Engineers and Soil Scientists

Agri-Waste Technology, Inc.
501 North Salem Street
Suite 203
Apex, NC 27502
919-859-0669
www.agriwaste.com

Soil Suitability for Domestic Sewage Treatment and Disposal Systems

6181 US 15-501 N, Pittsboro, NC Chatham County

Prepared For:	Mr. Gilberto Lopez, Prestige Construction & Lad Development, LLC
Prepared By:	Jeff Vaughan, Ph.D., L.S.S. Senior Agronomist/Soil Scientist
	Julie Peele Environmental Technician
Report Date:	May 15, 2021

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Soil Suitability for Domestic Sewage Treatment and Disposal Systems
6181 US 15-501 N, Pittsboro, NC (Chatham County)

PREPARED FOR: Mr. Gilberto Lopez, Prestige Construction & Land Development

PREPARED BY: Jeff Vaughan
Julie Peele

DATE: May 15, 2021

Soil suitability for domestic sewage treatment and disposal systems was evaluated on May 10, 2021, for property located at 6181 US 15-501 N near Pittsboro, NC. Jeff Vaughan and Heath Clapp of Agri-Waste Technology, Inc. (AWT) conducted the soil evaluation. The detailed soil evaluation of the land area will follow. A property reference map is in Attachment 1. A review of the soil and landscape characteristics that dictate soil suitability for domestic sewage treatment and disposal systems can be found in Attachment 2.

The total property area is approximately 14.6 acres. The property is completely wooded. There are several drainage features with moderate slopes on the property (Attachment 3). There appears to be an old homesite with associated septic system near the front of the property.

Soil Suitability for Domestic Sewage Treatment and Disposal Systems

The aerial map in Attachment 3 details the approximate property boundaries, soil boring locations, soil types, and soil areas for septic systems. Soil borings were flagged in the field with blue, red, and yellow ribbon. Approximately 18 soil borings were advanced on the property (Attachment 3). A portion of the property contained drainage features, complex topography, and/or unsuitable soils and, thus, are unsuitable for septic systems. However, this evaluation was merely a preliminary review to determine what potential this land might have for domestic sewage treatment and disposal systems. Therefore, specific types of septic systems, exact locations of future drainfields and repair areas, plus buffers from property lines (current and potential future lot lines), building foundations, wells, etc. are not fully considered. These things will need to be more fully considered as the plans develop for the potential future of this site. It is possible that additional soil evaluations will be required once lot layouts are considered and developed for this property so that septic system types and the location of a septic drainfield can be more fully and appropriately considered.

Two areas (see map in Attachment 3) exhibited soil characteristics and soil depths (24" or greater) that are provisionally suitable for conventional or shallow conventional trench septic systems. These areas are approximately 36,142ft^2 and 373,601ft^2, respectively.

Typical profile descriptions of the provisionally suitable soil for this property are in Attachment 4. Two distinct soil profiles were observed in the soil borings on the property: a deep red clay subsoil or a shallower reddish-yellow clay subsoil.

The provisionally suitable soil borings had the following characteristics. No restrictive horizons were found in any provisionally soil borings within 24" of the soil surface. Soil texture was provisionally suitable and was estimated to be sandy loam near the soil surface (A horizons) and clay loam to clay in the subsoil (B horizons). Soil structure was provisionally suitable and was estimated to be granular near the soil surface (A horizons) and subangular blocky in the subsoil (B horizons). Clay mineralogy was provisionally suitable with very friable to firm moist soil consistence and non-sticky to sticky and non-plastic to plastic wet soil consistence. Indications of saprolite were detected in some soil borings, but were not dominant in profiles.

The major soil types on this property are Wedowee sandy loam (map symbol WeC), Vance sandy loam (map symbol VaB), and Pittsboro-Iredell complex (map symbol PsB). The Chatham County Soil Survey indicates that moderate to severe limitations exist for septic systems installed in these soils types (Attachment 5).

The land area required for a conventional or shallow conventional septic system is calculated based on the size of the proposed home and the Long-Term Acceptance Rate (LTAR) of the soil. The LTAR range for the provisionally suitable soils on this property is 0.1 – 0.4 GPD/ft^2 based on the most restrictive soil texture in the subsoil. Table 1 below presents estimated conventional or shallow conventional septic system land area requirements for several home sizes and LTAR's on this property. The LTAR suggested by AWT for a majority of the provisionally suitable soil is 0.25 GPD/ft^2, but the final LTAR for specific septic system types and septic drainfield locations will be set by the Chatham County Health Department. The detailed computations are in Attachment 6.

Table 1. Estimated Conventional Septic System Land Requirements (including repair area) for Several Home Sizes and Long-Term Acceptance Rates (LTAR) on this Property.

House Size	Long-Term Acceptance Rate (LTAR)	Area Required for Conventional Septic System	Minimum Area Required for Innovative Conventional Septic System
	-----GPD/ft^2-----	-----ft^2-----	-----ft^2-----
3 bedrooms	0.1 – 0.4	6,750 – 32,400	8,100 – 24,300
3 bedrooms	0.25	~10,800	~7,020
4 bedrooms	0.1 – 0.4	9,000 – 43,200	6,750 – 32,400
4 bedrooms	0.25	~14,400	~10,800
5 bedrooms	0.1 – 0.4	11,250 – 54,000	8,438 – 40,500
5 bedrooms	0.25	~18,000	~13,500

