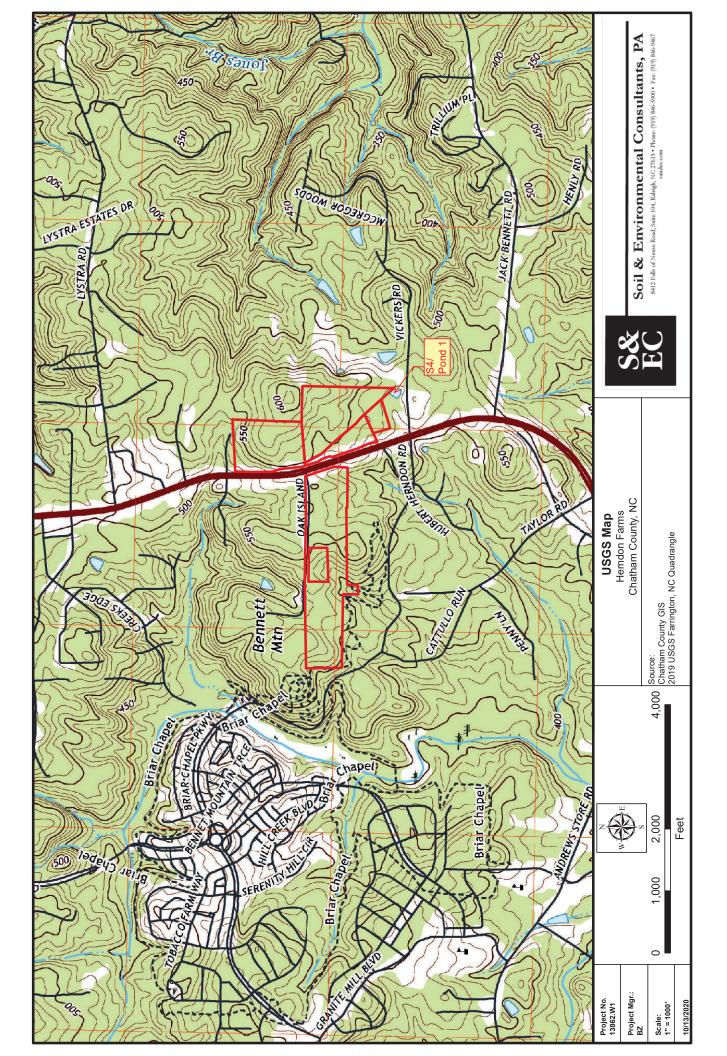
Enclosures:

Figure 1: Topographic Map & Potential Waters of the US– Completed by S&EC Figure 2: NRCS Soil Survey – Completed by S&EC Figure 3: USGS Topographic Map – Completed by S&EC S&EC Stream ID Forms S&EC Wetland Data Form 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 Plummer, Planner II/Zoning Administrator, Chatham County Planning Department Jason Sullivan, Director, Chatham County Planning Department







