

Mitchell Environmental, P.A.

**SITE EVALUATION FOR USE OF ON-SITE SEWAGE
DISPOSAL SYSTEMS**

for

**RICE ROAD MINOR SUBDIVISION
LOTS 10-12
Wake County, North Carolina**

Submitted to:

Wake County
Department of Environmental Services
Wake County Office Building
336 Fayetteville Street
Raleigh, North Carolina 27601

Prepared for:

SARC 1, LLC
1501 Lakestone Village Lane, Suite 205
Fuquay-Varina, North Carolina 27526

Prepared by:

Scott Mitchell, PE, LSS
Adam Aycok, EIT

**DATE: June 6, 2024
PROJECT NO.: 1622**



I. Introduction

On multiple dates in 2022 and 2023, a site evaluation for use of on-site sewage disposal systems was completed for the 10.573 acre property north of the intersection of Highway 96 and Rice Road in Zebulon (*PIN 2704852350*). The property primarily consists of agricultural fields and forest. There are two existing vertical structures (*remnants of tobacco barns to be removed*), but no wells or septic systems were observed on the property at the time of the evaluation. The owner plans to subdivide the property per the attached subdivision plat. The plat illustrates the proposed subdivision lines.

II. Status of Site Improvements and Vegetative Cover

The site is mostly covered by agricultural fields and forest. The site currently contains two existing vertical structures (*remnants of tobacco drying barns to be removed*), but no wells or septic systems. The majority of the property generally slopes to the north, to a valley that exits the property into Snipes Creek.

III. Method of Evaluation and Soil Moisture Conditions

Soils on the site were evaluated using a hand auger and excavator pits. No surface ponding was observed during the evaluation. Below the land surface the soil was field moist, but not saturated.

IV. Soils Analysis

According to the Wake County Soil Survey, the majority of site is underlain by soils of the Wedowee series, with smaller areas underlain by soils of the Dothan series. These soil series exhibit only moderate limitations for septic tank absorption fields, due to moderate permeability. Suitable soils represented by the Dothan series consist of very deep, well drained, moderately permeable soils that formed in thick beds of unconsolidated, medium to fine-textured marine sediments. Soils of the Wedowee series consist of very deep, well drained, moderately permeable soils that formed in residuum weathered from felsic igneous and metamorphic rocks of the Piedmont Uplands. Representative soil profile descriptions for septic system soil suitability units are attached.

Proposed lots on this site are underlain by soils with controlling textures of sandy clay loam, clay loam, or clay, depending on approved trench depth and location on the site. Conventional sewage systems for these lots should be designed for a Long-Term Acceptance Rate (*LTAR*) ranging from 0.25-0.4 gpd/ft². Low Pressure Pipe and subsurface drip sewage systems for these lots should be designed for a Long-Term Acceptance Rate (*LTAR*) of 0.1 to 0.2 gpd/ft². All proposed lots exceed minimum requirements per Section V of the Regulations Governing Sewage Treatment and Disposal Systems in Wake County, as amended November 19, 2021. Approximate areas of septic system soil suitability units on each lot are listed in tabular form on the attached drawing.

V. Proposed Use and Source of Water Supply

Upon approval, the site will be subdivided into 3 parcels for 3 to 5 bedroom, single-family homes. Wastewater design volume will range from 360 gallons per day to 600 gallons per day, depending on the number of bedrooms proposed on each parcel, per 15A NCAC 18E. An individual septic system will be installed on each proposed parcel to serve the proposed house. An individual well will provide potable water for each home in the subdivision.

VI. Certification Statements

CERTIFICATION OF REVIEW BY LICENSED SOIL SCIENTIST

I HEREBY CERTIFY THAT LOTS 10, 11, and 12 SHOWN ON THIS PLAT FOR Rice Road Minor Subdivision HAVE BEEN REVIEWED AS APPROPRIATE AND WITH RESPECT TO MINIMUM LOT REQUIREMENTS SET FORTH IN SECTION V OF THE REGULATIONS GOVERNING SEWAGE TREATMENT AND DISPOSAL SYSTEMS IN WAKE COUNTY AS AMENDED FROM TIME TO TIME. AS OF THIS DATE, AND BASED ON THIS REVIEW OF EXISTING SITE CONDITIONS THE LOTS NUMBERED ABOVE ON THIS PLAT WILL PRESUMABLY MEET THESE REGULATIONS.

I HEREBY CERTIFY THAT LOTS N/A SHOWN ON THIS PLAT FOR Rice Road Minor Subdivision HAVE BEEN REVIEWED AS APPROPRIATE AND WITH RESPECT TO ALTERNATIVE REQUIREMENTS SET FORTH IN SECTION VI OF THE REGULATIONS GOVERNING SEWAGE TREATMENT AND DISPOSAL SYSTEMS IN WAKE COUNTY AS AMENDED FROM TIME TO TIME. AS OF THIS DATE, AND BASED ON THIS REVIEW OF EXISTING SITE CONDITIONS THE LOTS NUMBERED ABOVE ON THIS PLAT WILL PRESUMABLY MEET THESE REGULATIONS.

PRELIMINARY CERTIFICATION DOES NOT REPRESENT APPROVAL OR A PERMIT FOR ANY SITE WORK, NOR DOES IT GUARANTEE ISSUANCE OF AN IMPROVEMENT PERMIT FOR ANY LOT. FINAL SITE APPROVAL FOR ISSUANCE OF IMPROVEMENT PERMITS IS BASED ON REGULATIONS IN FORCE AT THE TIME OF PERMITTING AND IS DEPENDENT ON SATISFACTORY COMPLETION OF INDIVIDUAL SITE EVALUATIONS FOLLOWING APPLICATION FOR AN IMPROVEMENT PERMIT DETAILING A SPECIFIC USE AND SITING.