Conclusions

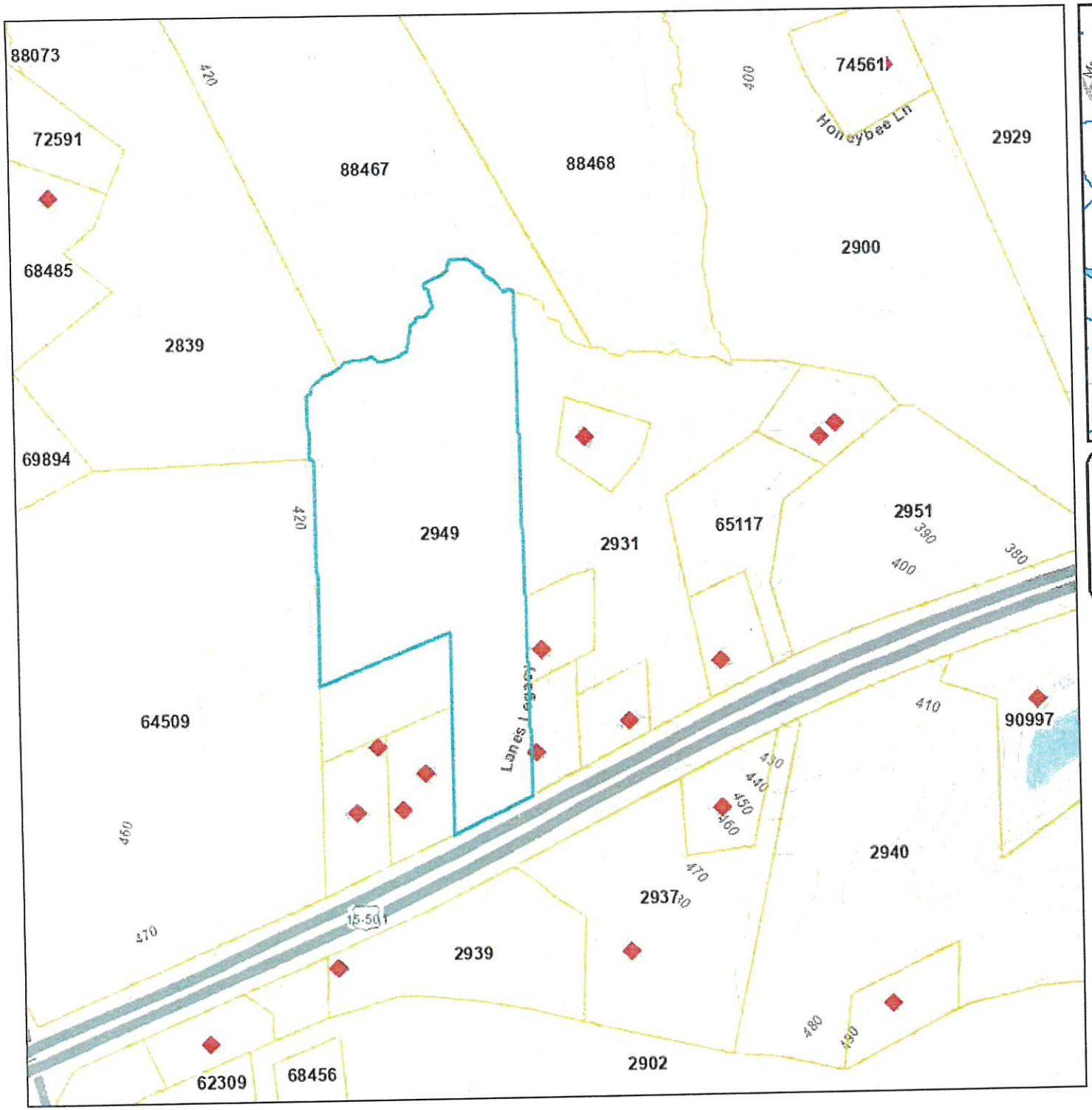
Based on the results of this evaluation, the installation of conventional or shallow conventional septic systems seems very probable on this property in the areas designated on the map in Attachment 3.

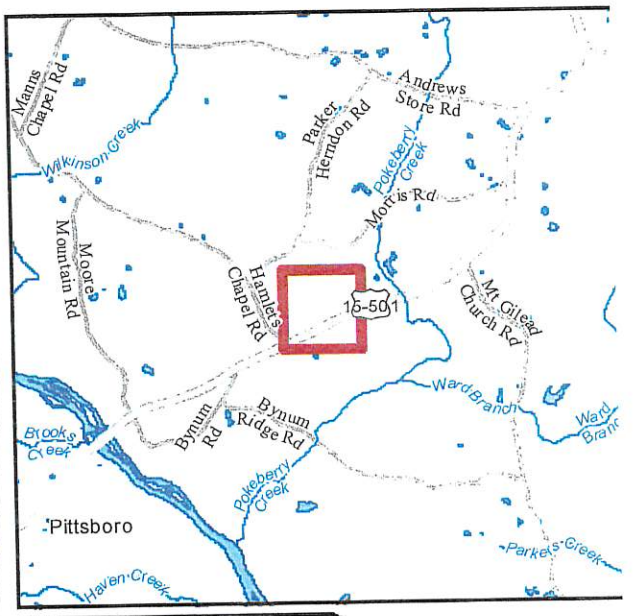
We appreciate the opportunity to assist you in this matter. Please contact us with any questions, concerns, or comments.

prestige

ATTACHMENT 1: Property Reference Map

Property Map





Legend

- Address Points
- Parcels

0 0.075 0.15 mi

N

CHATHAM COUNTY
NORTH CAROLINA

Service Layer Credits:
Chatham County,
Chatham County GIS

Date: 4/23/2021

This Parcel Has Multiple Septic Systems

Use Addresses on Operation Permits to determine location of Each System on Parcel

Ellis, Charles

The District Health Department

Orange, Person, Caswell, Chatham, Lee Counties

SEPTIC TANK PERMIT

Date June 19 1963

Name of owner: Chas. & Ellis 15-501 N

Name of contractor: _____

Address and Directions Beyond Hoons Barbecue on left, V Brick Home

Person or firm doing installation: Joe Smith

Address Moncure

No. of persons to be served _____ Bedrooms 1, 2, (3), 4.

Additional appliances to be used: Disposal, dishwasher, washing machine _____

Recommended: _____ Septic tank 750 gal.

Nitrification line: 240 x 3'

Above recommendation based on information received and observed soil condition. Septic tank and nitrification line **must be inspected and approved by a member of the District Health Department staff** before any portion of the installation is covered.

Date Approved: _____

By: _____

Signed _____
Sanitarian

O. David Garvin, M.D., M.P.H.
District Health Officer

Countersigned _____

(Over)

