(4.00)

ICHD - ENVIRONMENTAL HEALTH DIVISION

Statesville Office (704) 878-5305 Mooresville Office (704) 660-3625 PERMIT # AP 324205

SEPTIC: IMPROVEMENT PERMIT / AUTHORIZATION TO CONSTRUCT / OPERATION PERMIT / EXISTING SYSTEM

PIN # 4730 -- 78 -- 8373

APPLICANT/OWNER: Joe W. Fulk APPLICANT ADDRESS: 192 Spicewood Circle, Troutman NC 28166

SITE ADDRESS: 161 Spicewood Circle Troutman, NC 28166 PHONE: 336-414-2126 ALT. PHONE

SITE DIRECTIONS: I-77 South to Wagner St to Perth O to Spicewood Site on Left SAP CONTROLLED: ☐ YES ☒ NO

SUBDIVISION: The Fulk Property SECTION: - LOT # 2 LOT AREA: 1.369 Ac DESIGN FLOW: 360 L.T.A.R.: .30

Septic Tank	1000 (gal)	STB	1260	Date	8-22	☑ New System ☐ Repair ☐ Expansion	System Type: I (II) III IV V VI	☑ Residence	No. Bedrooms 3
Pump Tank	(gal)	PT		Date		System Description:	Conventional Gravel	☐ Business	No. Persons 6
Pump Make	-	Model		Serial #		Repair System Description:	Conventional Gravel	☐ Other	No. Employees
# Nitrification Fields	1	# Lines	4	Linear Ft	400	Maintenance Agreement Required:	☐ YES ☑ NO	☐ Slab	☐ Crawl Space
Trench Width	36 in	Trench Bottom Depth (Low side)	34 in max	Gravel Depth	12 in	☑ GRAVITY ☐ PRESSURE		☐ Basement w/ plumbing	☐ Basement w/o plumbing

Water Supply: ☐ Private ☑ Public ☐ Community

Comments / Conditions: Installed 3-100ft lines · 25% Reduction Installed.

INITIAL SITE SKETCH

This permit is issued pursuant to Section 11 . (C) of S.L. 2018-114 using the signed and sealed LSS Evaluation by:

Alan Clapp LSS

LSS # 1058 Dated Jan 11, 2022

AS BUILT SKETCH

FOR SEPTIC FINAL INSPECTION CALL: 704-664-3703 between 8am-9am the day the inspection is needed. Be sure to speak with an inspector to confirm your time.

First 3 lines Installed as shown on attached site plan.

Permit can be suspended or revoked if any false information is supplied toward securing the permit / any unauthorized changes are made to the site / any unauthorized changes are made in the installation of the system. **CONTACT A LOCATOR SERVICE PRIOR TO ANY EXCAVATION**

☐ **IMPROVEMENT PERMIT** *with plat valid without expiration.* ☑ **IMPROVEMENT PERMIT** *with site plan valid for 60 mos.* ☑ **AUTHORIZATION TO CONSTRUCT** *valid for period equal to IMPROVEMENT PERMIT--not to exceed 60 mo.*