Date: February 17, 2021	Project/SiteHer	ndon Farms "S1	Latitude: 35	5.822794	
valuator: S&EC - B.Zarzecki	County: Chath	iam	Longitude: -79.086972		
Fotal Points:Stream is at least intermittent $24.5$ $i \ge 19$ or perennial if $\ge 30^*$		nation (circle one) r <mark>mittent</mark> Perennial	Other Farrington, NC e.g. Quad Name:		
A. Geomorphology (Subtotal = <u>12.5</u> )	Absent	Weak	Moderate	Strong	
<sup>a.</sup> Continuity of channel bed and bank	0	1	2	<mark>3</mark>	
. Sinuosity of channel along thalweg	0	1	2	3	
<ul> <li>In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence</li> </ul>	0	1	2	3	
. Particle size of stream substrate	0	1	2	3	
. Active/relict floodplain	0	1	2	3	
. Depositional bars or benches	0	1	2	3	
. Recent alluvial deposits	0	1	2	3	
. Headcuts	0	1	2	3	
. Grade control	0	0.5	1	1.5	
0. Natural valley	0	0.5	1	1.5	
1. Second or greater order channel	No	= 0	Yes	= 3	
artificial ditches are not rated; see discussions in manual					
3. Hydrology (Subtotal = <u>6</u> )		1		I	
2. Presence of Baseflow	0	1	2	3	
3. Iron oxidizing bacteria	0	1	2	3	
4. Leaf litter	1.5	1	0.5	0	
5. Sediment on plants or debris	0	0.5	1	1.5	
6. Organic debris lines or piles	0	0.5	1	1.5	
7. Soil-based evidence of high water table?	No	= 0	Yes	<mark>= 3</mark>	
C. Biology (Subtotal = <mark>6</mark> )					
8. Fibrous roots in streambed	3	2	1	0	
9. Rooted upland plants in streambed	3	2	1	0	
0. Macrobenthos (note diversity and abundance)	0	1	2	3	
1. Aquatic Mollusks	0	1	2	3	
2. Fish	0	0.5	1	1.5	
3. Crayfish	0	0.5	1	1.5	
4. Amphibians	0	0.5	1	1.5	
5. Algae	0	0.5	1	1.5	
6. Wetland plants in streambed		FACW = 0.75; OBI	_ = 1.5 Other = 0	)	
*perennial streams may also be identified using other meth					
Notes: Potential start stream at outlet of c					
Intermittent to Perennial origin mos	st likely just withi	n woodsline sou	th of project b	ooundary.	
Sketch:					