6183 US 15 501 W	ELLIS, CHARLES
911 ADDRESS	NAME

CHATHAM COUNTY HEALTH DEPARTMENT
SEWAGE DISPOSAL OPERATIONS PERMIT

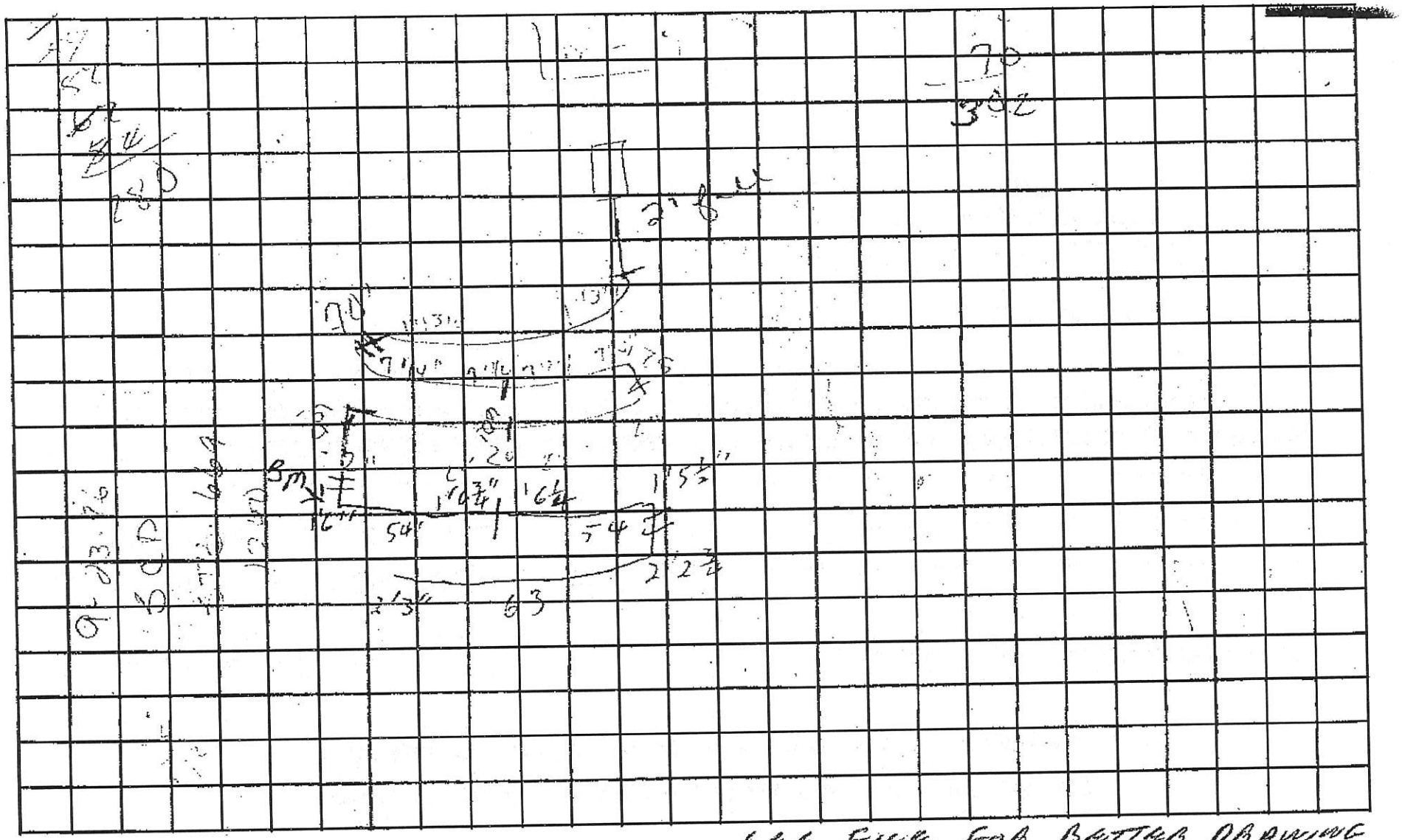
Date 10-18-96 Improvements Permit No. BM4294

Owner CHARLES ELLIS

Conditions

This permit authorizes the owner to operate the sewage disposal system in accordance with the state and local rules. The department does recommmend that septic tanks be pumped out every 3 to 5 years. In the event of a malfunction contact this office.

Environmental Health Specialist


SEE FIGR FOR BETTER DRAWING

CHATHAM COUNTY HEALTH DEPARTMENT
SEWAGE DISPOSAL CONSTRUCTION AUTHORIZATION

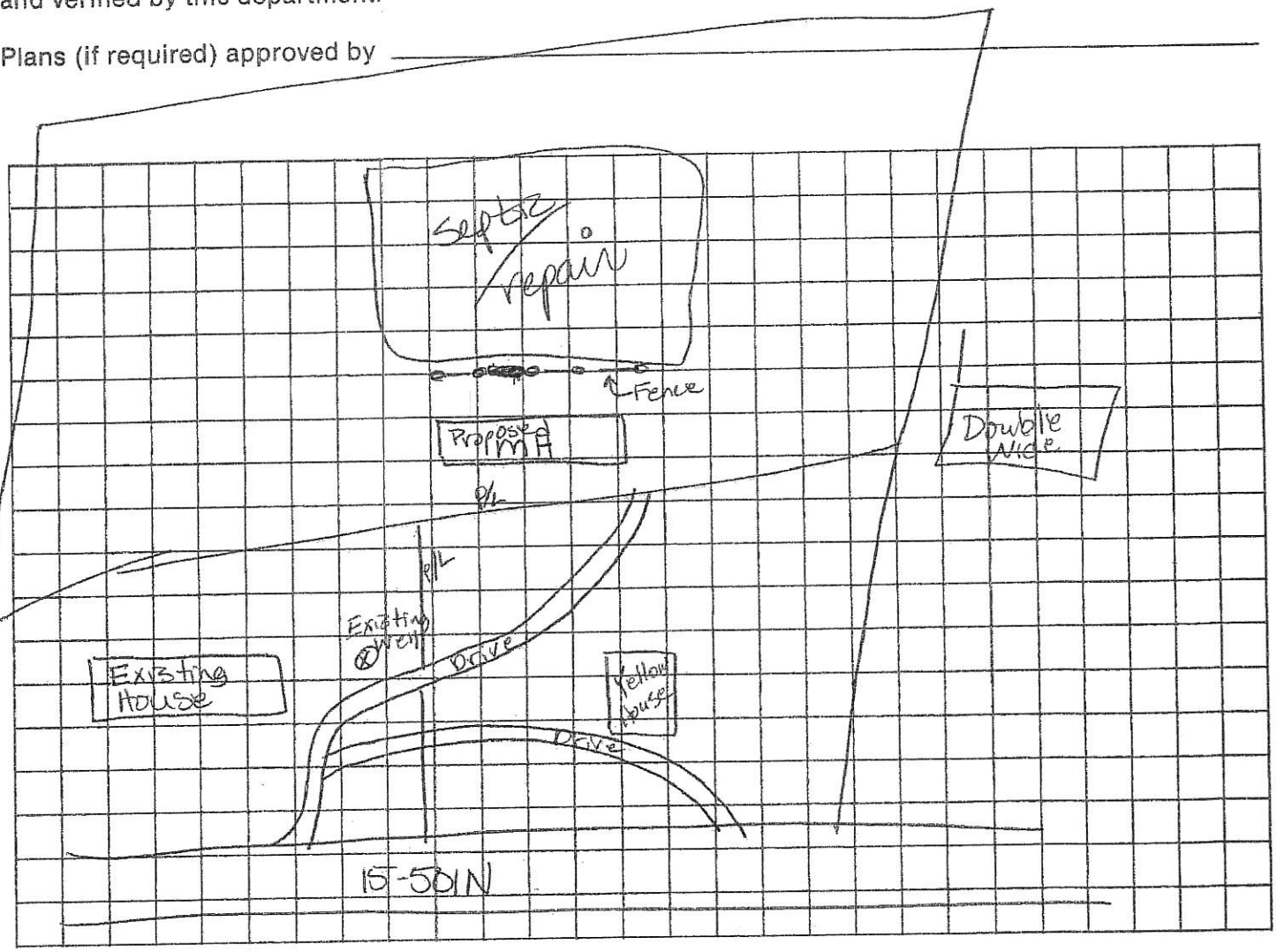
Date 9-10-96 Improvements Permit No. BM424

