

# DANIEL J. BLILEY

SOIL AND LAND USE CONSULTANT

614 SOUTH SECOND STREET

SMITHFIELD, NORTH CAROLINA 27577

(919) 934-8610

September 22, 2025

Mr. William Miller  
Soil Scientist  
Wake County Environmental Services  
P.O. Box 550  
Raleigh, North Carolina 27602

Brett:

This report concerns the soils suitability for septic system drain fields on the minor subdivision of the Murphrey Estate located along Oakley Road about one-half mile south of the intersection with Shepherd School Road in eastern Wake County. The new lots in this subdivision are Tracts 1-A & 1-B on the west and the east side of Oakley Road. The property identification number is: 2717-20-3245.

The attached copy of the subdivision plat shows the location of a provisionally suitable soils or areas that can be re-classified to suitable that were identified from field investigations. The topographic contours (2 ft. interval-LIDAR) were obtained from the NC DOT GIS web site. The soils areas was identified from hand auger borings made at selected locations on the landscape and from field observations of soil related landforms and vegetation. The locations of the existing drain field as well as certain related cultural features were estimated using a Trimble mapping grade GPS receiver. At the time of the investigations the soils were in a moist condition, which was favorable for the estimation of soil texture and consistency.

These lots will be served by individual septic system for sewage disposal and by an individual well for water supply. This tract will also be served from existing utilities that are located on or adjacent to the property..

## SOIL SUITABILITY

The suitability classification of the soil areas based on State Sewage Disposal regulations (15A NCAC 18E .0100-.1716) and local county regulations I are as follows:

**AREAS 2 :** These soils will classify suitable for conventional or modified conventional septic system drain fields. These soils have sandy loam surface layers overlying yellowish brown sandy clay to sandy clay loam subsoils that exhibit soil structure and are free of seasonal wetness mottling within the upper 24 to more than 36 inches of the soil profile. The main concern for use is the depth to structureless saprolite and the clay content of the subsoils.. These soils have potential for conventional septic system drain fields. Modifications for conventional septic systems may be required as prescribed under the State Regulations or in some isolated cases by using alternative septic systems as permitted by Wake County Environmental Services. . The modifications may involve the use of shallow fill (at grade)

Mr. William Miller

June 5, 2025

Page 2.

installations, the use of saprolite systems or the shallow placement of drain field trenches. The sewage loading rates (LTAR) are estimated to range from 0.25 to 0.40 gal./sq. ft. of trench bottom for conventional or modified conventional drain fields. For alternative systems the sewage loading rates (LTAR) are estimated to range from 0.10 to 0.12 gal./sq. ft. of drain field area.

#### SUMMARY

Tract 1-A contains in-excess of 40,000 sq. ft. of soils that will classify suitable or can be re-classified to suitable for conventional or alternative septic system drain fields. This lot meets the minimum soil area requirements under Section V of the Wake County On-site Sewage Disposal regulations. Tract 1-B is an 11.213 acre tract (greater than 10 acres.) and does not require specific certification of soils areas. This tract contains in-excess of 6 acres of soils that have potential for septic drain fields based on the Soil maps from the Soil Survey of Wake County (USDA).

Please call me if you have any questions regarding these investigations or the development of lot 1.

Sincerely

  
Daniel J. Bliley  
Licensed Soil Scientist



**AREAS IN SOIL UNITS**

**JESSIE & LINNIE MURPHREY**

**MINOR SUBDIVISION**

| <b>Lot No.</b> | <b>Soil Unit</b> | <b>Area</b>     |
|----------------|------------------|-----------------|
| 1_A            | 2                | 47,916 sq. ft.. |

## SOILS AREAS 2

| <u>Horizon</u> | <u>Depth(in)</u> | <u>Characteristics</u>                                                                                                                                                                                                                                                            |
|----------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ap             | 0 - 7            | grayish brown (10YR 5/2) sandy loam; weak granular type structure; very friable; slightly sticky, non-plastic; many fine roots; clear boundary.                                                                                                                                   |
| E              | 7 - 10           | light yellowish brown (10YR 6/4) sandy loam; weak granular type structure to massive; very friable; slightly sticky; non-plastic; common fine roots; clear boundary.                                                                                                              |
| Bt1            | 10 - 15          | yellowish brown (10YR 5/8) sandy clay loam to sandy clay weak blocky type structure; friable to slightly firm ; slightly sticky; slightly plastic to ; few fine roots; gradual boundary.                                                                                          |
| Bt2            | 15 - 28          | yellowish brown (5YR 5/6) sandy clay loam to clay loam few strong brown (7.5YR 5/6) and light yellowish brown (10YR6/4) mottles; weak blocky type structure; friable; to firm, slightly sticky, slightly plastic; diffuse boundary.                                               |
| BC             | 28 - 36          | mottled yellowish brown (10YR 5/6), light yellowish brown (2.5Y 6/4), yellowish red (5YR 5/8) and pale brown (10YR 7/3) clay loam to loam: weak coarse blocky type structure grading to massive; friable to slightly firm; sticky, plastic to slightly plastic: diffuse boundary. |
| C              | 36 – 60+         | light yellowish brown (10YR 6/4), pale brown (10YR 6/3) and reddish yellow (10YR 6/6) sandy sandyloam to loam saprolite: structreless, friable, slightly sticky;                                                                                                                  |

