PRELIMINARY SOIL & SITE EVALUATION

Ralph Baker Tract
1088 Bailey Rd
Coats, NC 27521

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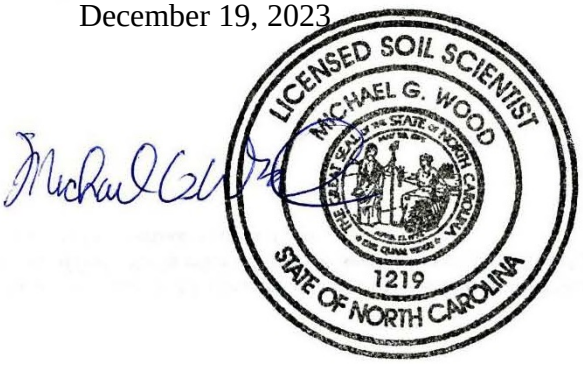

Michael G. Wood, LSS

INTRODUCTION AND SITE DESCRIPTION

A Preliminary Soil & Site Evaluation was performed on an approximately 1.25-acre section of the 12.78-acre Ralphy Baker Tract located at 1088 Bailey Rd, Coats, NC (Harnett County PIN: 1610-31-2783**)**. Wood Soil Consultants (WSC) was retained to evaluate the soil and site conditions and identify suitable areas for placement of an on-site subsurface wastewater system(s). The property was evaluated in accordance with the "Laws and Rules for Sewage Treatment and Disposal Systems", amended December 6, 2018.

The study area is an active agricultural field. The lot will be served by a private well.

INVESTIGATION METHODOLOGY

The field survey was conducted on December 18, 2023, by Michael G. Wood, LSS and Ethan T. Wood. Soil borings were advanced with hand-augers and soil color determined using a Munsell Soil Color Chart. Observations of the landscape as well as soil properties (depths, texture, structure, soil wetness, restrictive horizons, etc.) were recorded. Soil borings were described per the USDA-NRCS, *Field Book for Describing and Sampling Soils, Version 3.0.* Soil borings and site features are noted in Figure 1.

FINDINGS

Five (5) soil borings were advanced their placements located on Figure 1. They were placed into one of the following categories:

Provisionally Suitable for Conventional Type Systems. Borings Provisionally Suitable for Conventional Systems include Gravel, Accepted, Alternative, Shallow-Placed, and prefabricated permeable block panel systems. While the particulars and costs between the system types can vary considerably, these are generally the preferred system types. This soil appeared adequate to support a long-term acceptance rate (LTAR) of 0.35 GPD/sq-ft.

Provisionally Suitable for Low-profile Chamber Systems. Low-Profile Chamber systems are designed similarly to Conventional Type systems but are not allotted any reduction in drainfield size, thus will require more space than the typical Conventional Type systems. These soils require a minimum of 20" of suitable soil when factoring in slope corrections. This soil appeared LTAR of 0.30 to GPD/sq-ft.

Provisionally Suitable for Subsurface Drip Systems. Subsurface Drip systems require a minimum of 13" of suitable soil. Soil with a restriction less than 17" will require the septic system to include a pretreatment unit that treats the wastewater to Treatment Standards II. Subsurface Drip systems are substantially more costly to install than Conventional Type and Low-Profile Chamber Systems. LTAR often need to be confirmed via in-situ hydraulic conductivity measurements, but these are expected to support an LTAR of 0.10 GPD/sq-ft.

Unsuitable. Borings were rated as Unsuitable due to a restrictive horizon occurring within 12 inches of the ground surface.

DISCUSSION

While all borings were determined either Provisionally Suitable for Conventional Type or Low-Profile systems, the better borings were 1-3 in the front of the study area as they were deeper to a soil limitation. As such these borings have been noted as the Target Septic Area on Figure 1. The study area is at the lowest point on the field and will be subject to lateral flow from the surrounding uplands. As such, a curtain drain is recommended around the perimeter of the drainfield.

CONCLUSION

The findings presented herein represent WSC's professional opinion based on our Preliminary Soil and Site Evaluation and knowledge of the current laws and rules governing on-site wastewater systems in Harnett County and North Carolina. There is ample soil for a Conventional Type System. A curtain drain is recommended around the drainfield.

This Preliminary Soil and Site Evaluation is for general information purposes only. The data collected will not meet the standards of the Engineered Option Permit (EOP) process. Soils naturally change across a landscape and contain many inclusions. As such, attempts to quantify them are not always precise and exact. Due to this inherent variability of soils and the subjectivity when determining limiting factors, there is no guarantee that a regulating authority will agree with the findings of this report.

Figure 1. Ralph Baker Tract