ANY CHANGE IN USE OR ANY SITE ALTERATION MAY RESULT IN SUSPENSION OR REVOCATION OF CERTIFICATION.

6-6-2024
DATE


NC LICENSED SOIL SCIENTIST (SEAL)

Representative Soil Profile Descriptions

Soil Profile Description

Project: Rice Road Minor S/D Lots 10-12
 Date: 6/9/2022
 Location ID: Lot 12
 Landscape Position: Side slope

Completed By: Scott Mitchell
 Weather Conditions: Sunny
 Slope: 5%

Horizon	Depth (inches)	Texture	Matrix Color (Munsell Moist)	Mottles		Structure			Consistence		
				Color (Munsell Moist)	Abundance	Type	Grade	Class	Moist	Stickiness	Plasticity
A	0-7	SL	10 YR 3/6			GR	WK	M	FR	NS	NP
Bt 1	7-32	SC	2.5 YR 4/8			SBK	MO	M	FI	SS	SP
Bt 2	32-45+	C	2.5 YR 4/8	7.5 YR 5/6	5%	SBK	MO	M	FI	SS	SP

Suitability Class

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Restrictive Horizons Encountered? N/A

If So, At What Depth(s)?

Overall Suitability: Suitable for Conventional Systems

Soil Profile Description

Project: Rice Road Minor S/D Lots 10-12
Date: 6/9/2022
Location ID: Lot 11
Landscape Position: Side slope

Completed By: Scott Mitchell
Weather Conditions: Sunny
Slope: 4%

Horizon	Depth (inches)	Texture	Matrix Color (Munsell Moist)	Mottles		Structure			Consistence		
				Color (Munsell Moist)	Abundance	Type	Grade	Class	Moist	Stickiness	Plasticity
A	0-5	SL	10 YR 4/4			GR	WK	M	FR	NS	NP
Bt	5-20	SCL	5 YR 4/6	10 YR 5/6	5	SBK	MO	M	FR	SS	SP
C	20-29+	SCL	Variegated			MA	SLS	-	FR	SS	SP

Suitability Class

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Restrictive Horizons Encountered? N/A

If So, At What Depth(s)?

Overall Suitability: Suitable for Subsurface Drip Systems

Soil Profile Description

Project: Rice Road Minor S/D Lots 10-12
 Date: 6/9/2022
 Location ID: Lot 11
 Landscape Position: Sideslope

Completed By: Scott Mitchell
 Weather Conditions: Sunny
 Slope: 6%

Horizon	Depth (inches)	Texture	Matrix Color (Munsell Moist)	Mottles		Structure			Consistence		
				Color (Munsell Moist)	Abundance	Type	Grade	Class	Moist	Stickiness	Plasticity
A	0-3	SL	10 YR 3/3			GR	WK	M	FR	NS	NP
Bt	3-11	SCL	7.5 YR 4/6	10 YR 5/6		SBK	WK	M	FR	SS	SP
C	11+	SCL	Variegated			MA	SLS	-	FR	SS	SP

Suitability Class

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Restrictive Horizons Encountered? N/A

If So, At What Depth(s)? _____

Overall Suitability: Unsuitable

This map illustrates preliminary septic soil suitability observations made by Mitchell Environmental staff. This map is a representation of our professional opinions regarding soil suitability on this site and is based on North Carolina laws, rules, and regulations in effect as of the date listed hereon. Soils are formed by the forces of nature and are inherently variable. Hence, some inclusions of soils that are unsuitable or are suited for different septic system types than those labeled should be expected.

NOT A SURVEY.

C/L = Provisionally suitable for conventional trench, Large Diameter Pipe (*LDP*), Low-Pressure Pipe (*LPP*), low profile chamber, or at-grade systems.

D = Provisionally suitable for subsurface drip systems.

UNS = Unsuitable for currently approved subsurface systems.



Rice Road Minor - Septic Soil Areas					
Lot #	Lot Total (sf)	Unsuitable (sf)	Total Provisionally Suitable (sf)	Conventional (sf)	Subsurface Drip (sf)
10	191,794	138,451	53,343	24,984	28,359
11	133,798	99,982	33,816	25,924	7,892
12	134,961	59,359	75,602	65,738	9,864

~~RUN OF SNIPES CREEK~~
~~IS PROPERTY LINE~~

50' NEUSE
RIPARIAN BUFFER

UNS

50' NEUSE
RIPARIAN BUFFER

UNS

UNS

D

C/L

D

C/L

UNS

UNS

C/L

1 of 1

***Rice Road Minor
Lots 10-12
Preliminary Soils Evaluation***

REVISION NO.	DATE
Original Submittal	June 5, 2024
Revision 1	-----
Revision 2	-----
Revision 3	-----
Master Set	-----

PREPARED FOR : SARC 1, LLC
1501 Lakestone Village Lane
Suite 205
Fuquay-Varina, NC 27526

DATE : June 5, 2024

ENGINEER AND SOIL SCIENTIST CONTACT:

SCOTT MITCHELL, PE, LSS

DRAWN BY:

ADAM AYCOCK, EIR

MITCHELL ENVIRONMENTAL, PA
C-2911

1501 LAKESTONE VILLAGE LANE
SUITE 205
FUQUAY VARINA, NC 27526