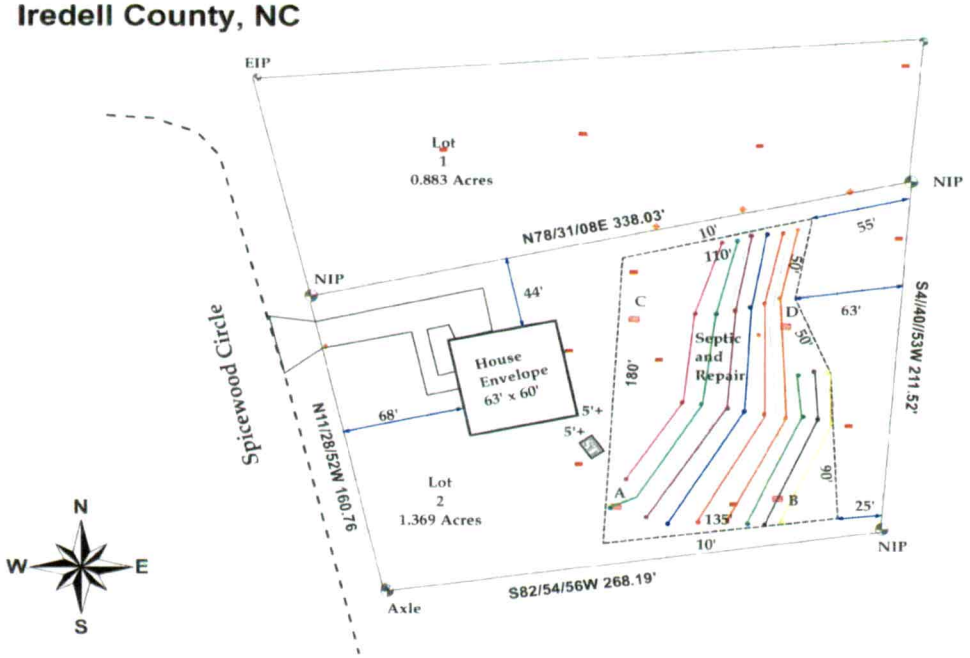
Owner / Applicant Signature: Sarah Fulk Date: 1/20/2022 Installed by: Bryan Boyd

IMPROVEMENT PERMIT by: Benjamin A Boyd Date: 1/18/2022 OPERATION PERMIT by: Benjamin A Boyd Date: 10-11-2022

AUTHORIZATION TO CONSTRUCT by: Benjamin A Boyd Date: 1/18/22 Existing System Inspected by: Date:

FOR SEPTIC FINAL INSPECTION: CALL 704-664-3703 between 8am-9am the day the inspection is needed.

Soil Map for:
Joe Fulk
Spicewood Circle
Iredell County, NC



- pink
- yellow
- white
- green
- orange
- red
- blue
- purple
- lime
- ps soil bore
- 24"+ soil boring
- 30"+ soil boring
- eip
- property line
- Contour_Iredell



Scale = 1 : 50.00 (In : US Feet)

50 0 50 US Feet

01-11-2022

Alan Clapp
Licensed Soil Scientist
389 Clapp Farms Road
Greensboro, NC 27405

Phone: 336-202-6808 alanclapp@aol.com
Soil/Site Evaluations-Septic Systems Layout and Design-Storm Water Assessment-Preliminary Evaluations

January 11, 2022

Joe Fulk, PE
JWFulk@gmail.com
336-414-2126

RE: Joe Fulk Property
PIN: 4730-78-8366 Lot 2
161 Spicewood Circle – 1.369 Acres
Iredell County, NC

Mr. Fulk:

On January 11, 2022, the property referenced above in Iredell County was evaluated to facilitate Improvement Permit/Construction Authorization permitting for a septic system. This report and attached documents were prepared to meet the requirements for a Licensed Soil Scientist evaluation to meet **SL 2018-114 11(c).** City of Troutman water is proposed to serve the dwelling.

Soil borings were made and examined to determine soil suitability for on-site sewage disposal systems in accordance with 15A 18A .1900 Rules for Sewage Treatment and Disposal Systems. These borings were made using a hand auger. The property was traversed and numerous borings were made in a transect-type sampling pattern to perform the soil/site evaluation. A septic layout is shown to demonstrate available space (.1945). The soil profile descriptions and locations along with the septic layout drawing will be located on a copy of the site plan. Under state regulations, sites for subsurface sewage disposal systems (septic tank systems) are evaluated for landscape position and topography, soil characteristics (structure, mineralogy and texture), soil depth, soil wetness, restrictive horizons, and available space. This property is in the Piedmont region of NC and the geologic area of the Charlotte terrane.

