### Adams Soil Consulting, PLLC 1676 Mitchell Road Angier, NC 27501 919-414-6761

alexadams@bcsoil.com

March 29, 2023 Project #1623

"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)."

"The plans or evaluations attached to this application are to be used to issue a Construction Authorization in accordance with G.S. 130A-335 (a2), (a5), and (a6)"

"This AOWE/PE submittal is pursuant to and meets the requirements of G.S. 130A-335(a2) and (a5)."

RE: 29 Single Barrell Ct. NC (Harnett County) for Davidson Homes

To whom it may concern:

Adams Soil Consulting (ASC) conducted a preliminary soil evaluation on the above referenced parcel to determine the areas of soils which are suitable for subsurface wastewater disposal systems (conventional & LPP). The soil/site evaluation was performed using hand auger borings during moist soil conditions based on the criteria found in the State Subsurface Rules, 15ANCAC 18A .1900 "Laws and Rules for Sewage Treatment and Disposal Systems". From this evaluation, ASC is providing the attached 4-bedroom septic design.

The suitable soils found on the subject property were relatively consistent in the initial and repair areas. The area designated for the initial/primary septic system (see attached septic plan) was found to contain soils with greater than 24 inches in depth before a restrictive horizon was encountered.

Please find the attached wastewater soil/site evaluation forms for specific soil properties found in the initial and repair areas as well as assigned soil long term acceptance rate (LTAR). Numerous soil borings were made throughout the property and representative soil profile descriptions for the primary septic field and repair area are provided. A location sketch for profile descriptions is also attached. The initial and primary septic fields were sized based on a flow rate of 480 gallons/day and utilizing Accepted Status. Any unauthorized site disturbance, filling, soil removal, or layout changes may result in the permit being revoked.

The septic installer contractor shall install the primary and repair (if needed) system on contour, see attached site plan for the primary system and repair locations. No underground utilities, water lines, or sprinkler systems shall be placed into the initial or repair septic areas. Installation must meet all state and Johnston County regulations for septic system installation. The trenches must be installed in the same location as the site plan. If the installation is in question at the time of installation call me (Alex Adams) at 919-414-6761.

This report discusses the location of provisionally suitable soils identified on the property and does not guarantee the future function of any waste water disposal system installed.

If you have any questions regarding the findings on the attached map or in this report, please feel free to contact me anytime.

Sincerely,

Alex Adams

NC Licensed Soil Scientist #1247 AOWE Certification: 10021E





		Coun	ty:	
IMPROVEN	MENT PERMIT FOR G.S. 130A-335(a	a2)/SL2022-11		
PIN/Lot Identifier:				
Issued To:				
Property Location:				
Subdivision:	Lot #:	Block:	Section:	
LSS Report Provided: Yes No No				
If yes, name and license number of LSS:				
New Repair Expansion	System Relocation			
Proposed Structure:				
Proposed Wastewater System Type:	(Initial)			(Repair)
Fill System: Yes No If yes, specify: New	Existing (when adding more tha	n 6 inches of fill to s	ystem area please provid	de a fill plan)
Proposed Design Daily Flow: GPD	Proposed LTAR (Initial):	Proposed L	TAR (Repair):	
Design Wastewater Strength:  domestic	high strength	industrial process	5	
Number of bedrooms: Number of Occupants:	Other:			
Pump Required: Yes No May be req	uired based upon final location and	d elevations of facilit	ties	
Artificial Drainage Required: Yes No If yes, ple	ase specify details:			
Type of Water Supply: Private well Public well	Municipal Supply Spring	g 🗌 Other:		
Drainfield location meets requirements of Rule .1945: `	Yes No No			
Drainfield location meets requirements of Rule .1950: Y	Yes No No			
Permit valid for:  Five years [site plan submitted pure	suant to GS 130A-334(13a)] 🔲 N	o expiration [plat su	bmitted pursuant to GS	130A-334(7a)
Permit conditions:				