## **SOIL AREAS 2 (cont.)**

### **Properties Related to Sewage Disposal Suitability**

|                                                                               | <b>Classification</b> |
|-------------------------------------------------------------------------------|-----------------------|
| 1. Parent material - Weathered granite & Old Sediments                        | PS                    |
| 2. Landform & Slopes - Gently sloping to sloping<br>Flat to convex side slope | S                     |
| 3. Soil Mineralogy - Slightly expansive                                       | S                     |
| 4. Soil Wetness - Seasonally perched water 24 to 40 inches +                  | S                     |
| 5. Soil depth - 24 to 36+ inches                                              | S                     |
| 6. Restrictive Horizons - structureless sediments or saprolite at +36 inches  | S                     |
| 7. Texture - Sandy Clay to Clay Loam                                          | S                     |

1/2000 SURF. - AVAILABLE COVERAGE

NOTE: MAXIMUM IMPERVIOUS SURFACE LIMIT FOR PARCELS IS 15% WITHOUT STORMWATER MANAGEMENT.

NOTE: MINOR SUBDIVISIONS HAVE THE OPTION OF LIMITING IMPERVIOUS TO 15%.

NOTE: A PERMIT MAY NOT BE REQUIRED IF THERE ARE NO POST-CONSTRUCTION REQUIREMENTS (I.E., SCIN).

DANNY B. & DEBORAH O. RAY  
DEED BOOK 6978 PAGE 926  
DEED PIN # 2717-21-0771  
ID # 0051788

\*TRACT 1B  
11.255 GROSS AC.  
0.042 R/W AC.  
11.213 NET AC.  
MIA - 73266 SQ FT

JAIME ALEXANDER GARCIA &  
SARAH WILLIAMS GARCIA 932  
DEED BOOK 19677 PAGE 932  
DEED PIN # 2717-20-9454  
ID # 0057065

OAKLEY ROAD (SR2340)  
60' PUBLIC R/W

LOT 3  
PAGE 1232

NOTE: LOTS WILL BE SERVED  
WELL AND SEPTIC SYSTEMS.