Date: February 17, 2021	Project/SiteHer	ndon Farms "S2	Latitude: 35	5.822978	
Evaluator: S&EC - B.Zarzecki	County: Chath	am	Longitude: -79.093244		
<b>Total Points:</b> Stream is at least intermittent $28.5$ if $\geq 19$ or perennial if $\geq 30^*$		ation (circle one) <mark>mittent</mark> Perennial	Other Farrington, NC e.g. Quad Name:		
A. Geomorphology (Subtotal = <u>16</u> )	Absent	Weak	Moderate	Strong	
1 <sup>a</sup> Continuity of channel bed and bank	0	1	2	3	
2. Sinuosity of channel along thalweg	0	1	2	3	
<ol> <li>In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence</li> </ol>	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	
<sup>a</sup> artificial ditches are not rated; see discussions in manual B. Hydrology (Subtotal = $\frac{6.5}{}$ )					
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	
	1.0				
15. Sediment on plants or debris	0	0.5	1	1.5	
		0.5 0.5	1		
15. Sediment on plants or debris	0	0.5		1.5 1.5	
15. Sediment on plants or debris 16. Organic debris lines or piles	0 0	0.5	1	1.5 1.5	
<ul><li>15. Sediment on plants or debris</li><li>16. Organic debris lines or piles</li><li>17. Soil-based evidence of high water table?</li></ul>	0 0	0.5	1	1.5 1.5	
<ul> <li>15. Sediment on plants or debris</li> <li>16. Organic debris lines or piles</li> <li>17. Soil-based evidence of high water table?</li> <li>C. Biology (Subtotal = 6)</li> </ul>	0 0 No	0.5	1 Yes	1.5 1.5 = 3	
<ul> <li>15. Sediment on plants or debris</li> <li>16. Organic debris lines or piles</li> <li>17. Soil-based evidence of high water table?</li> <li>C. Biology (Subtotal = 6)</li> <li>18. Fibrous roots in streambed</li> </ul>	0 0 No 3	0.5 = 0	1 Yes 1	1.5 1.5 = 3 0	
<ul> <li>15. Sediment on plants or debris</li> <li>16. Organic debris lines or piles</li> <li>17. Soil-based evidence of high water table?</li> <li>C. Biology (Subtotal = 6)</li> <li>18. Fibrous roots in streambed</li> <li>19. Rooted upland plants in streambed</li> <li>20. Macrobenthos (note diversity and abundance)</li> <li>21. Aquatic Mollusks</li> </ul>	0 0 No 3 3	0.5 = 0 2 1 1	1 Yes 1 1	1.5 1.5 = 3 0 0 3 3 3	
<ul> <li>15. Sediment on plants or debris</li> <li>16. Organic debris lines or piles</li> <li>17. Soil-based evidence of high water table?</li> <li>C. Biology (Subtotal = 6)</li> <li>18. Fibrous roots in streambed</li> <li>19. Rooted upland plants in streambed</li> <li>20. Macrobenthos (note diversity and abundance)</li> </ul>	0 0 No 3 3 0 0 0	0.5 = 0 2 1	1 Yes 1 1 2	1.5 1.5 = 3 0 0 3	
<ul> <li>15. Sediment on plants or debris</li> <li>16. Organic debris lines or piles</li> <li>17. Soil-based evidence of high water table?</li> <li>C. Biology (Subtotal = 6)</li> <li>18. Fibrous roots in streambed</li> <li>19. Rooted upland plants in streambed</li> <li>20. Macrobenthos (note diversity and abundance)</li> <li>21. Aquatic Mollusks</li> </ul>	0 0 No 3 3 0 0	0.5 = 0 2 1 1	1 Yes 1 1 2 2	1.5 1.5 = 3 0 0 3 3 3	
<ul> <li>15. Sediment on plants or debris</li> <li>16. Organic debris lines or piles</li> <li>17. Soil-based evidence of high water table?</li> <li>C. Biology (Subtotal = 6)</li> <li>18. Fibrous roots in streambed</li> <li>19. Rooted upland plants in streambed</li> <li>20. Macrobenthos (note diversity and abundance)</li> <li>21. Aquatic Mollusks</li> <li>22. Fish</li> <li>23. Crayfish</li> <li>24. Amphibians</li> </ul>	0 0 No 0 0 0 0 0 0 0 0 0	0.5 = 0 2 1 1 0.5	1 Yes 1 1 2 2 1	1.5 1.5 = 3 0 0 0 3 3 1.5	
<ul> <li>15. Sediment on plants or debris</li> <li>16. Organic debris lines or piles</li> <li>17. Soil-based evidence of high water table?</li> <li>C. Biology (Subtotal = 6)</li> <li>18. Fibrous roots in streambed</li> <li>19. Rooted upland plants in streambed</li> <li>20. Macrobenthos (note diversity and abundance)</li> <li>21. Aquatic Mollusks</li> <li>22. Fish</li> <li>23. Crayfish</li> </ul>	0 0 No 0 3 0 0 0 0 0 0	0.5 = 0 2 1 1 0.5 0.5	1 Yes 1 1 2 2 1 1 1	1.5 1.5 = 3 0 0 0 3 3 1.5 1.5	
<ul> <li>15. Sediment on plants or debris</li> <li>16. Organic debris lines or piles</li> <li>17. Soil-based evidence of high water table?</li> <li>C. Biology (Subtotal = 6)</li> <li>18. Fibrous roots in streambed</li> <li>19. Rooted upland plants in streambed</li> <li>20. Macrobenthos (note diversity and abundance)</li> <li>21. Aquatic Mollusks</li> <li>22. Fish</li> <li>23. Crayfish</li> <li>24. Amphibians</li> </ul>	0 0 No 0 0 0 0 0 0 0 0 0	0.5 = 0 2 1 1 0.5 0.5 0.5	1 Yes 1 1 2 2 1 1 1 1 1 1	1.5 1.5 <b>= 3</b> 0 0 0 3 1.5 1.5 1.5 1.5 1.5	

Sketch:

