

Soil and Site Evaluation For  
Sewage Treatment and Disposal Systems  
Olive Branch Road – System #2  
Marshville, NC  
Union County  
(APN: 01099004)

April 24, 2024



919-741-8589

[soilandsepticsolutions@gmail.com](mailto:soilandsepticsolutions@gmail.com)

*The LSS evaluation is being submitted pursuant to and meets the requirements of G.S. 130A-335(a2)*

## **INTRODUCTION**

Soil & Septic Solutions performed an on-site subsurface wastewater system investigation on a 14.28 acre tract (APN: 01099004) located on Olive Branch Road in Marshville, Union County, North Carolina on March 23, April 13, and April 14, 2024. The plan is for a 4 bedroom house with the possibility of subdividing the property to allow for another 4 bedroom home. The property will use private wells.

At the time of the survey, the property was agricultural fields and wooded. The fields typically had a slope of 5 to 10 percent and the wooded areas typically had a slope of less than 4 percent.

The property was evaluated in accordance with North Carolina statutes for waste disposal.

This LSS evaluation is being submitted pursuant to and meets the requirements of G.S. 130A-335(a2). Based on this evaluation a 4 bedroom septic layout has been provided to document there is enough space for initial and repair systems.

## **INVESTIGATION METHODOLOGY**

Soil borings were made with a hand-turned auger in the study area. Observations of the landscape (slope, drainage patterns, past use, etc.) as well as soil properties (depth, texture, structure, seasonal wetness, restrictive horizons, etc.) to a depth  $\geq 48$  inches when possible were recorded. Soil color was determined with a Munsell Soil Color Chart. From these observations, potentially suitable areas for wastewater disposal were identified.

A handheld global positioning system (GPS) with sub-meter accuracy was used to locate each soil boring as well as other pertinent site features.

## **FINDINGS**

On the days of the field investigation, twenty-four (24) hand auger borings were made on the property, logged, and their locations are shown in the Soil Boring Location Exhibit. Soil Boring logs are attached. The soil texture was typically silty clay loam and had some rock fragments throughout the soil.

Depth to rock was the limiting soil factor (See Soil Boring Logs). The shallowest depth to rock occurred at 12 inches. The areas that had depth to rock at 12 inches are not considered suitable for septic systems. Additionally, at the interface of rock and the soil, there was the presence of a seasonal high water table.

Three areas were delineated that have a depth to rock 18 inches or greater and a depth to wetness at least 15 inches (See Soil Boring Location Exhibit). Slopes in these areas were less than 2 percent.

## **INITIAL SYSTEM: FILL SYSTEM REQUIREMENTS**

As outlined in 15A NCAC 18E .0909 fill systems may be used when the soil and site have the following characteristics:

- At least 18 inches below the naturally occurring soil surface consists of soil suitable soil;
- No soil wetness within 12 inches below naturally occurring soil; and
- Uniform slopes less than 4 percent.

## **INITIAL SYSTEM: FILL SYSTEM DESIGN & INSTALLATION**

Using 15A NCAC 18E .0909 (c) & (d) a fill system could be designed and used in accordance with the Rule.

The requirements for a gravity fill system include the following:

- Nitrification trenches installed with at least 24 inches separating trench bottom and unsuitable soil conditions;

- Nitrification trenches installed with at least 18 inches separating trench bottom and soil wetness condition;
- The long term acceptance rate (LTAR) is based on the most hydraulically limiting soil horizon within 18 inches or to a depth of 12 inches below the infiltrative surface, whichever is deeper;
- The lowest long term acceptance rate for the applicable soil group shall be used;
- Fill material must have a soil texture classified as sand or loamy sand (Group I) up to the top of the nitrification trenches. The final six inches of fill used to cover the system must have a finer texture (Group II & III) for the establishment of vegetation;
- Fill material and the existing soil must be mixed to a depth of six inches below the surface;
- Fill system constructed as an elongated berm with the long axis parallel to the contour of the slope;
- The side slope of the fill should have a slope of 1:4;
- Top of the side slope of the berm must be 5 feet from the outside edge of the nearest trench;
- Fill system should be shaped to shed water and vegetation cover must be established; and
- Setback requirements are measured from the toe of the slope.

Please refer to 15A NCAC 18E .0909 for additional details on design requirements.

#### INITIAL SYSTEM: FILL PLAN

For a 4-bedroom house, the design flow is 480 gallons per day (gpd). Group III soils were encountered down to 18 inches and based on the Rule the lowest LTAR (0.3 gpd/ft<sup>2</sup>) for that applicable soil group is used. When the design flow is divided by the LTAR the area of trench bottom can be calculated, which is 1,600 ft<sup>2</sup>. The total length of trenches can be calculated by dividing the trench bottom area by 3 feet (which is the maximum trench width). Using these calculations, the system will need 533 feet of trench. Table 1 presents a summary of the design flow, required area, trench length, and soil characteristics.

**Table 1. Summary of Design Flow, Required Area, Trench Length, and Soil Characteristics**

Design Flow	480 gpd
LTAR	0.3 gpd/ft <sup>2</sup>
Trench Bottom	1,600 ft <sup>2</sup>
Length of Trenches	533 ft
Depth to Wetness	18 inches
Depth of Soil	18 inches

Based on the required area, trench length, configuration of the potential fill area, and Rule requirements the following is proposed:

**Table 2. Proposed Fill System**

Number of Trenches	8
Length of Each Trench	67 ft
Height of Trench above ground surface	6 inches
Height of Fill	18 inches
Total Height of Fill (including cover)	24 inches
Width of Top	76 feet
Width of Bottom	92 feet
Length of Top	77 feet
Length of Bottom	93 feet
Total Fill Area	8525 ft <sup>2</sup>

The septic installer contractor will need to remove vegetation without removing any soil, disc the natural soil surface prior to adding fill, and add fill in 2-3 inch lifts, see the attached site plan for the fill area. The area designated on the site plan for the septic system and repair must remain undisturbed (no mechanical clearing, excavation, heavy traffic, or other significant site disturbing activities) until authorized by the health department.