CERTIFICATION OF REVIEW BY LICENSED SOIL SCIENTIST

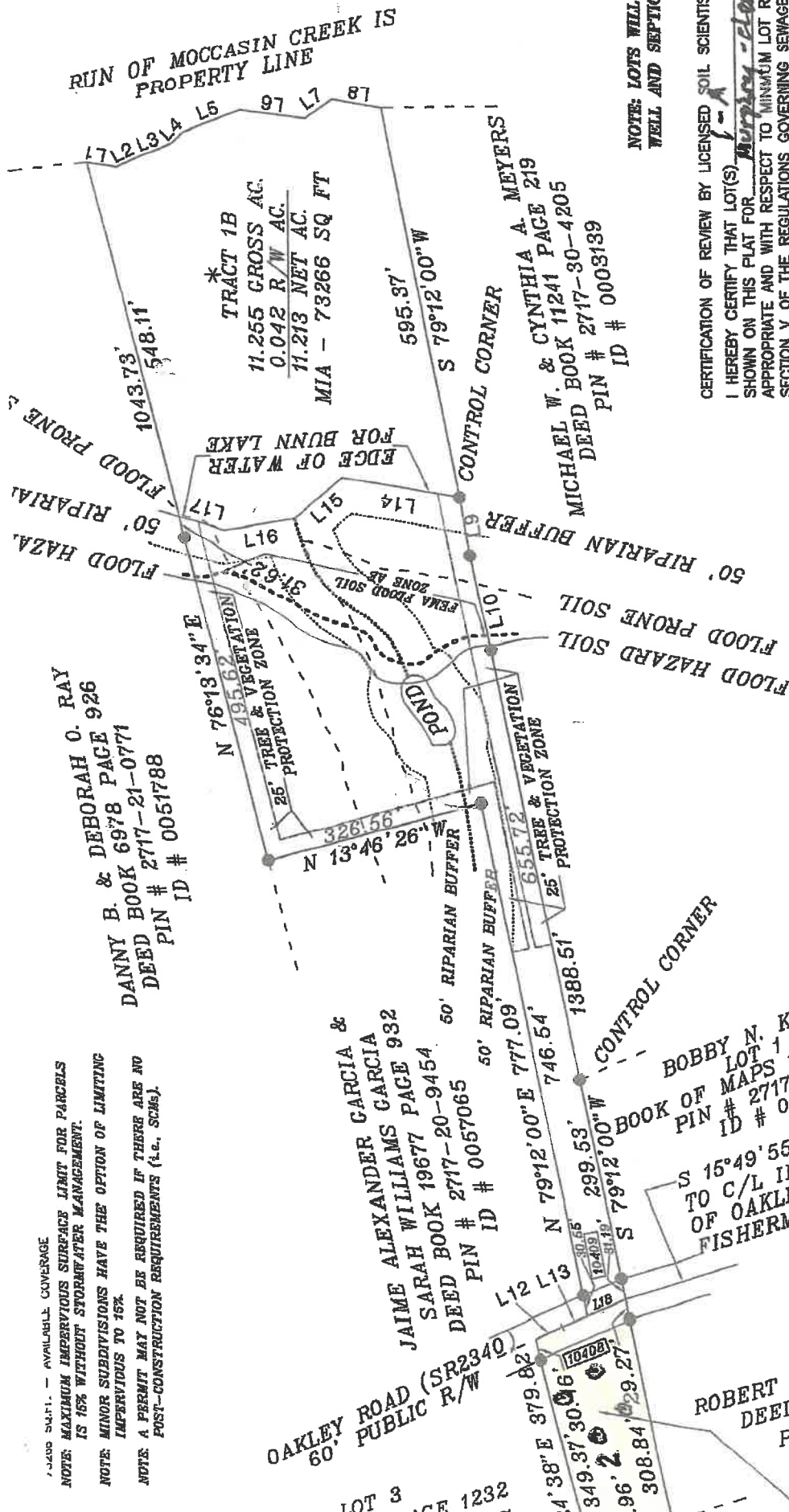
I HEREBY CERTIFY THAT LOT(S) 1-4 SHOWN ON THIS PLAT FOR Property - plat HA APPROPRIATE AND WITH RESPECT TO MINIMUM LOT REQUIREMENT SECTION V OF THE REGULATIONS GOVERNING SEWAGE TREATMENT SYSTEMS IN WAKE COUNTY AS AMENDED FROM TIME TO TIME. A BASED ON THIS REVIEW OF EXISTING SITE CONDITIONS THE LOTS ON THIS PLAT WILL PRESUMABLY MEET THESE REGULATIONS.

I HEREBY CERTIFY THAT LOT(S) 5 SHOWN ON THIS PLAT FOR Property - plat HA APPROPRIATE AND WITH RESPECT TO ALTERNATIVE REQUIREMENT SECTION VI OF THE REGULATIONS GOVERNING SEWAGE TREATMENT SYSTEMS IN WAKE COUNTY AS AMENDED FROM TIME TO TIME. A BASED ON THIS REVIEW OF EXISTING SITE CONDITIONS THE LOTS ON THIS PLAT WILL PRESUMABLY MEET THESE REGULATIONS.

PRELIMINARY CERTIFICATION DOES NOT REPRESENT APPROVAL OF SITE WORK, NOR DOES IT GUARANTEE ISSUANCE OF AN IMPROV LOT. FINAL SITE APPROVAL FOR ISSUANCE OF AN IMPROV LOT. REGULATIONS IN FORCE AT THIS TIME. D. S. C. 11-01-01 AND IS D SATISFACTORY COMPLETION OF IMPROVEMENTS AND IS D SPECIFIC APPLICATION FOR AN IMPROVEMENT. ANY CHANGE IN USE OR ANY REVOCATION OF CERTIFICATION