Evaluator: S&EC - B.Zarzecki Fotal Points: Stream is at least intermittent 19.5 Stream is at least intermittent 19.5 Stream is at least intermittent 19.5 A. Geomorphology (Subtotal = 11.5 ) <sup>a</sup> Continuity of channel bed and bank Sinuosity of channel along thalweg In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence Particle size of stream substrate Active/relict floodplain Depositional bars or benches Recent alluvial deposits Headcuts Grade control Natural valley Second or greater order channel artificial ditches are not rated; see discussions in manual Hydrology (Subtotal = 6 ) Presence of Baseflow Inon oxidizing bacteria Leaf litter Sediment on plants or debris	Absent         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0	Mation (circle one)         mittent       Perennial         1       1         1       1         1       1         1       1         1       1         1       1         1       1         1       1         0.5       0.5         0 = 0       0	Longitude: -75 Other Farring e.g. Quad Name: Moderate 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	strong 3 3 3 3 3 3 3 3 3 3 3 3 1.5 1.5
Stream is at least intermittent       19.5 $E \ge 19 \text{ or perennial if } \ge 30^{*}$ A. Geomorphology (Subtotal = 11.5 )         a. Continuity of channel bed and bank         Sinuosity of channel along thalweg         5. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence         c. Particle size of stream substrate         c. Active/relict floodplain         c. Depositional bars or benches         c. Recent alluvial deposits         c. Headcuts         c. Grade control         0. Natural valley         1. Second or greater order channel         artificial ditches are not rated; see discussions in manual         3. Hydrology (Subtotal = 6 )         2. Presence of Baseflow         3. Iron oxidizing bacteria         4. Leaf litter         5. Sediment on plants or debris	Absent         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0	Weak         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           0.5         0.5           0 = 0         1	e.g. Quad Name: Moderate 2 2 2 2 2 2 2 2 2 2 2 2 2	Strong 3 3 3 3 3 3 3 3 3 1.5 1.5
<ul> <li><sup>a</sup> Continuity of channel bed and bank</li> <li>Sinuosity of channel along thalweg</li> <li>In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence</li> <li>Particle size of stream substrate</li> <li>Active/relict floodplain</li> <li>Depositional bars or benches</li> <li>Recent alluvial deposits</li> <li>Headcuts</li> <li>Grade control</li> <li>Natural valley</li> <li>Second or greater order channel artificial ditches are not rated; see discussions in manual</li> <li>Hydrology (Subtotal = 6)</li> <li>Presence of Baseflow</li> <li>Iron oxidizing bacteria</li> <li>Leaf litter</li> <li>Sediment on plants or debris</li> </ul>	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1       1       1       1       1       1       1       1       1       0.5       0.5       0.5	2 2 2 2 2 2 2 2 2 2 2 2 1 1 1	3 3 3 3 3 3 3 3 3 1.5 1.5
<ul> <li><sup>a</sup> Continuity of channel bed and bank</li> <li>Sinuosity of channel along thalweg</li> <li>In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence</li> <li>Particle size of stream substrate</li> <li>Active/relict floodplain</li> <li>Depositional bars or benches</li> <li>Recent alluvial deposits</li> <li>Headcuts</li> <li>Grade control</li> <li>Natural valley</li> <li>Second or greater order channel artificial ditches are not rated; see discussions in manual</li> <li>Hydrology (Subtotal = 6)</li> <li>Presence of Baseflow</li> <li>Iron oxidizing bacteria</li> <li>Leaf litter</li> <li>Sediment on plants or debris</li> </ul>	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1       1       1       1       1       1       1       0.5       0.5	2 2 2 2 2 2 2 2 2 2 2 1 1 1	3 3 3 3 3 3 3 1.5 1.5
<ul> <li>In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence</li> <li>Particle size of stream substrate</li> <li>Active/relict floodplain</li> <li>Depositional bars or benches</li> <li>Recent alluvial deposits</li> <li>Headcuts</li> <li>Grade control</li> <li>Natural valley</li> <li>Second or greater order channel artificial ditches are not rated; see discussions in manual</li> <li>Hydrology (Subtotal = 6)</li> <li>2. Presence of Baseflow</li> <li>3. Iron oxidizing bacteria</li> <li>4. Leaf litter</li> <li>5. Sediment on plants or debris</li> </ul>	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1       1       1       1       1       1       0.5       0.5	2 2 2 2 2 2 2 1 1 1	3 3 3 3 3 3 1.5 1.5