The septic tank will need to be at least 1,000 gallons. A pump tank will most likely be required and the distribution to the fill system can be a D-box or pressure manifold.

**REPAIR SYSTEM:**

The recommended system type would be a drip dispersal system. Based a LTAR of 0.15 gpd/ft<sup>2</sup> is recommended. A drip system would require approximately 3,200 ft<sup>2</sup>. The area delineated for the repair is approximately 9,200 ft<sup>2</sup>.

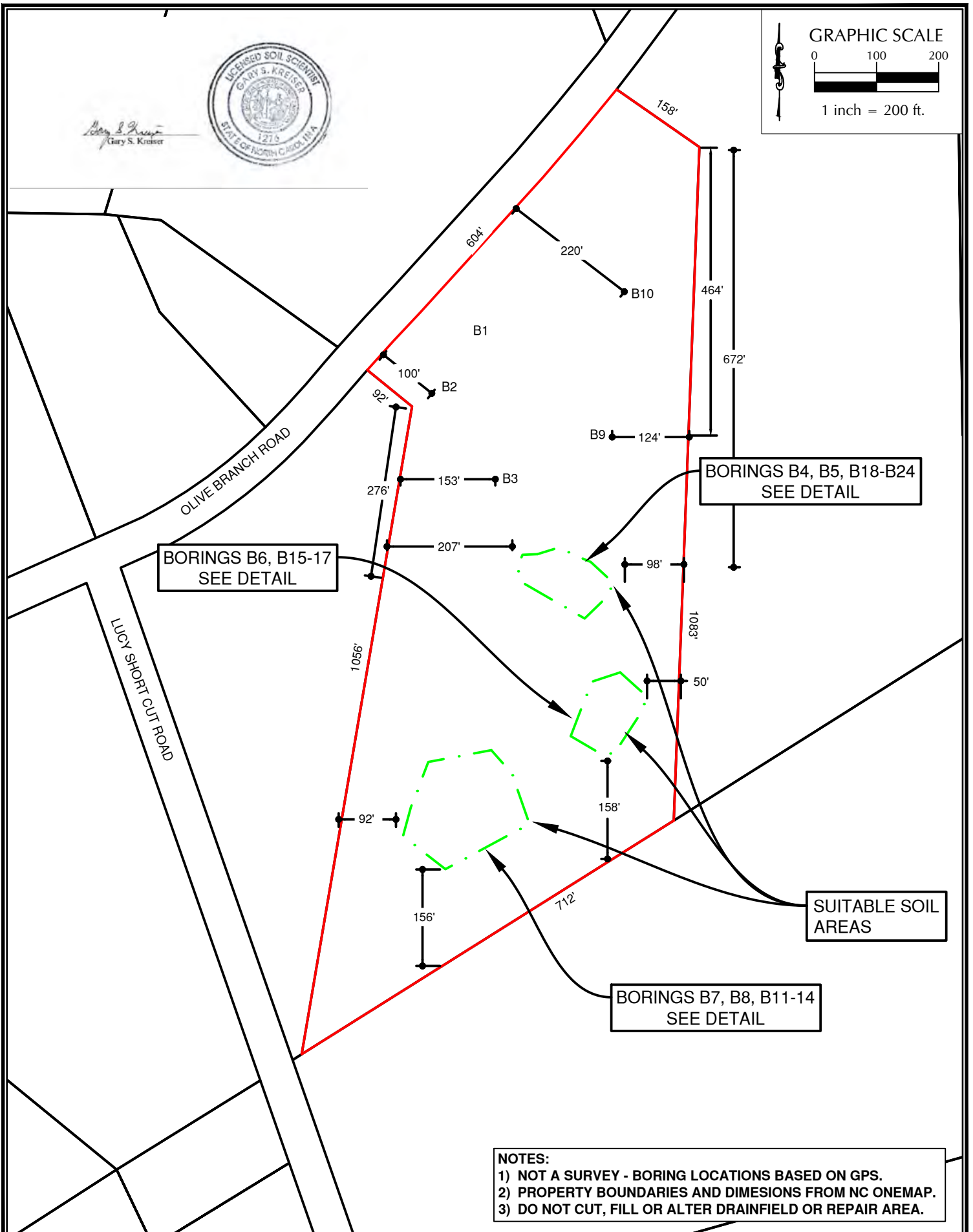
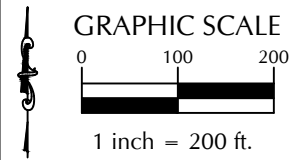
Attached are the wastewater soil/site evaluation forms, site plan, location sketch of borings, system layout, fill plan details, property owner acknowledgment, Improvement Permit common form, and certificate of insurance.



**Attachments:**

- 1) Soil boring locations
- 2) Site plan
- 3) System Layout
- 4) Fill Plan
- 5) Soil boring logs
- 6) Property Owner Acknowledgement of G.S. 130A-335(a2) and (a3)
- 7) Improvement Permit Form for G.S. 130A(a2)/SL2022-11
- 8) Certificate of Insurance