09/27/2025  
DATE

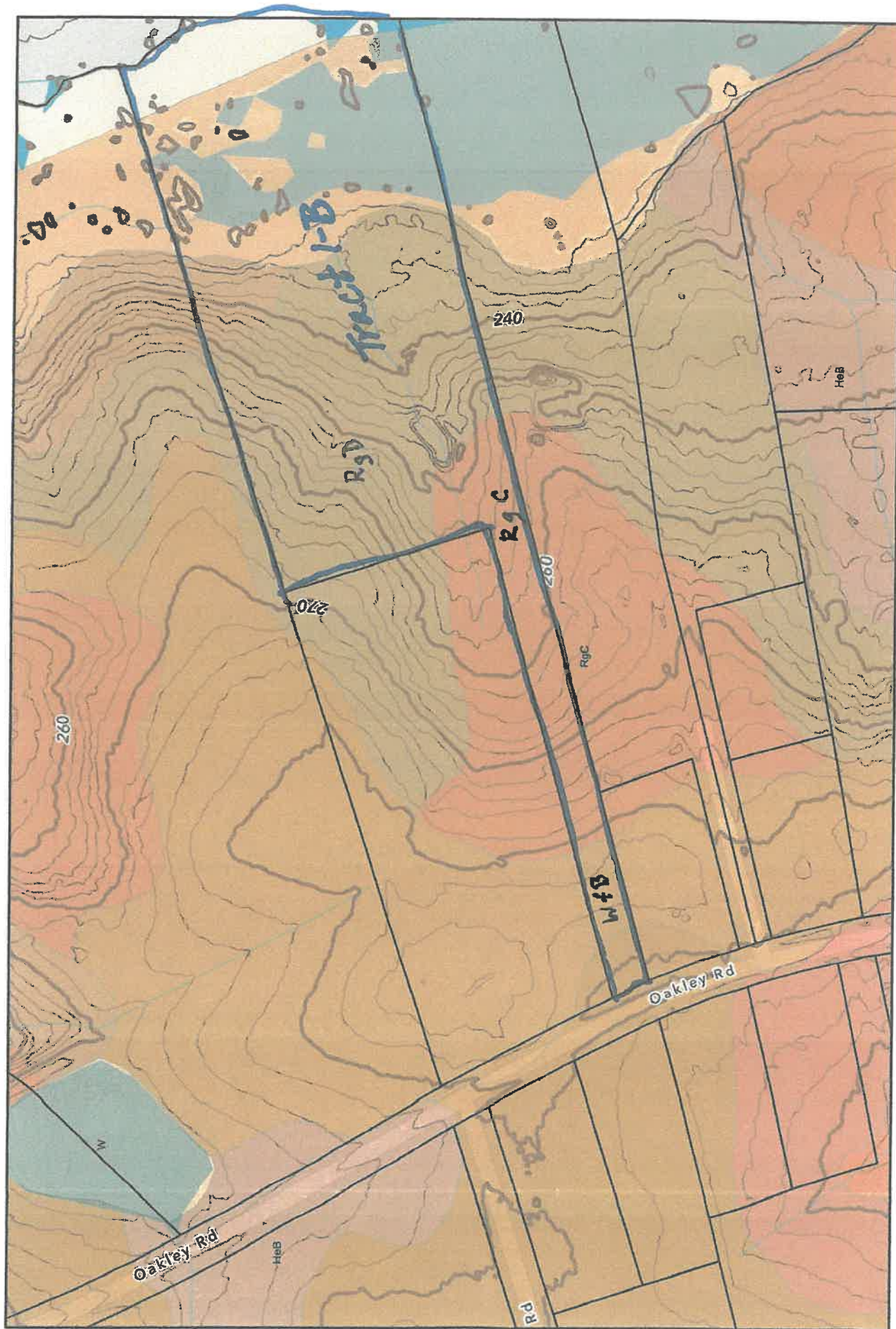


Legend

- 2 Suitable
- o Soil Borings

NOTE: APPROVAL AND A TREE SURVEY IS REQUIRED PRIOR TO ANY ACTIVITY AND/OR CONSTRUCTION IN THE TREE AND VEGETATION PROTECTION ZONE.

NOTE: THE TREE AND VEGETATION PROTECTION ZONE IS SHOWN AS REDUCED SO AS NOT TO EXCEED 20% OF THE TOTAL AREA OF THE PARCEL.



**Disclaimer**  
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# DANIEL J. BLILEY

SOIL AND LAND USE CONSULTANT

614 SOUTH SECOND STREET

SMITHFIELD, NORTH CAROLINA 27577

(919) 934-8610

September 27, 2025

Mrs. Jessica Murphrey Clark

2719 Graves Drive

Goldsboro, North Carolina 27534-4536

**RE: Two lot minor subdivision- Oakley Road**

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## INVOICE

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### ITEMS

### COST

Prepare new soils report as required by Wake County Environmental Services for this phase of the subdivision of the property to certify that each of the lots meets the minimum soil area requirements under the Wake County On-site Sewage Disposal Regulations. Travel to surveyor's office, sign and seal the mylar copy.

\$ 300.00.

SOIL MAPPING • SITE INVESTIGATION • LAND RESOURCE DATA EVALUATION

*Licensed Soil Scientist*