ripple-pool sequence Particle size of stream substrate Active/relict floodplain Depositional bars or benches Recent alluvial deposits Headcuts Grade control Natural valley Second or greater order channel artificial ditches are not rated; see discussions in manual Hydrology (Subtotal = _6) Presence of Baseflow Inter Second on plants or debris	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 1 1 1 0.5 0.5 0 = 0	2 2 2 2 2 2 2 1 1 1	3 3 3 3 3 1.5 1.5
Active/relict floodplain     Depositional bars or benches     Recent alluvial deposits     Headcuts     Grade control     Natural valley     Second or greater order channel     artificial ditches are not rated; see discussions in manual     Hydrology (Subtotal = _6)     Presence of Baseflow     S. Iron oxidizing bacteria     Leaf litter     S. Sediment on plants or debris	0 0 0 0 0 0 0 0 No	1 1 1 1 0.5 0.5 0 = 0	2 2 2 2 2 1 1 1	3 3 3 3 1.5 1.5
Bepositional bars or benches     Recent alluvial deposits     Headcuts     Grade control     O. Natural valley     Second or greater order channel     artificial ditches are not rated; see discussions in manual     Hydrology (Subtotal = 6)     Presence of Baseflow     S. Iron oxidizing bacteria     Leaf litter     S. Sediment on plants or debris	0 0 0 0 0 0 No	1 1 1 0.5 0.5 0 = 0	2 2 2 1 1 1	3 3 3 1.5 1.5
<ul> <li>Recent alluvial deposits</li> <li>Headcuts</li> <li>Grade control</li> <li>Natural valley</li> <li>Second or greater order channel artificial ditches are not rated; see discussions in manual</li> <li>Hydrology (Subtotal = 6 )</li> <li>Presence of Baseflow</li> <li>Iron oxidizing bacteria</li> <li>Leaf litter</li> <li>Sediment on plants or debris</li> </ul>	0 0 0 0 Nc	1 1 0.5 0.5 0 = 0	2 2 1 1	3 3 1.5 1.5
<ul> <li>a. Headcuts</li> <li>b. Grade control</li> <li>c. Natural valley</li> <li>1. Second or greater order channel</li> <li>artificial ditches are not rated; see discussions in manual</li> <li>a. Hydrology (Subtotal = 6)</li> <li>2. Presence of Baseflow</li> <li>3. Iron oxidizing bacteria</li> <li>4. Leaf litter</li> <li>5. Sediment on plants or debris</li> </ul>	0 0 0 0 Nc	1 0.5 0.5 0 = 0	2 1 1	3 1.5 1.5
Grade control     O. Natural valley     Second or greater order channel     artificial ditches are not rated; see discussions in manual     Hydrology (Subtotal = _6)     Presence of Baseflow     S. Iron oxidizing bacteria     Leaf litter     S. Sediment on plants or debris	0 0 0 0 0	0.5 0.5 0 = 0	1 1	1.5 1.5
0. Natural valley 1. Second or greater order channel artificial ditches are not rated; see discussions in manual 3. Hydrology (Subtotal = 6 ) 2. Presence of Baseflow 3. Iron oxidizing bacteria 4. Leaf litter 5. Sediment on plants or debris	0 (No	0.5	1	1.5
1. Second or greater order channel     artificial ditches are not rated; see discussions in manual     3. Hydrology (Subtotal = _6)     2. Presence of Baseflow     3. Iron oxidizing bacteria     4. Leaf litter     5. Sediment on plants or debris		0 = 0		
artificial ditches are not rated; see discussions in manual 3. Hydrology (Subtotal = 6) 2. Presence of Baseflow 3. Iron oxidizing bacteria 4. Leaf litter 5. Sediment on plants or debris	0		Yes =	= 3
B. Hydrology (Subtotal = _6)     2. Presence of Baseflow     3. Iron oxidizing bacteria     4. Leaf litter     5. Sediment on plants or debris				
<ol> <li>Presence of Baseflow</li> <li>Iron oxidizing bacteria</li> <li>Leaf litter</li> <li>Sediment on plants or debris</li> </ol>				
<ol> <li>Iron oxidizing bacteria</li> <li>Leaf litter</li> <li>Sediment on plants or debris</li> </ol>				
4. Leaf litter 5. Sediment on plants or debris		1	2	3
5. Sediment on plants or debris	0	1	2	3
	1.5	1	0.5	0
	0	0.5	1	1.5
6. Organic debris lines or piles	0	0.5	1	1.5
7. Soil-based evidence of high water table?	No	0 = 0	Yes =	<mark>= 3</mark>
C. Biology (Subtotal = 2)		·		
8. Fibrous roots in streambed	3	2	1	0
9. Rooted upland plants in streambed	3	2	1	0
0. Macrobenthos (note diversity and abundance)	0	1	2	3
1. Aquatic Mollusks	0	1	2	3
2. Fish	0	0.5	1	1.5
3. Crayfish	0	0.5	1	1.5
4. Amphibians	0	0.5	1	1.5
5. Algae	0	0.5	1	1.5
6. Wetland plants in streambed		FACW = 0.75; OBI	L = 1.5 Other = 0	
*perennial streams may also be identified using other methods.				
Notes: Marginal intermittent stream (barely n	nakes <u>19 p</u> ts)	; Baseflow may	be off given w	vet
weather. Not on USGS or Soil Survey	/			
Sketch:				

### WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region

Project/Site: HERNDON FARMS		City/County: Chatham (	County	Sampling Date: 2/17/2021
Applicant/Owner: Herndon Farms One, LL	_C (Attn: Travis Blake)		State: NC	Sampling Point: DP1
Investigator(s): S&EC- B. Zarzecki		Section, Township, Range:	Baldwin & Williams To	- wnships
Landform (hillside, terrace, etc.): valley	Loc	al relief (concave, convex, r	ione): Concave	Slope (%): 0-2
Subregion (LRR or MLRA): LRR P, MLRA 13	6 Lat: 35.82275	Long: -7	9.087433	Datum: NAD 83
Soil Map Unit Name: Wedowee sandy loam (			NWI classificat	ion: NA
Are climatic / hydrologic conditions on the site	typical for this time of year	r? Yes X		explain in Remarks.)
Are Vegetation X , Soil , or Hydrold			rcumstances" present?	
Are Vegetation, Soil, or Hydrold			lain any answers in Rei	
SUMMARY OF FINDINGS – Attach			-	
		ampling point locatio		
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Area		
,	Yes X No	within a Wetland?	Yes X	No
	Yes X No			
Remarks: Wetland exists within maintained electiric tran chemical/herbicide means.	ismission line easement a	nd appears to be regularly r	naintained with both m	echanical and
HYDROLOGY				
Wetland Hydrology Indicators:			Secondary Indicators (	(minimum of two required)
Primary Indicators (minimum of one is require	ed; check all that apply)		Surface Soil Crack	
Surface Water (A1)	True Aquatic Plants (E	314)	Sparsely Vegetate	ed Concave Surface (B8)
X High Water Table (A2)	Hydrogen Sulfide Odo	or (C1)	Drainage Patterns	(B10)
X Saturation (A3)	X Oxidized Rhizosphere	s on Living Roots (C3)	Moss Trim Lines (	B16)
Water Marks (B1)	Presence of Reduced	( )	Dry-Season Water	
Sediment Deposits (B2)	Recent Iron Reduction		X Crayfish Burrows (	
Drift Deposits (B3)	Thin Muck Surface (C			on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Other (Explain in Rem	iarks)	Stunted or Stresse	( )
Iron Deposits (B5)			Geomorphic Positi	
Inundation Visible on Aerial Imagery (B7)			Shallow Aquitard (	
X Water-Stained Leaves (B9)			Microtopographic I	
Aquatic Fauna (B13)			FAC-Neutral Test	(D5)
Field Observations:				
	No X Depth (inches			
	No Depth (inches No Depth (inches		ludrology Drocont?	Vac V Na
(includes capillary fringe)	No Depth (inches		lydrology Present?	Yes <u>X</u> No
Describe Recorded Data (stream gauge, mor	nitoring well aerial photos	previous inspections) if av	ailable <sup>.</sup>	
Describe Recorded Data (stream gauge, mor	action protos,			
Remarks:				