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

\*See attached site sketch\*

\_\_ Date: \_\_

Licensed Soil Scientist Print Name: Licensed Soil Scientist Signature: \_\_\_

	This Section for Local He	alth Department	: Use Only	
In	itial submittal received:		_ by	
Pe	rmit Number:			
G.S. 130A-335(a4) states the following submitted pursuant to subsection (a3) department shall issue the improveme	of the section within 10 bus	-		•
In accordance with G.S. 130A-335(a3)	the improvement permit ap	plication is:		
☐ Incomplete (If box is checked, info	rmation in this section is re	quired.)		
The following items are missing:				
Copies of this were sent to the LSS and				
	Date			
State Authorized Agent:			Date:	
☐ Denied (See attached report.)				
Copies of this were sent to the LSS and	I the Owner on			
State Authorized Agent:			Date:	
Complete				
State Authorized Agent:			Date of Issuance:	
This Improvement Permit is issued purattached here. The issuance of this permit holder is responsible for check revocation if the site plan, plat, or the inaccurate or misleading. The Improvisubject to compliance with the provisubject to compliance with the provisubject. The location and identification responsibility of the owner.  The Department, the Department's an any liabilities, duties, and responsibility evaluations, submittals, or actions from	ermit by the Health Depart sing with appropriate gover e intended use changes, or rement Permit shall not be ions of the Laws and Rules on of all property lines, ease atthorized agents, and the le ties imposed by statute or	ment in no way grining bodies in mif information su affected by a chafor Sewage Treatements, water line	guarantees the issuance of oth neeting their requirements. The bmitted in the application was ange in ownership of the site. Itment and Disposal and to connes, and other appropriate util ertments shall be discharged ar from any claim arising out of o	ner permits. The sits site is subject to sefalsified, This permit is notitions of this ities shall be the aid released from a ttributed to
Improvement Permit Expiration Date:	·			

\*See attached site sketch\*

County: \_\_\_\_\_

County:			

#### CONSTRUCTION AUTHORIZATION FOR G.S. 130A-335(a2)/SL2022-11

PIN/Lot Identifier:	
ssued To:	
Property Location:	
AOWE/PE Plans/Evaluations Provided: Yes 🗌 No 🔲 If yes, name and license number of AOWE/PE:	
Facility Type:	
New Expansion Repair System Relocation	
Basement?	
Type of Wastewater System**(Initial)	(Repair)
Design Daily Flow: GPD Wastewater Strength: _ domestic _ high strength _ industrial process	
Session Law 2014-120 Section 53, Engineering Design Utilizing Low-flow Fixtures and Low-flow Technologies? 🗌 Yes	
Installation Requirements/Conditions	
Septic Tank Size: gallons Total Trench/Bed Length: feet Trench/Bed Spacing: feet on center	
Drainfield square footage: Trench/Bed Width: inches LTAR: gpd/ft <sup>2</sup>	
Soil Cover: inches Slope Adjusted Maximum Trench/Bed Depth: inches	
Aggregate Depth:inches above pipeinches below pipeinches total	
Pump Tank Size (if applicable): gallons Requires more than 1 pump?	
Pump Requirements: ft. TDH vs GPM Grease Trap Size (if applicable): gallons	
Distribution Method: Serial D-Box or Parallel Pressure Manifold(s) LPP Other:	
Artificial Drainage Required: Yes No I If yes, please specify details:	
Legal Agreements (If the answer is "Yes" to any type of legal agreements, please attach a copy of the agreement.)	
Multi-party Agreement Required [.1937(h)]: Yes No	
Easement, Right-of-Way, or Encroachment Agreement Required [.1938(j)]: Yes No	
Declaration of Restrictive Covenants: Yes No	
**If applicable:  understand the system type specified is different from the type specified on the application. I accept the specifications of this permit.	
Owner/Legal Representative Print Name: <u>Celinda Howell</u>	
Owner/Legal Representative Signature: Columbia Horoch Date: 03/29/23	
Pre-Construction Conference Required: Yes No No	
Conditions:	
The construction and installation requirements of Rules .1950, .1952, .1954, .1955, .1956, .1957, .1958, and .1959 are incorporated by refe	erence
nto this permit and shall be met. Systems shall be installed in accordance with the attached system layout.  Alex Adams	
AOWE/PE Print Name:	
AOWE/PE Signature: Date:	
This AOWE/PE submittal is pursuant to and meets the requirements of G.S. 130A-335(a2) and (a5).	