Owner Charles & Irma Ellis

Location 6183 US 15-501N - North on 15-501 for Approx. six miles property on left 6181

This permit authorizes the property owner to install the sewage disposal system per Improvement Permit within five years of the issue date. The installer must be registered in Chatham County. Before an Operations Permit can be issued, all required inspections and conditions of the permit must be completed and verified by this department.

Plans (if required) approved by



county water

Kathy Mauldin EHSI
Environmental Health Specialist

COMPLETION DATE: _____

911 ADDRESS: 6183 US 15-501N

NAME: Ellis Charles & Irma

Permit No BM 424

CHATHAM COUNTY HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION

P. O. Box 126
Pittsboro, NC 27312

1105 E. Cardinal St.
Siler City, NC 27344

IMPROVEMENT PERMIT FOR WASTEWATER SYSTEMS
ARTICLE II-CHAPTER 130A OF THE NC GENERAL STATUES

An Improvement Permit is issued to Charles & Irma Ellis for a 2.00 acre site located 6183 US 15501N in Chatham County. It is specifically issued for the following facility:

Facility: Residence (✓) Business ( )

No. Bedrooms 3 No. Employees/Residents ____

Type Wastewater: Residential (✓) Commercial ( )

Type System: Shallow Conventional (✓) LPP ( )

Other ____

Design Flow 360 EGPD Application Rate .25 GPD/ft²

Size Tank(s) w/Risers ST 1200 Gal Pt ____ Gal

Nitrification Line (Length/Width/Max Depth) 480' x 3' x 18"

(On contour in surveyed septic area; solid earth dams every 50' for shallow conventional systems)

Type Repair Shallow Conv.

Special Conditions ____

A plat with site plan showing specific location of the facility, the site for the proposed wastewater system, existing buildings, property lines, water supplies, surface waters, the conditions for any site modifications; and any other information required by the department must be attached to be valid.

This permit is valid ~~without expiration~~ For 5 years (Expires 9-10-2001) but is subject to revocation if the site is altered, soil disturbed, set-backs violated, or the plans of intended use are changed.

THIS IS NOT AUTHORIZATION TO INSTALL. An Authorization for Wastewater Construction must be obtained from this department before installation.

Environmental Health Specialist Becky Meeks EHS I

Reg. No. 1386 Date 9-10-96

Name Ellis, Irma & Charles 911 Address 6183 US 15501N

ATTACHMENT 2: Review of Rules Pertaining to Domestic Sewage Treatment and Disposal Systems

Five categories of soil and landscape characteristics are evaluated to determine soil suitability for domestic sewage treatment and disposal systems and include: topography and landscape position, soil morphological characteristics, soil wetness conditions, soil depth, and restrictive horizons. The soil and landscape characteristics found in a particular location dictate the type(s) of domestic sewage treatment and disposal system that can be used on a parcel of land. The detailed rules can be found in Section .1900 – Sewage Treatment and Disposal Systems, but a general review of the five categories and other relevant rules can be found in the sections below.

.1940 TOPOGRAPHY AND LANDSCAPE POSITION

Uniform slopes less than 15 percent are considered suitable, uniform slopes between 15 and 30 percent are considered provisionally suitable, and slopes greater than 30 percent are considered unsuitable for domestic sewage treatment and disposal systems. Complex slope patterns and slopes dissected by gullies and ravines are considered unsuitable for domestic sewage treatment and disposal systems. Depressions and wetlands are also considered unsuitable for domestic sewage treatment and disposal systems.

.1941 SOIL MORPHOLOGICAL CHARACTERISTICS

Sandy and coarse loamy textured soils (sand, loamy sand, sandy loam, and loam) are considered suitable for domestic sewage treatment and disposal systems. Fine loamy and clayey textured soils (silt, silt loam, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay, and clay) are considered provisionally suitable for domestic sewage treatment and disposal systems.

Crumb, granular, and single-grained soil structures are considered suitable for domestic sewage treatment and disposal systems. Blocky soil structures are considered provisionally suitable for domestic sewage treatment and disposal systems. Platy, prismatic, and massive soil structures are considered unsuitable for domestic sewage treatment and disposal systems.

Slightly expansive clay mineralogy is considered suitable for domestic sewage treatment and disposal systems. Slightly expansive clay minerals exhibit loose, very friable, friable, or firm moist soil consistence. Expansive clay mineralogy is considered unsuitable for domestic sewage treatment and disposal systems. Expansive clay minerals exhibit very firm or extremely firm moist soil consistence. Organic soils are considered unsuitable for domestic sewage treatment and disposal systems.

.1942 SOIL WETNESS CONDITIONS

Soil wetness conditions are caused by seasonal high water table, perched water table, tidal water, seasonally saturated soils, or lateral water movement. Soil wetness conditions are indicated by soil colors, either in mottles or mass, with a chroma of 2 or less according to the Munsell color charts. Soil wetness conditions detected 48 inches in depth or deeper are considered suitable for domestic sewage treatment and disposal systems. Soil wetness conditions detected between 36 to 48 inches in depth are considered provisionally suitable for domestic sewage treatment and disposal systems. Soil wetness conditions detected 36 inches in depth or shallower are considered unsuitable for domestic sewage treatment and disposal systems.