*Gary S. Kreiser*  
Gary S. Kreiser



**NOTES:**

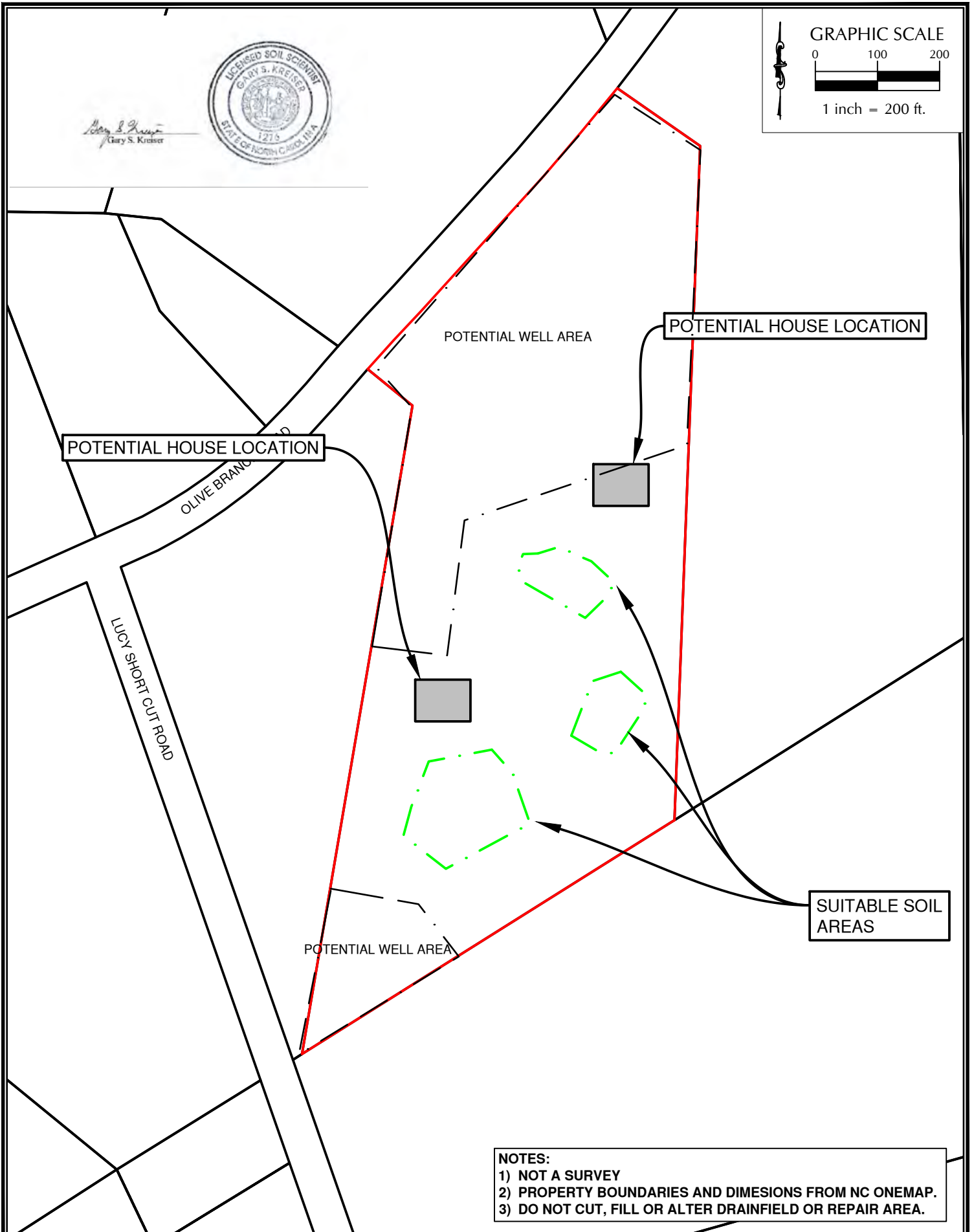
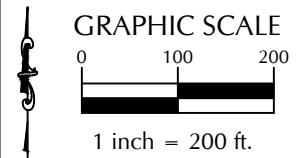
- 1) NOT A SURVEY - BORING LOCATIONS BASED ON GPS.
- 2) PROPERTY BOUNDARIES AND DIMENSIONS FROM NC ONEMAP.
- 3) DO NOT CUT, FILL OR ALTER DRAINFIELD OR REPAIR AREA.

OLIVE BRANCH ROAD  
APN: 01099004

SOIL BORING LOCATIONS

SOIL & SEPTIC SOLUTIONS

*Gary S. Kreiser*  
Gary S. Kreiser



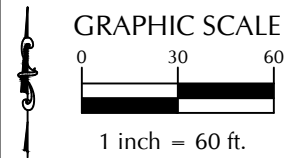
OLIVE BRANCH ROAD  
APN: 01099004

SITE PLAN (2 HOUSES)

SOIL & SEPTIC SOLUTIONS

**NOTES:**

- 1) NOT A SURVEY
- 2) INITIAL: FILL SYSTEM, REPAIR: DRIP DISPERSAL
- 3) FOLLOW FILL PLAN
- 4) DO NOT CUT, FILL OR ALTER DRAINFIELD OR REPAIR AREA.
- 5) COMPLY WITH ALL SETBACKS