\*See attached site sketch\*

	•	•	tment Use Only	
Initial submiti	tal received:	 Date	by Initials	
Permit Number	r:			
				_
G.S. 130A-335(a6) states the following: 'If a loca submitted pursuant to subsection (a5) of the sect department shall issue the construction authorized	tion within 10	-		<del>-</del>
In accordance with G.S. 130A-335(a5) the constru	uction authori	zation applicat	tion is:	
☐ Incomplete (If box is checked, information in	this section is	required.)		
The following items are missing:				
Copies of this were sent to the AOWE/PE and the	e Owner on			
		Date		
State Authorized Agent:				Date:
☐ Denied (See attached report.)				
Copies of this were sent to the AOWE/PE and the	- Owner on			
copies of this were sent to the Aowey'r E and the		Date		
State Authorized Agent:				Date:
Complete				
State Authorized Agent:			Date	of Issuance:
This Construction Authorization is issued pursual evaluations attached here. This Construction Authorization submitted in the application shall not be affected by a change in ownership of provisions of the Laws and Rules for Sewage Treidentification of all property lines, easements, where the provision is in the constructed to divert the constructed th	ithorization is lication was fa of the site. Th eatment and E vater lines, an	subject to revalsified, inacculis Construction Disposal and to	rocation if the site prate or misleading. In Authorization is so the conditions of the priate utilities shall	plan, plat, or the intended use The Construction Authorization ubject to compliance with the this permit. The location and
The Department, the Department's authorized any liabilities, duties, and responsibilities imposplans, evaluations, preconstruction conference the General Statutes as a licensed engineer or a Authorized On-Site Wastewater Evaluator in GS agents, and the local health departments shall be obligations under State law or rule, including the	ed by statute findings, subn person certifi 130A-335(a2 pe responsible	or in common nittals, or action ied pursuant to ), (a5), and (a7 e and bear liab	n law from any clain ons from a person li o Article 5 of Chapt ). The Department, ility for their action	n arising out of or attributed to icensed pursuant to Chapter 89C of er 90A of the General Statutes as an the Department's authorized as and evaluations and other
Construction Authorization Expiration Date:			_	
	*See atta	ched site sketo	ch*	

County: \_\_\_\_\_

# Wellers Knoll - Lot #18

## 4-Bedroom - Septic Design 29 Single Barrell Ct. - Lillingtion, NC

**Davidson Homes** 

Harnett County PIN: 0529-88-5814

\*Not a Survey

N81°51'24"E

87.01

Sketched from a plot plan supplied by owner Pump to supply:

21.3gallons/minute at 8.6 feet of head

System: Pressure Manifold

Lines: 4-6 (360') 0.35 LTAR

24" Max Trench Bottom Accepted Status System Repair: Pressure Manifold

Lines: 1-3 (360') 0.35 LTAR

24" Max Trench Bottom Accepted Status System

N81°51'24"E 104.07' (TOTAL) \*If plumbing is sufficient then gravity may be used to dose septic field. #2 Red 120' 3 White 120' N5\*56\*15"W 244.6 (18) PROPOSED HICKORY 'B' SIDE SETBACK CRAWL 2 CAR LEFT TEMPORARY LEADWALK **184°00'45"**E 47.3° CT9 CONSTRUCTION EASEMENT

\*\*1000 Gallon Septic and Pump Tank Tank and trenches to be located minimum of 10' from any property line and minimum of 5'

from any building foundation.