.1943 SOIL DEPTH
Soil depths to rock, parent material, or saprolite greater than 48 inches are considered suitable for domestic sewage treatment and disposal systems. Soil depths to rock, parent material, or saprolite between 36 and 48 inches are considered provisionally suitable for domestic sewage treatment and disposal systems. Soil depths to rock, parent material, or saprolite less than 36 inches are considered unsuitable for domestic sewage treatment and disposal systems. Saprolite has a massive, rock-controlled structure, and retains the mineral arrangement of its parent rock in at least 50 percent of its volume. Saprolite only forms from metamorphic and igneous rock parent materials and is typically referred to as "rotten rock".

.1944 RESTRICTIVE HORIZONS
Restrictive horizons are capable of perching ground water or sewage effluent and are strongly compacted or cemented. Restrictive horizons resist soil excavation or augering. Soils with restrictive horizons three inches or more in thickness at depths greater than 48 inches are considered suitable for domestic sewage treatment and disposal systems. Soils with restrictive horizons three inches or more in thickness at depths between 36 and 48 inches are considered provisionally suitable for domestic sewage treatment and disposal systems. Soils with restrictive horizons three inches or more in thickness at depths less than 36 inches are considered unsuitable for domestic sewage treatment and disposal systems.

.1950 LOCATION OF SANITARY SEWAGE SYSTEMS
WAKE COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES NOTICE
No area for domestic sewage treatment and disposal system installation (or repair in Wake County) may be disturbed by clearing, excavation, filling, vehicle or equipment traffic, or storage of building materials.

.1947 DETERMINATION OF OVERALL SITE SUITABILITY
.1948 SITE CLASSIFICATION
All of the criteria for the five categories above are to be determined and classified as suitable, provisionally suitable, or suitable according to the respective rules described above. If all criteria are classified the same, that overall site classification will prevail. If there is a variation in the classification of several criteria, the most limiting classification will be used to determine the overall site classification.

A suitable classification generally indicates soil and landscape conditions favorable for the operation of a domestic sewage treatment and disposal system or slight limitations that can be readily overcome by proper design and installation. A provisionally suitable classification indicates soil and/or landscape conditions have moderate limitations for the operation of a domestic sewage treatment and disposal system, but modifications and careful planning, design, and installation can result in satisfactory system function. An unsuitable classification indicates severe soil and/or landscape limitations for the operation of a domestic sewage treatment and disposal system.

SUMMARY
Suitable/provisionally suitable landscapes and soils to a depth of 36 inches can, in general, be used for conventional gravity driven septic systems. Suitable/provisionally suitable landscapes

and soils to a depth of 24 –36 inches can, in general, be used for alternative septic systems such as shallow conventional and low pressure pipe systems, among others. All alternative systems for provisionally suitable landscapes and soils must be proposed to and approved by the Chatham County Health Department. Any landscapes or soils classified as unsuitable may be reclassified as provisionally suitable by the Chatham County Health Department after a site investigation by department personnel.

ATTACHMENT 3: Property Map Detailing Soil Suitability for Septic Systems and Soil Types


AWT
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Preliminary
Soil Evaluation
Prestige Construction &
Land Development
Chatham Co., NC
PIN: 9764-42-3252.000
N
Suitable Area:
Area 1 ~ 36,142 sq.ft.
Area 2 ~ 373,601 sq.ft.
Soil Type:
WeC-Wedowee sandy loam
PsB-Pittsboro-Iredell complex
VaB-Vance sandy loam
Drawn By: Julie Davidson
Reviewed By: Jeff Vaughan
Date: 5/14/2021
Parcel
Parcel Buffer 10'
Septic Pipe
Surface Water
Surface Water Buffer 50'
Soil Type
Soil Boring Depth (in.)
<12"
=12"
13-17"
18-23"
24-29"
30-35"
Evaluation
Area 1
Area 2
Powerline Easement
Unsuitable Topo
WeC
VaB
PsB
HeB
US Hwy 15 501 N
0 100 200 400
Feet

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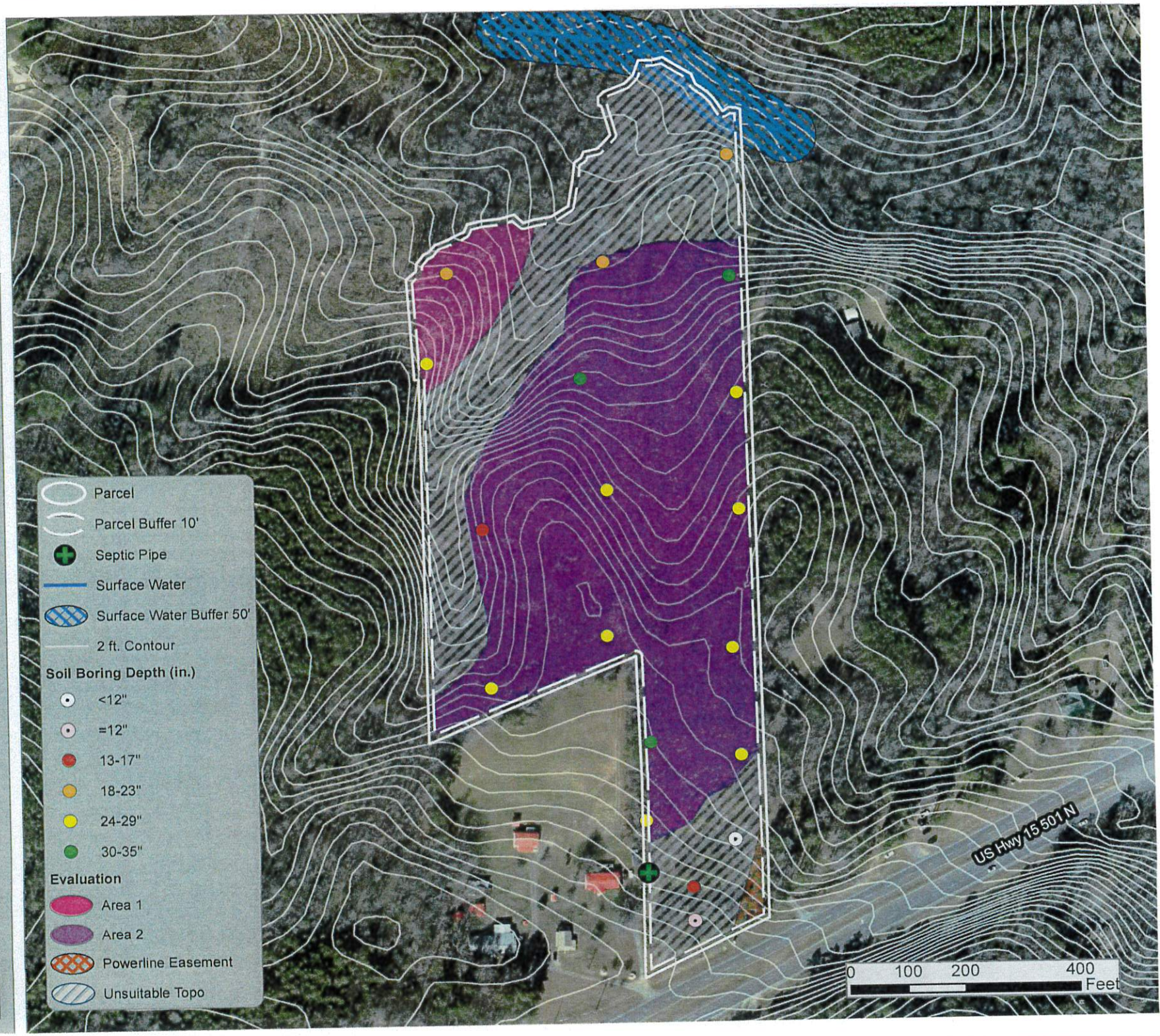