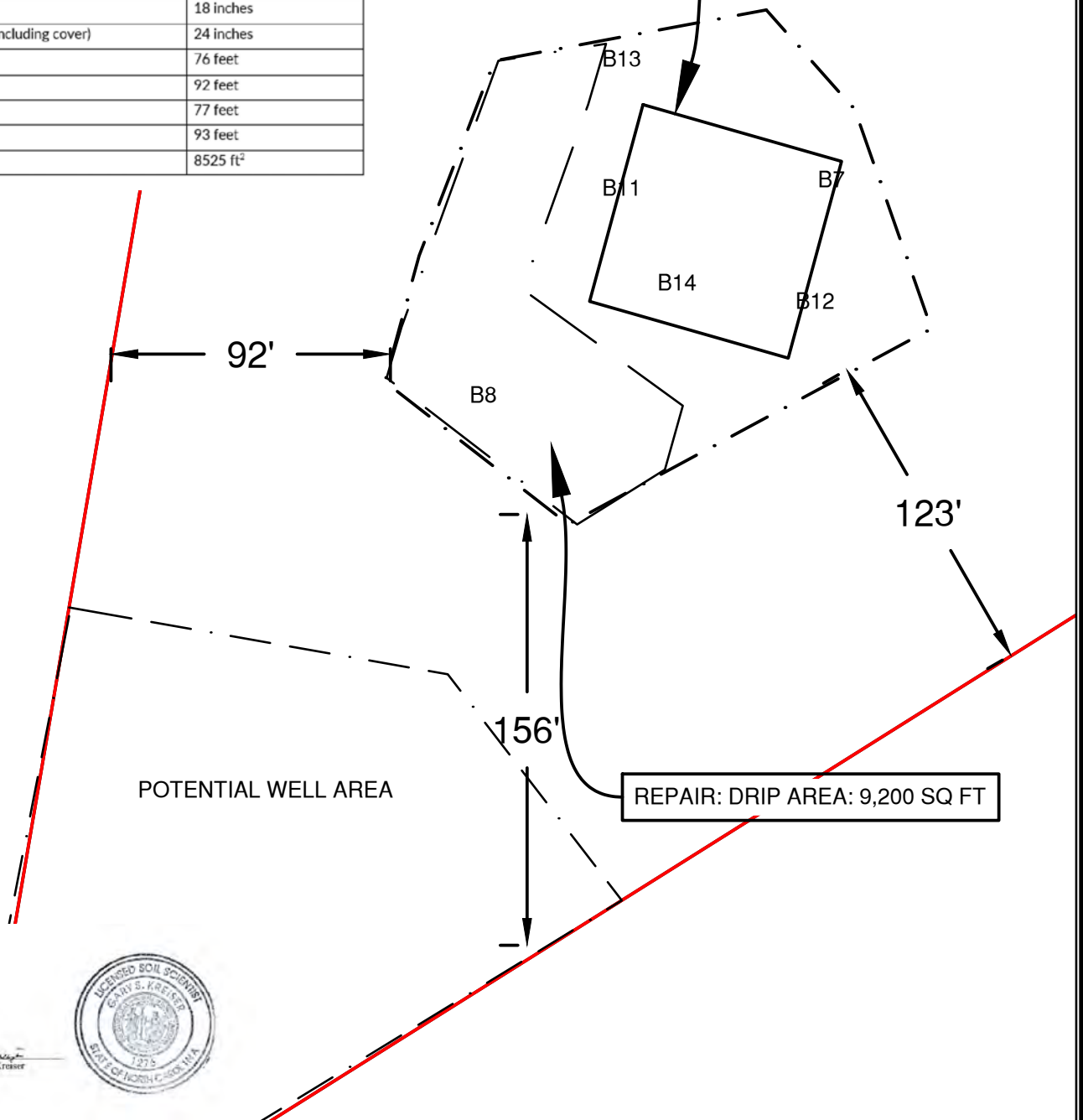


Design Flow	480 gpd
LTAR	0.3 gpd/ft <sup>2</sup>
Trench Bottom	1,600 ft <sup>2</sup>
Length of Trenches	533 ft
Depth to Wetness	15 inches
Depth of Soil	18 inches

POTENTIAL  
HOUSE  
LOCATION

INITIAL: FILL SYSTEM  
TOP DIMENSION 76' x 77'

Number of Trenches	8
Length of Each Trench	67 ft
Height of Trench above ground surface	6 inches
Height of Fill	18 inches
Total Height of Fill (including cover)	24 inches
Width of Top	76 feet
Width of Bottom	92 feet
Length of Top	77 feet
Length of Bottom	93 feet
Total Fill Area	8525 ft <sup>2</sup>



POTENTIAL WELL AREA

REPAIR: DRIP AREA: 9,200 SQ FT



OLIVE BRANCH ROAD  
APN: 01099004

SEPTIC LAYOUT - SYSTEM #2

SOIL & SEPTIC SOLUTIONS

## FILL PLAN

**Table 1. Summary of Design Flow, Required Area, Trench Length, and Soil Characteristics**

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**Table 2. Proposed Fill System**

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The septic installer contractor will need to remove vegetation without removing any soil, disc the natural soil surface prior to adding fill, and add fill in 2-3 inch lifts, see the attached site plan for the fill area.



## ***Aerial Fill Calculation***

**Red Denotes INCHES**

Length of Each Trench	67	
Number of Trenches	8	
Type of Trench Media (ID # from list)	2	GRAVEL
Soil Wetness Condition Depth (inches)	<b>18</b>	
Unsuitable Morphology Depth (inches)	<b>18</b>	
Soil Texture Group(numerical 1,2,3,4)	2	
LTAR	0.3	
Daily Flow	480	
Total length of trenches	533	
Square Feet of Trench Bottom	1600	
Total Fill Area	8525	
Bottom of Trench Above Ground Surface (inches)	<b>6</b>	
Height of Trench Media (inches)	<b>12</b>	
Total Height of Fill (including cover in inches)	<b>24</b>	
WT = Width of Top	76	
LT = Length of Top	77	
WB = Width of Bottom	92.0	
LB = Length of Bottom	93	
SS = Side Slope	8.0	
SD = Sand Depth	<b>18</b>	
CD = Cover Depth	<b>6</b>	
Total Volume of Fill	14224	
Total Cubic Yards of Fill	527	
Volume of Sand	10168	
Cubic Yards of Sand	377	
Volume of Cover	4056	
Cubic Yards of Cover	150	

SOIL/SITE EVALUATION for ON-SITE WASTEWATER SYSTEM  
(Complete all fields in full)

OWNER: \_\_\_\_\_ DATE EVALUATED: 3/23/24 4/13/24 & 4/14/24  
ADDRESS: Olive Branch Road  
PROPOSED FACILITY: \_\_\_\_\_ PROPOSED DESIGN FLOW (.0400): \_\_\_\_\_ PROPERTY SIZE: 14.28  
LOCATION OF SITE: \_\_\_\_\_ PROPERTY RECORDED: \_\_\_\_\_  
WATER SUPPLY: ☐ Public ☒ Single Family Well ☐ Shared Well ☐ Spring ☐ Other \_\_\_\_\_ WATER SUPPLY SETBACK: \_\_\_\_\_  
EVALUATION METHOD: ☒ Auger Boring ☐ Pit ☐ Cut TYPE OF WASTEWATER: ☒ Domestic ☐ High Strength ☐ IPWW