\*Do Not Cut, Fill, or Alter Drainfield or Repair Area

\*Comply with all setbacks

\*Contact local health dept. and/or Alex Adams prior to or during installation with any questions or concerns.

SINGLE BARREL COURT PUBLIC 50' R/W

PROPOSED HICKORY 'B' CRAWL 2 CAR LEFT LEADWALK INSET SCALE: 1"=20'

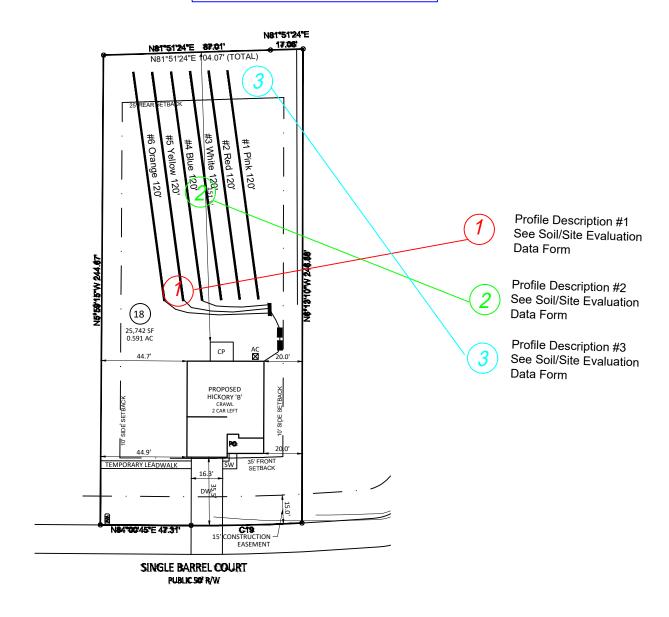
Adams Soil Consulting 919-414-6761 Job #1623

GRAPHIC SCALE 1" = 50'50 100

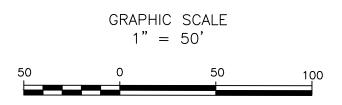
# Wellers Knoll - Lot #18 Soil Boring Location Map 29 Single Barrell Ct. - Lillingtion, NC Davidson Homes

Harnett County PIN: 0529-88-5814

\*Not a Survey Sketched from a plot plan supplied by owner



Adams
Soil Consulting
919-414-6761
Job #1623



#### PRESSURE MANIFOLD DESIGN

Name: Davidson Homes D#: P.I.N. #:

Address: 29 Single Barrell Ct Lot#: 18 Subdiv: Wellers Knoll

# of BDR: **Daily Flow:** 360 gal/day L.T.A.R.: 0.35 gal/day/sq.ft 4

Septic Tank: 1000 gals Pump Tank: Sq. Foot: Stone Depth: <u>1000</u> gals 1080

**Length of Trenches:** ft(See Tap Chart for Details) Number of Taps: 2 360

**Depth of Trenches:** 24 in Manifold Length: 30 in

Tap Configuration: 6 in spacing side(s) of manifold Manifold Diameter: 4in sch 80pvc

Diameter: 2 Supply Line: length: 25 ft in sch 40pvc

Friction Loss + Fitting Loss: 1.06 ft(supply line length + 70' for fittings in pump tank)

Design Head: 2 ft **Elevation Head:** 5.50 ft

**Total Head:** 8.56 **ft** Pump to Deliver: 21.33 gals/min at 8.56 ft head

**Dosing Volume:** 176 gals,

Drawdown: 176 gals divided by 20 gals/in = 8.8 inches

Simplex Control Panel required; elapsed time meter and cycle counter required; Floats to be determined by type of pump tank used. A septic tank filter, or equal is required.