ATTACHMENT 4: Typical Profile Descriptions of Provisionally Suitable Soil

Property ID#: 0002949
Property Recorded: .
County: Chatham .

SOIL/SITE EVALUATION
FOR
ON-SITE WASTEWATER SYSTEM

Applicant: Mr. Gilberto Lopez
Address: Prestige Construction & Land Development
1804 Steadfast Lane
Hillsborough, NC 27278
Location Site: 6181 US 15-501 N, Pittsboro, NC
Water Supply: On Site Well X Comm. Well___ Public___ Other___

Buyer: X Agent:___ Phone: (919)427-5396
Date Evaluated: 5/10/21
Proposed Facility: Residential
Property Size: Approximately 14.6 acres
Evaluation Method: Auger Boring X Pit___Cut___

TYPICAL PROFILE

Horizon/ Depth (IN)	Matrix	Mottles	Mottle Abundance / Contrast	(a)(1) Tex-ture	(a)(2) Structure	(a)(3) Minerology	Consistence Wet	Consistence Moist
A 0-7"	**10YR 5/4**	**None**	**None**	**SL**	**GR**	**NEXP**	**NS, NP**	**Vfr**
Bt1 7-20"	**5YR 5/8**	**None**	**None**	**C**	**SBK**	**SEXP**	**SS, SP**	**Fr-Fi**
Bt2 20-28"	**5YR 5/8**	**None**	**None**	**CL-C**	**wSBK**	**SEXP**	**SS, SP**	**Fr**
BC 28"+	**5YR 5/8**	**10YR 8/1; 10YR 7/8; 10R 4/8**	**2, m, D**	**CL**	**wSBK-SG**	**SEXP**	**SS, SP**	**Fr**

.1940 Landscape Pos/Slope %	- Suitable, <15%	Profile LTAR	- 0.4 – 0.1 GPD/ft^2
.1942 Wetness Condition	- Suitable	System Type	- Provisionally suitable for shallow conventional systems due to texture, structure, and depth.
.1943/.1956 Saprolite	- Suitable		
.1944 Restrictive Horizon	- Suitable		
.1948 Profile Classification	- Provisionally suitable		

Comments: Some indications of saprolite beginning around 22", but not dominant.

TYPICAL PROFILE

Horizon/ Depth (IN)	Matrix	Mottles	Mottle Abundance /Contrast	(a)(1) Tex-ture	(a)(2) Structure	(a)(3) Minerology	Consistence Wet	Consistence Moist
A 0-5"	**10YR 5/4**	**None**	**None**	**SL**	**GR**	**NEXP**	**NS, NP**	**Vfr**
Bt1 5-17"	**5YR 5/8**	**None**	**None**	**C**	**SBK**	**SEXP**	**SS, SP**	**Fr-Fi**
Bt2 17-24"	**5YR 5/8**	**None**	**None**	**CL-C**	**wSBK**	**SEXP**	**SS, SP**	**Fr**
BC 24"+	**5YR 5/8**	**10YR 8/1; 10YR 7/8; 10R 4/8**	**2, m, D**	**CL**	**wSBK-SG**	**SEXP**	**SS, SP**	**Fr**

.1940 Landscape Pos/Slope %	- Suitable, <15%	Profile LTAR	- 0.4 – 0.1 GPD/ft^2
.1942 Wetness Condition	- Suitable	System Type	- Provisionally suitable for shallow conventional systems due to texture, structure, and depth.
.1943/.1956 Saprolite	- Suitable		
.1944 Restrictive Horizon	- Suitable		
.1948 Profile Classification	- Provisionally suitable		

Comments:

EVALUATED BY: Jeff Vaughan and Heath Clapp

COMMENTS:

LEGEND OF ABBREVIATIONS FOR SITE EVALUATION FORM

LANDSCAPE POSITION

CC - Concave Slope
CV - Convex Slope
DS - Debris Slump
D - Depression
DW - Drainage Way
FP - Flood Plain
FS - Foot Slope
H - Head Slope
I - Interflueve
L - Linear Slope
N - Nose Slope
P - Pocosin
R - Ridge
S - Shoulder
T - Terrace

TEXTURE GROUP	TEXTURE CLASS	.1955 LTAR (gal/day/sqft)
I	S - Sand LS - Loamy Sand	1.2 - .08
II	SL - Sandy Loam L - Loam	0.8 - 0.6
III	SCL - Sandy Clay Loam CL - Clay Loam SiL - Silt Loam Si - Silt SiCL - Silt Clay Loam	0.6 - 0.3
IV	SC - Sandy Clay C - Clay SiC - Silty Clay O - Organic	0.4 - 0.1

STRUCTURE

G - Single Grain
M - Massive
CR - Crumb
GR - Granular
SBK - Subgranular Blocky
ABK - Angular Blocky
PL - Platy
PR - Prismatic