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

Sampling Point: DP1

Tree Stratum (Plot size: 30' radius )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1.	-			Number of Dominant Species
2.				That Are OBL, FACW, or FAC:6 (A)
3				Total Number of Dominant
4				Species Across All Strata: 8 (B)
5				Percent of Dominant Species
6				That Are OBL, FACW, or FAC:(A/B)
7				Prevalence Index worksheet:
		=Total Cover		Total % Cover of: Multiply by:
50% of total cover:	20%	of total cover:		OBL species 0 x 1 = 0
Sapling/Shrub Stratum (Plot size: 30' radius )				FACW species 70 x 2 = 140
1. <u>Acer rubrum</u>	10	Yes	FAC	FAC species 50 x 3 = 150
2. Liquidambar styraciflua	20	Yes	FAC	FACU species 10 $x 4 = 40$
3. Ilex opaca	10	Yes	FACU	UPL species 20 x 5 = 100
4. Pinus taeda	10	Yes	FAC	Column Totals: 150 (A) 430 (B)
5				Prevalence Index = B/A =2.87
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				X 2 - Dominance Test is >50%
9				X_3 - Prevalence Index is ≤3.0 <sup>1</sup>
	50	=Total Cover		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
50% of total cover: 25	20%	of total cover:	10	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: <u>30' radius</u> )				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
1. Arundinaria gigantea	50	Yes	FACW	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be
2. Juncus effusus	20	Yes	FACW	present, unless disturbed or problematic.
3. Rhus glabra	20	Yes	UPL	Definitions of Four Vegetation Strata:
4				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
5				more in diameter at breast height (DBH), regardless of
6				height.
7				Sapling/Shrub – Woody plants, excluding vines, less
8				than 3 in. DBH and greater than or equal to 3.28 ft
9				(1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
	90	=Total Cover		Woody Vine – All woody vines greater than 3.28 ft in
50% of total cover: 45	20%	of total cover:	18	height.
Woody Vine Stratum (Plot size: 30' radius )				
1. Smilax rotundifolia	10	Yes	FAC	
2				
3				
4				
5				Hydrophytic
	10	=Total Cover		Vegetation
50% of total cover: 5	20%	of total cover:	2	Present? Yes X No
Remarks: (Include photo numbers here or on a separ	ate sheet.)			
	,			

Depth	Matrix		Redo	x Featur	es					
inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	)	Remarks	
0-20	10YR 5/2	90	10YR 4/6	10	C	M	Loamy/Cla	yey	Prominent re	dox concentrations
		_		_	_	_				
<u>,</u>	Concentration, D=Depl	etion, RM	I=Reduced Matrix, N	/IS=Mas	ked Sand	Grains.	<sup>2</sup> L		-=Pore Lining	
lydric Soil	Indicators:							Indicator	s for Proble	matic Hydric Soils
Histoso	l (A1)		Polyvalue Be	elow Sur	face (S8)	(MLRA	147, 148)	2 cm	Muck (A10)	(MLRA 147)
Histic E	pipedon (A2)		Thin Dark S	urface (S	69) <b>(MLR</b>	A 147, 14	48)	Coas	t Prairie Red	ox (A16)
Black H	listic (A3)		Loamy Muck	ky Miner	al (F1) <b>(</b> ₩	ILRA 136	5)	(M	LRA 147, 148	3)
Hydrog	en Sulfide (A4)		Loamy Gley	ed Matri	x (F2)			Pied	mont Floodpla	ain Soils (F19)
Stratifie	d Layers (A5)		X Depleted Ma	trix (F3)				(M	LRA 136, 147	7)
2 cm M	uck (A10) <b>(LRR N)</b>		Redox Dark	Surface	(F6)			Red	Parent Mater	ial (F21)
 Deplete	ed Below Dark Surface	e (A11)	Depleted Da	rk Surfa	ce (F7)			(ou	Itside MLRA	127, 147, 148)
Thick D	ark Surface (A12)		Redox Depre	essions	(F8)			Very	Shallow Dark	(Surface (F22)
 Sandy I	Mucky Mineral (S1)		Iron-Mangar	iese Ma	sses (F12	2) (LRR N	١,	Othe	r (Explain in F	Remarks)
Sandy (	Gleyed Matrix (S4)			5)						
Sandy I	Redox (S5)		Umbric Surfa	ace (F13	B) (MLRA	122, 136	5)	<sup>3</sup> Indicator	s of hydrophy	ytic vegetation and
 Strippe	d Matrix (S6)		Piedmont Fl	oodplain	Soils (F	19) <b>(MLR</b>	A 148)	wetla	nd hydrology	must be present,
Dark Su	urface (S7)		Red Parent	Material	(F21) <b>(M</b>	LRA 127	, 147, 148)	unles	s disturbed c	or problematic.
	Layer (if observed):									
Type:	inches):							il Present?	Yes	X No

This data sheet is revised from Eastern Mountains and Piedmont Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016.