Possible pumps: **Hydromatic:** Goulds: Myers:

Zoeller: Model 151 Other:

#### **TAP CHART**

Bench Mark	0	is = 100.00	set at EIP				Design Head:	2	
Pump tank elev.		5.5	94.50	Pump elev.	89.50		Manifold elev.	95.00	
line	color	rod read	Elevation	length	hole size	flow/tap	gal/day	trench area	LINE LTAR
4	Blue	6.0	94.00	120	1/2in SCH 40	7.11	160.00	360	0.444
5	Yellow	6.4	93.60	120	1/2in SCH 40	7.11	160.00	360	0.444
6	Orange	6.7	93.30	120	1/2in SCH 40	7.11	160.00	360	0.444
		pl	feet =	360	gal/min =	21.33		LTAR =	0.35
% of Dose Vol.		75		Des. Flow	480			(Itar + 5%)	0.37
Dose Volume		176		Pump Run=	22.50			(Itar W/ INOV)	0.47
Dose Pump Time		8.23		Tank Gal/IN	20			(Itar + 5%)	0.49
Drawdown in Incl	hes	8.8		Elev. Head	5.50				
Supply Line Leng	jth	25							

Comments:

#### **Hydraulic Profile**

Manifold Elevation	95.00	25
Pump tank elev.	94.50	2
Pump elev.	89.50	0

## SOIL/SITE EVALUATION for ON-SITE WASTEWATER SYSTEM

(Complete all fields in full)

OWNER: Davidson Homes

ADDRESS: 29 Single Barrell Ct.

PROPOSED FACILITY: Single Family, 4-bedroom PROPOSED DESIGN FLOW (.1949): 360gpd

APPLICATION DATE:

DATE EVALUATED: 3-16-23

d

PROPERTY SIZE: ~591 acres

LOCATION OF SITE: 29 Single Barrell Ct.