MOIST CONSISTENCE

Vfr - Very Friable
Fr - Friable
Fi - Firm
Vfi - Very Firm
Efi - Extremely Firm

MOTTLES

1 - Few
2 - Common
3 - Many

F - Faint
D - Distinct
P - Prominent

f - Fine
m - Medium
c - Coarse

WET CONSISTENCE

NS - Non Sticky
SS - Slightly Sticky
S - Sticky
VS - Very Sticky

NP - Non Plastic
SP - Slightly Plastic
P - Plastic
VP - Very Plastic

ATTACHMENT 5: Soil Survey Information

Sewage Disposal—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
PcA:				
Peawick	Very limited		Somewhat limited	
	Slow water movement	1.00	Depth to saturated zone	0.44
	Depth to saturated zone	1.00	Flooding	0.40
	Flooding	0.40		
PeA:				
Peawick	Very limited		Somewhat limited	
	Slow water movement	1.00	Depth to saturated zone	0.44
	Depth to saturated zone	1.00		
PeB:				
Peawick	Very limited		Somewhat limited	
	Slow water movement	1.00	Slope	0.68
	Depth to saturated zone	1.00	Depth to saturated zone	0.44
PsB:				
Pittsboro, stony	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Depth to hard bedrock	0.92
Iredell, stony	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	0.99
	Depth to saturated zone	1.00	Slope	0.68
			Seepage	0.32
Qr:				
Pits, quarry	Not rated		Not rated	
RvA:				
Riverview	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.99	Depth to saturated zone	0.71
	Slow water movement	0.50	Seepage	0.50
StB:				
State	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.50	Slope	0.32
	Depth to saturated zone	0.40		

Sewage Disposal—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
TuA:				
Turbeville	Somewhat limited		Somewhat limited	
	Slow water movement	0.50	Seepage	0.50
UdC:				
Udorthents, loamy	Somewhat limited		Very limited	
	Slow water movement	0.82	Slope	1.00
	Slope	0.01	Seepage	0.18
VaB:				
Vance	Very limited		Very limited	
	Slow water movement	1.00	Seepage	1.00
	Seepage, bottom layer	1.00	Slope	0.32
WdC:				
Wedowee, bouldery	Somewhat limited		Somewhat limited	
	Slow water movement	0.50	Slope	0.92
			Seepage	0.50
WdE:				
Wedowee, bouldery	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	0.50	Seepage	0.50
WeB:				
Wedowee	Somewhat limited		Somewhat limited	
	Slow water movement	0.50	Seepage	0.50
			Slope	0.32
WeC:				
Wedowee	Somewhat limited		Very limited	
	Slow water movement	0.50	Slope	1.00
	Slope	0.01	Seepage	0.50
WeD:				
Wedowee	Somewhat limited		Very limited	
	Slope	0.84	Slope	1.00
	Slow water movement	0.50	Seepage	0.50
WeE:				
Wedowee	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	0.50	Seepage	0.50
WhB:				
White Store	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to soft bedrock	0.96
	Depth to bedrock	0.99	Seepage	0.50

ATTACHMENT 6: Septic System Area Computation Spreadsheets

Conventional Septic System Area Computation

Created by: JV
Created on: 6/20/2001
Updated on: 5/12/2021

Client Name:	*Prestige Construction*	
Number Bedrooms:	*3*	
Design Flow (gal/day):	360	(120 gal/day/bedroom, minimum 240 gal/day/dwelling)
LTAR (gal/day/ft^2)	*0.1*	
Trench Bottom Area (ft^2):	3600	(Design flow/LTAR)
Trench Width (ft):	3	
On-center distance between trenches (ft):	9	
Trench Bottom Length (ft):	1200	
Minimum Field Area Required (ft^2):	10800	(Trench Bottom Length*Trench on-center distance)
Minimum Field Area Required (Innovative) (ft^2):	8100	(25% reduction from above)
Total Field Area Required (ft^2)$^{(1)}$:	27000	(Minimum field area*2.5)
Total Field Area Required (Innovative) (ft^2)$^{(1)}$:	20250	(25% reduction from above)
Total Field Area Required (ft^2)$^{(1)}$:	32400	(Minimum field area*3)
Total Field Area Required (Innovative) (ft^2)$^{(1)}$:	24300	(25% reduction from above)

(1) Provides for reserve area and soil irregularity, 2.5 to 3 is multiplier.

Client Name:	*Prestige Construction*	
Number Bedrooms:	*3*	
Design Flow (gal/day):	360	(120 gal/day/bedroom, minimum 240 gal/day/dwelling)
LTAR (gal/day/ft^2)	*0.4*	
Trench Bottom Area (ft^2):	900	(Design flow/LTAR)
Trench Width (ft):	3	
On-center distance between trenches (ft):	9	
Trench Bottom Length (ft):	300	
Minimum Field Area Required (ft^2):	2700	(Trench Bottom Length*Trench on-center distance)
Minimum Field Area Required (Innovative) (ft^2):	2025	(25% reduction from above)
Total Field Area Required (ft^2)$^{(1)}$:	6750	(Minimum field area*2.5)
Total Field Area Required (Innovative) (ft^2)$^{(1)}$:	5062.5	(25% reduction from above)
Total Field Area Required (ft^2)$^{(1)}$:	8100	(Minimum field area*3)
Total Field Area Required (Innovative) (ft^2)$^{(1)}$:	6075	(25% reduction from above)

(1) Provides for reserve area and soil irregularity, 2.5 to 3 is multiplier.

Client Name:	*Prestige Construction*	
Number Bedrooms:	*3*	
Design Flow (gal/day):	360	(120 gal/day/bedroom, minimum 240 gal/day/dwelling)
LTAR (gal/day/ft^2)	*0.25*	
Trench Bottom Area (ft^2):	1440	(Design flow/LTAR)
Trench Width (ft):	3	
On-center distance between trenches (ft):	9	
Trench Bottom Length (ft):	480	
Minimum Field Area Required (ft^2):	4320	(Trench Bottom Length*Trench on-center distance)
Minimum Field Area Required (Innovative) (ft^2):	3240	(25% reduction from above)
Total Field Area Required (ft^2)$^{(1)}$:	10800	(Minimum field area*2.5)
Total Field Area Required (Innovative) (ft^2)$^{(1)}$:	8100	(25% reduction from above)
Total Field Area Required (ft^2)$^{(1)}$:	12960	(Minimum field area*3)
Total Field Area Required (Innovative) (ft^2)$^{(1)}$:	9720	(25% reduction from above)

(1) Provides for reserve area and soil irregularity, 2.5 to 3 is multiplier.

