

# Environmental and Soil Service, Inc.

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April 1, 2019

Taran Dunn  
2029 Ford Gates Drive  
Garner, NC 27529

**Subject: Preliminary evaluation for septic system suitability and proposed septic system layout for PIN 3754-50-8322.000 (+/- 43 acres) located on Cattail Road, Wilson County, North Carolina.**

Dear Taran:

As requested, ESS has completed a preliminary evaluation of a portion of the referenced tract to determine the potential for the site to support a primary septic system and repair area proposed to serve a typical four (4) bedroom residence. The property was evaluated using the North Carolina Laws and Rules for Sewage Treatment and Disposal Systems as a reference. Hand augured borings were used to analyze the soils.

### General Site Information

This site/soil evaluation took place on March 20, 2019. The site was located in north eastern Wilson County in a rural setting (Figure 1). The evaluated area was wooded at the time of this evaluation. Slopes in the evaluated area ranged from 2 to 4%; however, steeper slopes were observed on site.

### General Soil Information

The site was located on a steam terrace adjacent to Cattail Swamp. The soil in the evaluated area formed from Coastal Plain sediment. The soils found in the evaluated area were an adjunct of the Fuquay soil series. Fuquay soils are well drained, moderately permeable soils that are found on stream terraces and upland side slopes.

### Soil Borings and Septic System Suitability

Soil characteristics were determined by conducting hand auger borings in the area of interest (Figure 1). Table 1 gives a brief description of findings at each soil boring.

Table 1

Boring #	Depth to SWC (inches)	Other Factors	LTAR (gpd/ft <sup>2</sup> )	Septic System Type
1	32	Sand 0-18", Sandy Clay Loam +18"	0.5	Conventional
2	+36	Sand 0-36", Sandy clay Loam +36"	0.6	Conventional
3	+35	Sand 0-35", Sandy clay Loam +35"	0.6	Conventional
4	39	Sand 0-33", Sandy clay Loam +33"	0.5	Conventional
5	+38	Sand 0-38", Sandy clay Loam +38"	0.6	Conventional

6	+38	Sand 0-32", Sandy clay Loam +32"	0.5	Conventional
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SWC = Soil Wetness Condition, LTAR = Long Term Acceptance Rate (gallons/day/ft<sup>2</sup>)

Based on our findings, the area evaluated should have sufficient usable soil to support a conventional in ground septic system. In today's market, due to the 25% reduction that is allowed and the ease of installation of approved innovative drain lines, innovative drain lines are being installed in lieu of conventional rock drain lines; therefore, any septic system described herein utilizes approved innovative drain lines (Figure 2). A description of the proposed septic system and repair for the proposed four (4) bedroom residence is shown on Figure 2.

The location and orientation of the septic system and repair area shown (Figure 2) may not be the only options available. A definite house location and house size was not available at the time of this evaluation. The proposed house location shown (Figure 2) was based on a general location indicated by the client. Once a specific house location is known, the specific location of the septic system can be determined.

**General Comments**

Based on our evaluation, the evaluated area meets the criteria for the in ground placement of approved innovative drain lines as the primary septic system and repair area (Figure 2). The general area of the proposed primary septic system drain field and repair area were flagged during our evaluation. The proposed layout shown on Figure 2 is based on our soil evaluation and relative elevations determined during our evaluation; however, the proposed layout is for illustration purposes only. There may be other areas that meet the criteria for the installation of a septic system and other layout options may be available.

The area shown for the septic system and repair area is based on approved innovative drain lines for a four (4) bedroom residence (Figure 2). If the proposed residence has a number of bedrooms other than four, the size of the septic system will have to be adjusted based on the number of bedrooms and the appropriate LTAR.

If a private well is needed, the well should be located a minimum of 100' from any part of the septic system or repair area.

Any disturbance of the soils in the form of filling or excavating can change the suitability class of the soils and in many cases render the site unusable. Any filling or excavating of areas planned for septic systems should be done only as a requirement of an improvement permit obtained from the local health department or a qualified professional engineer.

This report is submitted for information and planning purposes only. The local health department or a qualified professional engineer approves sites and issues permits for septic systems.

If you any questions or if I can be of further assistance please call at 252-531-3471.

Respectfully Submitted,



Scott Stone  
Licensed Soil Scientist

Attachments





Property Boundary From Wilson County GIS

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Figure 1



**Proposed Septic System Location**

Client: Taran Dunn  
 Location: PIN 3754-50-8322.000 (+/- 43 Acres),  
 Cattail Road, Wilson County, NC

**Proposed Primary Septic System**

Type: In Ground Innovative Drain Line (25% Reduction)  
 Design Wastewater Flow: 480 GPD  
 LTAR: 0.55 GPD/Ft<sup>2</sup> Conventional (0.73 Equivalent)  
 Linear Feet of Innovative Drain Line: 219'  
 Number of Drain Lines: 3

**Proposed septic System Repair Area**

Same as Primary Septic System

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Figure 2