Typical Septic System used in Piedmont of NC:

The most common septic systems used in North Carolina are listed with the corresponding minimum usable soil depth required and any trench length reduction if allowed noted in parentheses: conventional (30"), shallow conventional systems (24" with soil cap), chamber systems (24" with soil cap and 25% drain field reduction), polystyrene systems (24" with soil cap and 25% drain field reduction), vertical panel block systems (requires at least 34" of usable soil and allows 50% drain field reduction), horizontal panel block systems (requires 26" of usable soil depth and allows 50% drain

field reduction), large diameter pipe (24"), low pressure pipe (24"), low profile chamber (20"), low pressure fill (18") and drip irrigation (18"). A pump can be used to deliver effluent to the usable soil area if gravity flow cannot be achieved. Also, a pump is required on any system with over 750' of drain field. The percent reduction means the amount of drain field trench length reduction for that product as compared to conventional trenches. Certain models of chamber systems and polystyrene bundle systems are considered accepted trench products. Accepted trench products may be substituted in lieu of conventional gravel trenches.

Septic System Setbacks - *15A NCAC 18A .1950 Location of Sanitary Sewage Systems:*

The following setbacks must be taken into consideration in identifying a septic system area for flows less than 3000 gallons per day.

Private Water Supply Source: wells or springs:	100'
Private Water Supply Source with site-planning considerations:	50'
Public Water Supply Source:	100'
WS-1 Streams:	100'
SA Coastal waters:	100'
Other coastal waters:	50'
Other streams, canals, marshes or surface waters:	50'
Class I and II reservoirs:	100'
Permanent Storm Water retention ponds:	50'
Building foundation:	5'
Basement:	15'
Property line:	10'
Embankments or vertical cuts > 2' deep:	15'
Any water line:	10'
Drains:	
Interceptor, Foundation, and storm	
Upslope:	10'
Side slope:	15'
Down slope:	25'
Groundwater lowering ditches:	25'
Swimming pool (in ground):	15'
Any other nitrification field:	20'

NC SL 2018 114 Section 11 c Application Statement Page

Section 11.(c): LSS Evaluation
Amends language in GS 130A-335 by adding subsection (a2) that allows persons licensed under Chapter 89F of the General Statutes (licensed soil scientists or "LSS") to submit documentation of their evaluation of soil conditions and site features to produce design and construction features for a new wastewater system or for repair of an existing system. The language states that the LSS Evaluation *"shall be approved...for permitting under GS 130A-336 or GS 130A 336.1"* provided that:

1. The LSS Evaluation *"...satisfies all requirements of this Article..."* The LSS Evaluation must provide sufficient information to produce design and construction features for IP/CA issuance in accordance with Article 11 of Chapter 130A, and;
2. The LSS *"...maintain insurance... in an amount commensurate with the risk."* There is no requirement for the LSS or LG to furnish paperwork and thus the LHD is *not* responsible for confirming the existence of an insurance policy or vetting the amount of coverage. The onus is on the licensed professionals to comply.

An LSS Evaluation may be submitted in conjunction with a complete application to the LHD. The application shall include all information described in 15A NCAC 18A .1937(d) and be accompanied by a signed and dated statement from the applicant (owner or owner's legal representative) that reads as follows:

> ***"The LSS Evaluation attached to this application is to be used to produce design and construction features for permitting in accordance with SL 2018-114 Section 11.(c).".***

The LSS Evaluation shall include a statement bearing the LSS seal and signature that reads as follows:

> *"The LSS Evaluation is being submitted pursuant to and meets the requirements of SL 2018-114 Section 11.(c)."*

Applicant: Joe W. Fulk

Owner/Owner's legal Representative: Joe W. Fulk

Date: 01/12/2022

SL 2018-114 11(c) Conditions and Site Features:

The information below is provided to facilitate the IP/CA issuance. The water supply is proposed to be well water. One additional feature I would recommend is to **construct protective fencing around the soil area and septic layout**. No grading, filling, storage, compaction or disturbance should be allowed over the soil/septic area. No soil removal during clearing.