P R O F I L E  #	.0502 LANDSCAPE POSITION/ SLOPE %	HORIZ ON DEPTH (IN.)	SOIL MORPHOLOGY		OTHER PROFILE FACTORS				.0509 PROFILE CLASS & LTAR*	.0502(d) SLOPE CORRE CTION
			.0503 STRUCTURE/ TEXTURE	.0503 CONSISTENCE/ MINERALOGY	.0504 SOIL WETNESS/ COLOR	.0505 SOIL DEPTH	.0506 SAPRO CLASS	.0507 RESTR HORIZ		
1	L 3-5%	0-14	SBK/SiCL	FR/SS/SP/SEXP	2.5Y 5/4	S	-	-	0.3	1.1-1.8"
		14-20	SBK/SiCL	FR/SS/SP/SEXP	2.5 Y 5/4					
		20-AR	AUGER REFUSAL- ROCK		7.5 YR 4/6					
					SATURATED SOIL @ 20"					
2	L 3-5%	0-13	SBK/SiCL	FR/SS/SP/SEXP	2.5 Y 5/4	U	-	-	U	-
		13- AR	AUGER REFUSAL- ROCK		@ 13" 2.5Y 6/2					
					2.5YR 4/6					
3	L 3-5%	0-12	SBK/SiCL	FR/SS/SP/SEXP	2.5 Y 5/4	U	-	-	U	-
		12- AR	AUGER REFUSAL- ROCK		@ 12" 2.5Y 6/2					
					2.5YR 4/6					
4	L 3%	0-8	SBK/SiCL	FR/SS/SP/SEXP	2.5Y 4/4	S	-	-	S 0.3	1.1"
		8-24	SBK/SiCL	FR/SS/SP/SEXP	2.5Y 5/4					
		24-AR	AUGER REFUSAL- ROCK		@ 18" 2.5Y 6/2 DEPLETIONS					
					7.5YR 4/6 CONCENCTR ATIONS					

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM	SITE CLASSIFICATION (.0509): _____ EVALUATED BY: GARY KREISER OTHER(S) PRESENT: _____
Available Space (.0508)			
System Type(s)	DRIP OR FILL		
Site LTAR			
Maximum Trench Depth			
Comments: SOIL MANY FRAGMENTS OF SLATE			

\* Adjust LTAR due to depth, consistence, structure, soil wetness, landscape, position, wastewater flow and quality.  
\*\*Sandy clay loam saprolite can only be used with advanced pretreatment in accordance with 15A NCAC 18E .1200.

LANDSCAPE POSITION	SOIL GROUP	SOIL TEXTURE	CONVENTIONAL LTAR (gpd/ft²)	SAPROLITE LTAR (gpd/ft²)	LPP LTAR (gpd/ft²)	MINERALOGY/ CONSISTENCE		STRUCTURE	
CC (Concave slope)	I	S (Sand)	0.8 - 1.2	0.6 - 0.8	0.4 -0.6	MOIST	WET	SG (Single grain)	
CV (Convex Slope)		LS (Loamy sand)		0.5 -0.7		Lo (Loose)	NS (Non-sticky)	M (Massive)	
D (Drainage way)	II	SL (Sandy loam)	0.6 - 0.8	0.4 -0.6	0.3 - 0.4	VFR (Very friable)	SS (Slightly sticky)	GR (Granular)	
FP (Flood plain)		L (Loam)		0.2 - 0.4		FR (Friable)	S (Sticky)	SBK (Subangular blocky)	
FS (Foot slope)	III	SiL (Silt loam)	0.3 - 0.6	0.1 - 0.3	0.15 - 0.3	FI (Firm)	VS (Very sticky)	ABK (Angular blocky)	
H (Head slope)		SCL (Sandy clay loam)		0.05 - 0.15**		VFI (Very firm)	NP (Non-plastic)	PR (Prismatic)	
L (Linear Slope)		CL (Clay loam)		None		EFI (Extremely firm)	SP (Slightly plastic)	PL (Platy)	
N (Nose slope)		SiCL (Silty clay loam)					P (Plastic)		
R (Ridge/summit)		Si (Silt)					VP (Very plastic)		
S (Shoulder slope)		IV		SC (Sandy clay)	0.1 - 0.4	0.05 - 0.2	SEXP (Slightly expansive)		
T (Terrace)	SiC (Silty clay)			EXP (Expansive)					
TS (Toe Slope)	C (Clay)								
		O (Organic)	None						

HORIZON DEPTH

DEPTH OF FILL

RESTRICTIVE HORIZON

SAPROLITE

SOIL WETNESS

CLASSIFICATION

In inches below natural soil surface

In inches from land surface

Thickness and depth from land surface

S(suitable) or U(unsuitable); Evaluation of saprolite shall be by pits.

Inches from land surface to free water or inches from land surface to soil colors with chroma 2 or less - record Munsell color chip designation

S (Suitable) or U (Unsuitable)

Show profile locations and other site features (dimensions, reference or benchmark, and North).

# SOIL/SITE EVALUATION

(Continuation Sheet-Complete all field in full)

Page 3 of 6

DEPARTMENT OF HEALTH AND HUMAN SERVICES  
DIVISION OF PUBLIC HEALTH  
ENVIRONMENTAL HEALTH SECTION  
ON-SITE WATER PROTECTION BRANCH