Conventional Septic System Area Computation

Created by: JV
Created on: 6/20/2001
Updated on: 5/12/2021

Client Name:	*Prestige Construction*	
Number Bedrooms:	*4*	
Design Flow (gal/day):	480	(120 gal/day/bedroom, minimum 240 gal/day/dwelling)
LTAR (gal/day/ft^2)	*0.1*	
Trench Bottom Area (ft^2):	4800	(Design flow/LTAR)
Trench Width (ft):	3	
On-center distance between trenches (ft):	9	
Trench Bottom Length (ft):	1600	
Minimum Field Area Required (ft^2):	14400	(Trench Bottom Length*Trench on-center distance)
Minimum Field Area Required (Innovative) (ft^2):	10800	(25% reduction from above)
Total Field Area Required (ft^2)(1):	36000	(Minimum field area*2.5)
Total Field Area Required (Innovative) (ft^2)(1):	27000	(25% reduction from above)
Total Field Area Required (ft^2)(1):	43200	(Minimum field area*3)
Total Field Area Required (Innovative) (ft^2)(1):	32400	(25% reduction from above)

(1) Provides for reserve area and soil irregularity, 2.5 to 3 is multiplier.

Client Name:	*Prestige Construction*	
Number Bedrooms:	*4*	
Design Flow (gal/day):	480	(120 gal/day/bedroom, minimum 240 gal/day/dwelling)
LTAR (gal/day/ft^2)	*0.4*	
Trench Bottom Area (ft^2):	1200	(Design flow/LTAR)
Trench Width (ft):	3	
On-center distance between trenches (ft):	9	
Trench Bottom Length (ft):	400	
Minimum Field Area Required (ft^2):	3600	(Trench Bottom Length*Trench on-center distance)
Minimum Field Area Required (Innovative) (ft^2):	2700	(25% reduction from above)
Total Field Area Required (ft^2)(1):	9000	(Minimum field area*2.5)
Total Field Area Required (Innovative) (ft^2)(1):	6750	(25% reduction from above)
Total Field Area Required (ft^2)(1):	10800	(Minimum field area*3)
Total Field Area Required (Innovative) (ft^2)(1):	8100	(25% reduction from above)

(1) Provides for reserve area and soil irregularity, 2.5 to 3 is multiplier.

Client Name:	*Prestige Construction*	
Number Bedrooms:	*4*	
Design Flow (gal/day):	480	(120 gal/day/bedroom, minimum 240 gal/day/dwelling)
LTAR (gal/day/ft^2)	*0.25*	
Trench Bottom Area (ft^2):	1920	(Design flow/LTAR)
Trench Width (ft):	3	
On-center distance between trenches (ft):	9	
Trench Bottom Length (ft):	640	
Minimum Field Area Required (ft^2):	5760	(Trench Bottom Length*Trench on-center distance)
Minimum Field Area Required (Innovative) (ft^2):	4320	(25% reduction from above)
Total Field Area Required (ft^2)(1):	14400	(Minimum field area*2.5)
Total Field Area Required (Innovative) (ft^2)(1):	10800	(25% reduction from above)
Total Field Area Required (ft^2)(1):	17280	(Minimum field area*3)
Total Field Area Required (Innovative) (ft^2)(1):	12960	(25% reduction from above)

(1) Provides for reserve area and soil irregularity, 2.5 to 3 is multiplier.

Conventional Septic System Area Computation

Created by: JV
Created on: 6/20/2001
Updated on: 5/12/2021

Client Name:	*Prestige Construction*	
Number Bedrooms:	*5*	
Design Flow (gal/day):	600	(120 gal/day/bedroom, minimum 240 gal/day/dwelling)
LTAR (gal/day/ft^2)	*0.1*	
Trench Bottom Area (ft^2):	6000	(Design flow/LTAR)
Trench Width (ft):	3	
On-center distance between trenches (ft):	9	
Trench Bottom Length (ft):	2000	
Minimum Field Area Required (ft^2):	18000	(Trench Bottom Length*Trench on-center distance)
Minimum Field Area Required (Innovative) (ft^2):	13500	(25% reduction from above)
Total Field Area Required (ft^2)$^{(1)}$:	45000	(Minimum field area*2.5)
Total Field Area Required (Innovative) (ft^2)$^{(1)}$:	33750	(25% reduction from above)
Total Field Area Required (ft^2)$^{(1)}$:	54000	(Minimum field area*3)
Total Field Area Required (Innovative) (ft^2)$^{(1)}$:	40500	(25% reduction from above)

(1) Provides for reserve area and soil irregularity, 2.5 to 3 is multiplier.

Client Name:	*Prestige Construction*	
Number Bedrooms:	*5*	
Design Flow (gal/day):	600	(120 gal/day/bedroom, minimum 240 gal/day/dwelling)
LTAR (gal/day/ft^2)	*0.4*	
Trench Bottom Area (ft^2):	1500	(Design flow/LTAR)
Trench Width (ft):	3	
On-center distance between trenches (ft):	9	
Trench Bottom Length (ft):	500	
Minimum Field Area Required (ft^2):	4500	(Trench Bottom Length*Trench on-center distance)
Minimum Field Area Required (Innovative) (ft^2):	3375	(25% reduction from above)
Total Field Area Required (ft^2)$^{(1)}$:	11250	(Minimum field area*2.5)
Total Field Area Required (Innovative) (ft^2)$^{(1)}$:	8437.5	(25% reduction from above)
Total Field Area Required (ft^2)$^{(1)}$:	13500	(Minimum field area*3)
Total Field Area Required (Innovative) (ft^2)$^{(1)}$:	10125	(25% reduction from above)

(1) Provides for reserve area and soil irregularity, 2.5 to 3 is multiplier.

Client Name:	*Prestige Construction*	
Number Bedrooms:	*5*	
Design Flow (gal/day):	600	(120 gal/day/bedroom, minimum 240 gal/day/dwelling)
LTAR (gal/day/ft^2)	*0.25*	
Trench Bottom Area (ft^2):	2400	(Design flow/LTAR)
Trench Width (ft):	3	
On-center distance between trenches (ft):	9	
Trench Bottom Length (ft):	800	
Minimum Field Area Required (ft^2):	7200	(Trench Bottom Length*Trench on-center distance)
Minimum Field Area Required (Innovative) (ft^2):	5400	(25% reduction from above)
Total Field Area Required (ft^2)$^{(1)}$:	18000	(Minimum field area*2.5)
Total Field Area Required (Innovative) (ft^2)$^{(1)}$:	13500	(25% reduction from above)
Total Field Area Required (ft^2)$^{(1)}$:	21600	(Minimum field area*3)
Total Field Area Required (Innovative) (ft^2)$^{(1)}$:	16200	(25% reduction from above)

(1) Provides for reserve area and soil irregularity, 2.5 to 3 is multiplier.