161 Spicewood Circle

PIN: 4730-78-8366 Lot 2

Soil Series: Cecil (Fine, kaolinitic, thermic Typic Kanhapludults)

Bedrooms: 3, single family dwelling

Design Flow: 3-bedroom x 120 gpd/bedroom = 360 gpd, domestic strength wastewater

Tankage: (.1952 (b)(1):

For a 3-bedroom dwelling, minimum septic tank size is 900-gallon septic tank (STB) capacity with effluent filter. Use a 1000-gallon septic tank.

Soil/Site Conditions:

Initial LTAR: .3 gpd/ft²
Trench Bottom Square Footage Required: 360 gpd/.3 gpd/ft² = 1200 ft²
Drainfield Requirement: 1200 ft²/ 3 ft trench = 400 ft.
System Requirement:

Conventional:	400'
Accepted Trench (Chamber or EZ Flow):	300'
PPBPS (T & J panel block):	200'

Usable Soil Depth - Initial: 46" (Based on borings A, B, C, and D in the usable soil area and slope corrected)
Initial System Type: Conventional trench (IIa) or Accepted trench (IIIg)
Initial Trench Required: 400' x 3' or 300' Accepted Trench
Minimum Trench Depth: 18"
Maximum Trench Depth: 34"

Repair LTAR: .3 gpd/ft²
Trench Bottom Square Footage Required: 360 gpd/.3 gpd/ft² = 1200 ft²
Drainfield Requirement: 1200 ft²/ 3 ft trench = 400 ft.
System Requirement:

Conventional:	400'
Accepted Trench (Chamber or EZ Flow):	300'
PPBPS (T & J panel block):	200'

Usable Soil Depth - Repair: 46" (Based on borings A, B, C and D in the usable soil area)
Repair System Type: Conventional trench (IIa)
Repair Trench Required: 400' x 3'
Minimum Trench Depth: 18"
Maximum Trench Depth: 34"

Septic Layout – Initial and Repair:

Line	Color	Length	Initial	Repair
1	Pink	160'	160'	
2	Lime	180'	180'	
3	Purple	190'	190'	
4	Blue	190'	190'	
5	Red	190'		190'
6	Orange	180'		180'
7	Green	100'		100'
8	White	100'		100'
9	Yellow	100'		100'
Total:		**1390'**	**720'**	**670'**

1. Initial system - gravel trench: 400' needed or Accepted Trench 300' needed
2. Line lengths measured with GIS Measuring tool
3. Meets .1945 Available Space requirements
4. Lines laid out 9' on center at minimum
5. Initial and Repair areas can be interchanged as necessary

System Distribution: Gravity flow per manufacturers approved methods

Conclusions:

In North Carolina, two primary options for septic system permitting exist. In the traditional option, the local county health department can evaluate and permit any site. A new version for the traditional permit is now allowed by NC Session Law 2018-114. In this version, a NC Licensed Soil Scientist can evaluate a lot and submit soil information on each lot to the Health Department in lieu of the Health Department evaluation. In the traditional permitting model, the county in the form of an Improvement Permit grants site approval. An Authorization to Construct a Wastewater System is issued once building floor plans are reviewed and the Improvement Permit is issued. The county issues an Operation Permit after the system has been installed to meet the specifications of the Authorization to Construct. Septic layouts and system design can be performed as needed. The totally private permitting option is the Engineer Option Permit (EOP). A NC Licensed Engineer, a NC Licensed Soil Scientist and a NC Registered Septic Installer can evaluate, design and install a septic system without Health Department involvement other than record keeping.