PROPERTY ID #: \_\_\_\_\_  
DATE OF EVALUATION: 3/23/24 4/13/24 & 4/14/24  
COUNTY: UNION

P R O F I L E  #	.0502 LANDSCAPE POSITION/ SLOPE %	HORIZON DEPTH (IN.)	SOIL MORPHOLOGY		OTHER PROFILE FACTORS				.0509 PROFILE CLASS & LTAR*	.0503 SLOPE CORRE CTION
			.0503 STRUCTURE/ TEXTURE	.0503 CONSISTENCE/ MINERALOGY	.0504 SOIL WETNESS/ COLOR	.0506 SOIL DEPTH	.0507 SAPRO CLASS	.0508 RESTR HORIZ		
5	L 3%	0-8	SBK/SiCL	FR/SS/SP/SEXP	2.5Y 4/4	U	-	-	U	-
		8-12	SBK/SiCL	FR/SS/SP/SEXP	2.5Y 5/4					
		12-AR	AUGER REFUSAL- ROCK		@ 12" 2.5Y 6/2 DEPLETIONS					
					7.5YR 4/6 CONCENCTR ATIONS					
6	L 3%	0-8	SBK/SiCL	FR/SS/SP/SEXP	2.5Y 6/4	S	-	-	S 0.3	1.1"
		8-18	SBK/SiCL	FR/SS/SP/SEXP	2.5 YR 4/6					
		18-30+	M/SIC	FI/SS/SP/SEXP	2.5Y 6/2					
					7.5YR 4/6					
7	L 3%	0-6	SBK/SiCL	FR/SS/SP/SEXP	10YR 4/4	S	-	-	S 0.3	1.1"
		6-18	SBK/SiCL	FR/SS/SP/SEXP	2.5 YR 6/4					
		18-AR	AUGER REFUSAL							
8	L 3-5%	0-6	SBK/SiCL	FR/SS/SP/SEXP	10YR 4/4	S	-	-	S 0.3	1.1-1.8"
		6-24	SBK/SiCL	FR/SS/SP/SEXP	2.5 YR 6/4					
		24 -AR	AUGER REFUSAL		@18" 2.5Y 6/2					
9  10		0-12	SBK/SiCL	FR/SS/SP/SEXP		U	-	-	U	-
		12-AR	AUGER REFUSAL							
		0-12	SBK/SiCL	FR/SS/SP/SEXP		U	-	-	U	
		12-AR	AUGER REFUSAL							

COMMENTS: \_\_\_\_\_

# SOIL/SITE EVALUATION

Page 4 of 6

(Continuation Sheet-Complete all field in full)

DEPARTMENT OF HEALTH AND HUMAN SERVICES  
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			.0503 STRUCTURE/ TEXTURE	.0503 CONSISTENCE/ MINERALOGY	.0504 SOIL WETNESS/ COLOR	.0506 SOIL DEPTH	.0507 SAPRO CLASS	.0508 RESTR HORIZ		
11	L 2%	0-18	SBK/SiCL	FR/SS/SP/SEXP	2.5Y 6/3	S	-	-	S 0.3	.72"
		18-AR	AUGER REFUSAL- ROCK							
12	L 2%	0-18	SBK/SiCL	FR/SS/SP/SEXP	2.5Y 6/4	S	-	-	S 0.3	.72"
		18-AR	AUGER REFUSAL- ROCK							
13	L 2%	0-18	SBK/SiCL	FR/SS/SP/SEXP	2.5 YR 6/4	S	-	-	S 0.3	.72"
		18-AR	AUGER REFUSAL- ROCK							
14	L 2%	0-19	SBK/SiCL	FR/SS/SP/SEXP	2.5 YR 6/4	S	-	-	S 0.3	.72"
		19-AR	AUGER REFUSAL- ROCK							
15  16	L 2%	0-18	SBK/SiCL	FR/SS/SP/SEXP	2.5 YR 6/4  10YR 6/2 @ 15"	S	-	-	S 0.3	.72"
		18-AR	AUGER REFUSAL							
		0-18	SBK/SiCL	FR/SS/SP/SEXP					S 0.3	.72"
		18-AR	AUGER REFUSAL							

COMMENTS: \_\_\_\_\_

SOIL/SITE EVALUATION

(Continuation Sheet-Complete all field in full)

DEPARTMENT OF HEALTH AND HUMAN SERVICES  
DIVISION OF PUBLIC HEALTH  
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			.0503 STRUCTURE/ TEXTURE	.0503 CONSISTENCE/ MINERALOGY	.0504 SOIL WETNESS/ COLOR	.0506 SOIL DEPTH	.0507 SAPRO CLASS	.0508 RESTR HORIZ		
17	L 2%	0-18	SBK/SiCL	FR/SS/SP/SEXP	2.5Y 6/4	S	-	-	S 0.3	.72"
		18-AR	AUGER REFUSAL							
18	L 2%	0-22	SBK/SiCL	FR/SS/SP/SEXP	2.5Y 6/4 2.5Y 6/2 @ 15"	S	-	-	S 0.3	.72"
		22+	M/SiCL	FR/SS/SP/SEXP						
19	L 2%	0-22	SBK/SiCL	FR/SS/SP/SEXP	2.5Y 6/4 2.5Y 6/2 @ 15"	S	-	-	S 0.3	.72"
		22+	M/SiCL	FR/SS/SP/SEXP						
20	L 2%	0-18	SBK/SiCL	FR/SS/SP/SEXP	2.5 YR 6/4	S	-	-	S 0.3	.72"
		18-AR	AUGER REFUSAL							
21  22		0-19	SBK/SiCL	FR/SS/SP/SEXP	2.5Y 6/4 2.5Y 6/2 @ 15"	S	-	-	S 0.3	-
		19-AR	AUGER REFUSAL							
		0-14	SBK/SiCL	FR/SS/SP/SEXP					U	
		14-AR	AUGER REFUSAL							

COMMENTS: \_\_\_\_\_

## SOIL/SITE EVALUATION

Page \_\_6\_\_ of \_\_6\_\_

(Continuation Sheet-Complete all field in full)

DEPARTMENT OF HEALTH AND HUMAN SERVICES

## DIVISION OF PUBLIC HEALTH

ENVIRONMENTAL HEALTH SECTION

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			.0503 STRUCTURE/ TEXTURE	.0503 CONSISTENCE/ MINERALOGY	.0504 SOIL WETNESS/ COLOR	.0506 SOIL DEPTH	.0507 SAPRO CLASS	.0508 RESTR HORIZ		
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24	L 2%	0-19	SBK/SiCL	FR/SS/SP/SEXP	2.5Y 6/4 2.5Y 6/2 @ 15"	S	-	-	S 0.3	.72"
		19-AR	AUGER REFUSAL							

COMMENTS: \_\_\_\_\_

In accordance with G.S. 130A-335(a2) a LSS evaluation may be submitted in conjunction with a complete application to the Local Health Department. The application shall include all information described in 15A NCAC 18E .0202 and be accompanied by a signed and dated statement from the applicant that states the following:

“The LSS/LG evaluation(s) attached to this application is to be used to issue an Improvement Permit in accordance with G.S. 130A-335(a2) and (a3).”.