Date Received: 3/5/21

PL# RBMAJ 21-02

# *Riparian Buffer Review Application* Surface Water Identification Request for <u>Major Subdivisions</u>

Tract Information
Parcel #: Watershed District (and name of creek if known):
Property Owner: Travis M. Blake, James Bunn Riggsbee, & Herndon Farms One, LLC
Location/Physical Address of Tract: US 15/501 & Oak Island Road, Chapel Hill, Chatham County, NC
Driving Directions from Pittsboro:
You'll need to do a U-turn so as not to cross the medium in the highway. Property is south of Oak Island Road and east of 15/501.
Subdivision Name (if applicable): Herndon Farms
Owner's/Agent Contact Information (Agent: Consultant, Real Estate Agent, Surveyor, Other) Circle one
Name: Soil & Environmental Consultants, PA - Bob Zarzecki
Contact Phone Numbers: (h) <u>n/a</u> (w) (919)846-5900 (c) (919)270-2068
<sub>E-mail:</sub> bzarzecki@sandec.com
Mailing Address: 8412 Falls of Neuse Rd., Suite 104, Raleigh, NC 27615
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? 1 week preferred, but 1st available
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 –



*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) **<u>\$100 per feature confirmed onsite</u>** 

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

Total Number of Features: \_\_\_\_\_

Total Paid: \$ 400.00

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.

<b>Owner/Agent Signature:</b>	Owner/	Agent	Signature:
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Date: March 5, 2021





# CHATHAM COUNTY

# **AUTHORIZED AGENT FOR FORM**

### **PROPERTY LEGAL DESCRIPTION:**

LOT NO. A; N2-63; N2-64; N2-64A; PARCEL ID (PIN) 9775-00-34-0427; 9775-03-44-4270; 9775-04-54-(PARCEL SIZE 33.67 ac; 6.3 ac; 25.47 ac; 18.35 ac;

STREET ADDRESS: US 15/501, Chapel Hill, Chatham County, NC 27517

9775-00-34-0427; 9775-03-44-4270; 9775-04-54-0411; 9775-01-45-4512;

Please print: **Property Owner**: James Bunn Riggsbee

Property Owner: \_\_\_\_\_

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

 Bob Zarzecki
 , of Soil & Environmental Consultants, PA

 (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):

PO Box 2872, Cashiers, NC 28717-2872

Telephone: (828) 200-9611

E-mail: jimriggsbee@yahoo.com

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

rais & Valt - for James Bunn Riggsbee

Bob Zarzecki/ Agent Authorized Signature

Owner Authorized Signature

Date: <u>3/3/2021</u>

Agent Authorized Sign

Date: 3/3/2021

Revised 10/2017





# CHATHAM COUNTY

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rais & Valt - for James Bunn Riggsbee

Bob Zarzecki/ Agent Authorized Signature

Owner Authorized Signature

Date: <u>3/3/2021</u>

Agent Authorized Sigi

Date: 3/3/2021

Revised 10/2017



Website: www.chathamnc.org

# Authorization to Enter Property Form

#### 3/2/2021 Date:

#### 2752; 18896; 18897; 18750 PARCEL No. (AKPAR)

I, (print name) James Bunn Riggsbee

\_\_\_\_\_, 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.

# James Bunn Riggsbee

(Print Owner's Name)

S&EC, PA - Bob Zarzecki

(Print Authorized Agent Name)

nain For James Bunn Riggsbee

(Signature of Owner) (Date)

Bob Zarzecki

(Signature of Authorized Agent) (Date)



Website: www.chathamnc.org

# Authorization to Enter Property Form

Date: 3/2/2021

PARCEL No. (AKPAR) 18909; 93852;

I, (print name) Travis M. Blake & Herndon Farms One, LLC, 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.

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# M. Travis Blake

(Print Owner's Name)

S&EC, PA - Bob Zarzecki

(Print Authorized Agent Name)

3/2/2021

(Signature of Owner) (Date)

Bob Zarzecki

(Signature of Authorized Agent) (Date)