The attached soil map and septic layout maps are based on soil boring, property iron and flag locations collected using an EOS Arrow Gold GPS and iCMTGIS Pro app and then overlain with the Iredell County topo shapefiles available from NC OneMap. PCGIS X software was then used to prepare the maps and site plan. The house site was marked with wood stakes and located by GPS. A one inch to 50' version of the map will be provided. The map is scaled to print on 11" x 17" (Tabloid) paper in Landscape format. The GPS locations can be accurate to submeter but county GIS shapefile layers should not be considered as accurate as survey located features, points and property lines. Property corners where found were collected and are noted on the soils map. Surveying was completed by Professional Property Surveyors, Inc. The site plan was as designated on Architectural plans.

Site Conditions for Improvement Permit/CA:

1. Construct protective fencing around the soil area and septic layout to protect from grading, compaction and construction traffic. Storage of materials, cuts and fill over septic area could result in revocation of the permit.
2. At time of preconstruction conference with Health Department, the system layout should be reestablished. Make sure all property lines are clearly flagged.
3. Contact NC 811 prior to any digging.
4. Submit this report and map with a signed application to the Health Department.
5. Your application should also contain the statement:
   "The LSS Evaluation attached to this application is to be used to produce design and construction features for permitting in accordance with SL 2018-114 Section 11. (c).".

NC Licensed Soil Scientist statement:

This LSS Evaluation is being submitted pursuant to and meets the requirements of SL 2018-114 Section 11. (c).

Please feel free to contact me if you have any further questions.

Alan Clapp

Alan Clapp
NC Licensed Soil Scientist #1058
NC Registered Environmental Health Specialist #1118
NC Subsurface Wastewater Operator #1009092

Project # 521122

Sheet 1 of

PROPERTY ID #:

COUNTY IREDELL

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

OWNER JOE FULK

ADDRESS

APPLICATION DATE

PROPOSED FACILITY SFD PROPOSED DESIGN FLOW (.1949) 360 gpd DATE EVALUATED: 1-11-22

LOCATION OF SITE 161 SPICEWOOD CIRCLE LOT 2 PROPERTY SIZE 1.369 ACRES

WATER SUPPLY Private √Public Well Spring Other PROPERTY RECORDED

EVALUATION METHOD √Auger Boring Pit Cut TYPE OF WASTEWATER √Sewage Industrial Process Mixed

Boring/Pit/Cut #	A	B	C	D	E	F	G	H
Landscape position (.1940)	L	L	L	L				
Slope % (.1940)	4	5	5	5				
H1 depth (.1943)	0-10	0-9	0-9	0-9				
H1 texture (.1941)				scl				
H1 consistence (.1941)	fr	fr	fr	fr				
H1 structure (.1941)	gr	gr	gr	gr				
H1 mineralogy (.1941)	se	se	se	se				
H2 depth (.1943)	10-48	9-46	9-46	9-48				
H2 texture (.1941)	c	c	c	c				
H2 consistence (.1941)	fr	fr	fr	fr				
H2 structure (.1941)	sbk	sbk	sbk	sbk				
H2 mineralogy (.1941)	se	se	se	se				
H3 depth (.1943)								
H3 texture (.1941)								
H3 consistence (.1941)								
H3 structure (.1941)								
H3 mineralogy (.1941)								
H4 depth (.1943)								
H4 texture (.1941)								
H4 consistence (.1941)								
H4 structure (.1941)								
H4 mineralogy (.1941)								
Soil wetness (.1942)								
Saprolite (.1941/.1956)								
Notes:	*	x-2"	x-2"	x-2"				
Usable soil depth	48"	46"	46"	46"				
Profile Class	PS	PS	PS	PS				
LTAR (.1955)	.3	.3	.3	.3				
Evaluation Date	1-11-22	1-11-22	1-11-22	1-11-22				

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)	S	S
System Type(s)	IIa	IIa
Site LTAR	.3	.3

OTHER FACTORS (.1946):

SITE CLASSIFICATION (.1948) PS

EVALUATED BY: Alan Clapp, LSS, REHS

OTHER(S) PRESENT: KIP LEDBETTER

COMMENTS:

x- Slope correction (inches)

* reclassified provisionally suitable using .1955, .1956 & .1970

CECIL SERIES