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

Date: \_\_\_\_\_





NC DEPARTMENT OF  
**HEALTH AND  
HUMAN SERVICES**

**ROY COOPER** • Governor

**KODY H. KINSLEY** • Secretary

**MARK BENTON** • Chief Deputy Secretary for Health

**SUSAN KANSAGRA** • Assistant Secretary for Public Health

Division of Public Health

Submittal Includes: ☒ (a2) Improvement Permit ☐ (a2) Construction Authorization ☐ Fee \$ \_\_\_\_\_

**IMPROVEMENT PERMIT FOR G.S. 130A-335(a2)**

County: Union

PIN/Lot Identifier: APN: 01099004

Issued To: Jonthan Newth

Property Location: Olive Branch Road

Subdivision (if applicable) \_\_\_\_\_ Lot #: \_\_\_\_\_ Block: \_\_\_\_\_ Section: \_\_\_\_\_

LSS Report Provided: Yes ☒ No ☐

If yes, name and license number of LSS: Gary Kreiser #1276

New ☒

Expansion ☐

System Relocation ☐

Change of Use ☐

Facility Type: 4 bedroom homes

Number of bedrooms: 4 Number of Occupants: max 8 Other: \_\_\_\_\_

Design Wastewater Strength: ☒ Domestic ☐ High Strength ☐ Industrial Process Wastewater

Proposed Design Daily Flow: 480 GPD Proposed LTAR (Initial): 0.3 Proposed LTAR (Repair): 0.15

Proposed Wastewater System Type\*: IlIc (Initial) Pump Required: ☒ Yes ☐ No ☐ May be required

Proposed Wastewater System Type\*: Vd (Repair) Pump Required: ☒ Yes ☐ No ☐ May be required

*\*Please include system classification for proposed wastewater system types in accordance with Rule .1301 Table XXXII*

Effluent Standard: ☒ DSE ☐ HSE ☐ NSF/ANSI 40 ☐ TS-I ☐ TS-II ☐ RCW

Saprolite System (Initial): ☐ Yes ☒ No Saprolite System (Repair): ☐ Yes ☒ No

Fill System (Initial): ☒ Yes ☐ No If yes, specify: ☒ New ☐ Existing (when adding more than 6 inches of fill to system area provide a fill plan)

Fill System (Repair): ☐ Yes ☒ No If yes, specify: ☐ New ☐ Existing (when adding more than 6 inches of fill to system area provide a fill plan)

Usable Depth to LC (Initial)\*: 15 Usable Depth to LC (Repair)\*: 18 *\* Limiting Condition*

Max. Trench Depth (Initial)\*: 6 inches above grade Max. Trench Depth (Repair)\*: 6 *\* Measured on the downhill side of the trench grade*

Artificial Drainage Required: ☐ Yes ☒ No If yes, please specify details: \_\_\_\_\_

Type of Water Supply: ☒ Private well ☐ Public well ☐ Shared well ☐ Municipal Supply ☐ Spring ☐ Other: \_\_\_\_\_

Drainfield location meets requirements of Rule .0508: Yes ☒ No ☐ Drainfield location meets requirements of Rule .0601: Yes ☒ No ☐

Permit valid for: ☒ Five years [site plan submitted pursuant to GS 130A-334(13a)] ☐ No expiration [plat submitted pursuant to GS 130A-334(7a)]

Permit conditions:

Licensed Soil Scientist Print Name: Gary Kreiser #1276

Licensed Soil Scientist Signature: Gary Kreiser

NCDHHS/DPH/EHS/OSWP

Permit/File #: \_\_\_\_\_

Date: \_\_\_\_\_

The LSS evaluation is being submitted pursuant to and meets the requirements of G.S. 130A-335(a2).

**\*See attached site sketch\***

## ***This Section for Local Health Department Use Only***

Initial submittal received: \_\_\_\_\_ by \_\_\_\_\_  
Date Initials

G.S. 130A-335(a3) states the following:

*When an applicant for an Improvement Permit submits to a local health department an Improvement Permit application, the permit fee charged by the local health department, the common form developed by the Department, and a soil evaluation pursuant to subsection (a2) of this section, the local health department shall, within five business days of receiving the application, conduct a completeness review of the submittal. A determination of completeness means that the Improvement Permit includes all of the required components. If the local health department determines that the Improvement Permit is incomplete, the local health department shall notify the applicant of the components needed to complete the Improvement Permit. The applicant may submit additional information to the local health department to cure the deficiencies in the Improvement Permit. The local health department shall make a final determination as to whether the Improvement Permit is complete within five business days after the local health department receives the additional information from the applicant. If the local health department fails to act within any period set out in this subsection, the applicant may treat the failure to act as a determination of completeness. The Department shall develop a common form for use as the Improvement Permit.*

The review for completeness of this Improvement Permit was conducted in accordance with G.S. 130A-335(a3). This Improvement Permit is determined to be:

☐ Incomplete (If box is checked, information in this section is required.)

The following items are missing:

\_\_\_\_\_  
\_\_\_\_\_

Copies of this were sent to the LSS and the Applicant on \_\_\_\_\_  
Date

State Authorized Agent: \_\_\_\_\_ Date: \_\_\_\_\_

☐ Complete

State Authorized Agent: \_\_\_\_\_ Date: \_\_\_\_\_

**This Improvement Permit is issued pursuant to G.S. 130A-335 (a2) and (a3) using the signed and sealed LSS/LG evaluation(s) attached here. The issuance of this permit in no way guarantees the issuance of other permits. The permit holder is responsible for checking with appropriate governing bodies in meeting their requirements. **This permit is subject to revocation if the site plan, plat, or the intended use changes.** The Improvement Permit shall not be affected by a change in ownership of the site. This permit is subject to compliance with the provisions of 15A NCAC 18E and to the conditions of this permit.**

**The Department, the Department's authorized agents, and the local health departments shall be discharged and released from any liabilities, duties, and responsibilities imposed by statute or in common law from any claim arising out of or attributed to evaluations, submittals, or actions from a licensed soil scientist or licensed geologist pursuant to GS 130A-335(a2).**

**Improvement Permit Expiration Date:** \_\_\_\_\_

**\*See attached site sketch\***

## Re-submittal of Improvement Permit

LHD USE ONLY: This IP resubmittal received: \_\_\_\_\_ by \_\_\_\_\_  
Date Initials

The following items are being resubmitted pursuant to G.S. 130A-335(a3) for issuance of the Improvement Permit:

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I, \_\_\_\_\_ hereby attest that the information required to be included with this re-submittal  
*Licensed Soil Scientist (Print Name)*  
is accurate and complete to the best of my knowledge and that the proposed Improvement Permit meets all applicable federal,  
State, and local laws, regulations, rules, and ordinances.

\_\_\_\_\_  
*Signature of Licensed Soil Scientist*

\_\_\_\_\_  
*Date*

*The section below is for Local Health Department use after submittal of items noted as missing above.*

### LHD Follow-up Completeness Review of Improvement Permit

The review for completeness of this Improvement Permit re-submittal was conducted in accordance with G.S. 130A-335(a3). This Improvement Permit is determined to be:

☐ Incomplete (If box is checked, information in this section is required.)

The following items are missing:

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Copies of this were sent to the LSS and the Applicant on \_\_\_\_\_  
Date

State Authorized Agent: \_\_\_\_\_

Date: \_\_\_\_\_

☐ Complete

State Authorized Agent: \_\_\_\_\_

Date: \_\_\_\_\_



# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

4/2/2024

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an **ADDITIONAL INSURED**, the policy(ies) must be endorsed. If **SUBROGATION IS WAIVED**, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

<b>PRODUCER</b> Wade Associates, LLC 250 Pollock St.  New Bern NC 28560	<b>CONTACT NAME:</b> Angela Sensenig <b>PHONE (A/C, No, Ext):</b> (252) 631-5269 <b>E-MAIL ADDRESS:</b> asensenig@wadeict.com <b>FAX (A/C, No):</b> (252) 649-2443														
<b>INSURED</b> Soil & Septic Solutions PLLC 4504 Gwynnebrook Circle  Raleigh NC 27613	<table><tr><th>INSURER(S) AFFORDING COVERAGE</th><th>NAIC #</th></tr><tr><td>INSURER A: Auto-Owners</td><td>18988</td></tr><tr><td>INSURER B: Travelers Cas &amp; Surety Co of America</td><td>31194</td></tr><tr><td>INSURER C:</td><td></td></tr><tr><td>INSURER D:</td><td></td></tr><tr><td>INSURER E:</td><td></td></tr><tr><td>INSURER F:</td><td></td></tr></table>	INSURER(S) AFFORDING COVERAGE	NAIC #	INSURER A: Auto-Owners	18988	INSURER B: Travelers Cas & Surety Co of America	31194	INSURER C:		INSURER D:		INSURER E:		INSURER F:	
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**COVERAGES****CERTIFICATE NUMBER: 24-25****REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS														
A	<input checked="" type="checkbox"/> <b>COMMERCIAL GENERAL LIABILITY</b> <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR  GEN'L AGGREGATE LIMIT APPLIES PER: <input checked="" type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:			35784306	3/25/2024	3/25/2025	<table><tr><td>EACH OCCURRENCE</td><td>\$ 1,000,000</td></tr><tr><td>DAMAGE TO RENTED PREMISES (Ea occurrence)</td><td>\$ 300,000</td></tr><tr><td>MED EXP (Any one person)</td><td>\$ 10,000</td></tr><tr><td>PERSONAL &amp; ADV INJURY</td><td>\$</td></tr><tr><td>GENERAL AGGREGATE</td><td>\$ 2,000,000</td></tr><tr><td>PRODUCTS - COMP/OP AGG</td><td>\$ 2,000,000</td></tr><tr><td></td><td>\$</td></tr></table>	EACH OCCURRENCE	\$ 1,000,000	DAMAGE TO RENTED PREMISES (Ea occurrence)	\$ 300,000	MED EXP (Any one person)	\$ 10,000	PERSONAL & ADV INJURY	\$	GENERAL AGGREGATE	\$ 2,000,000	PRODUCTS - COMP/OP AGG	\$ 2,000,000		\$
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	<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b> ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below Y/N <input type="checkbox"/> N/A						<table><tr><td>PER STATUTE</td><td>OTH-ER</td></tr><tr><td>E.L. EACH ACCIDENT</td><td>\$</td></tr><tr><td>E.L. DISEASE - EA EMPLOYEE</td><td>\$</td></tr><tr><td>E.L. DISEASE - POLICY LIMIT</td><td>\$</td></tr></table>	PER STATUTE	OTH-ER	E.L. EACH ACCIDENT	\$	E.L. DISEASE - EA EMPLOYEE	\$	E.L. DISEASE - POLICY LIMIT	\$						
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B	<b>Errors &amp; Omissions</b>			108007998	3/24/2024	3/24/2025	<table><tr><td>Per Claim Limit</td><td>\$1,000,000</td></tr><tr><td>Aggregate Limit</td><td>\$2,000,000</td></tr></table>	Per Claim Limit	\$1,000,000	Aggregate Limit	\$2,000,000										
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DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

**CERTIFICATE HOLDER****CANCELLATION****\*FOR INFORMATIONAL PURPOSES ONLY\***XXXXXXXXXXXXXXXXXXXXXXXXXXXX  
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SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

N Whitsett/RACHEL

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INS025 (201401)