WATER SUPPLY: Public Water

EVALUATION METHOD: Auger Boring TYPE OI

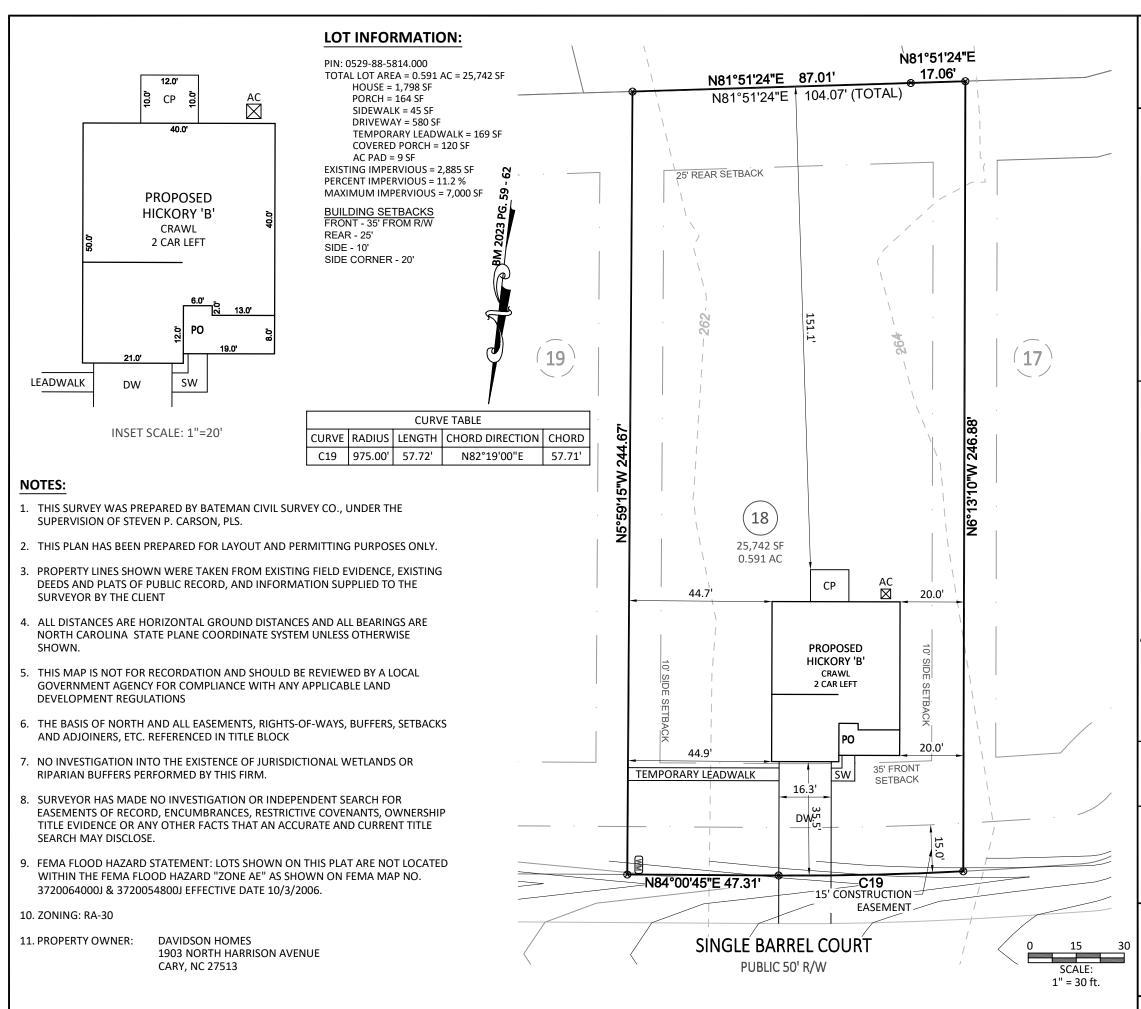
TYPE OF WASTEWATER: Sewage

P R O F I L	.1940 LANDSCAPE	.1940 NDSCAPE HORIZON		SOIL MORPHOLOGY (.1941) OTHER PROFILE FAC			RS		
#	POSITION/ SLOPE %	DEPTH (IN.)	.1941 STRUCTURE/ TEXTURE	.1941 CONSISTENCE/ MINERALOGY	.1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPRO CLASS	.1944 RESTR HORIZ	PROFILE CLASS & LTAR
		0-16	GR/SL	FR/SEXP/NS	N/A	N/A	N/A	N/A	PS/0.35-0.4
	Slope/3%	16-40	SBK/SCL	FI/SEXP/SS					
1					-				
	Linear	0-14	GR/SL	FR/SEXP/NS	N/A	N/A	N/A	N/A	PS/0.35-0.4
	Slope/3%			FI/SEXP/SS	1 1/1 1	1 4/ 1 1	1 1/11	1 1/11	15/0.33-0.4
2		14 40	SDIN/SCL	17,512,417,55					
	Linear	0-18	GR/SL	FR/SEXP/NS	N/A	N/A	N/A	N/A	PS/0.35-0.4
	Slope/3%			FI/SEXP/SS	- ''	- "			
3		10 40	SDIVSCE	I I/SEZT/SS					
1									
4									

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM	OTHER FACTORS (.1946):
Available Space (.1945)	>5,000 ft <sup>2</sup>	>5,000 ft <sup>2</sup>	SITE CLASSIFICATION (.1948): PS
System Type(s)	Type III (b)	Type III (b)	EVALUATED BY:A. Adams OTHER(S) PRESENT:
Site LTAR	0.35	0.35	

COMMENTS:

Updated February 2014

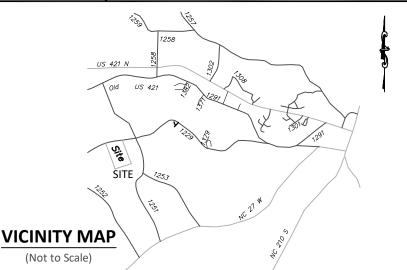




## **Bateman Civil Survey Company**

Engineers • Surveyors • Planners

2524 Reliance Avenue, Apex, NC 27539 Ph: 919.577.1080 Fax: 919.577.1081 www.batemancivilsurvey.com info@batemancivilsurvey.com NCBELS Firm No. C-2378



#### **LEGEND**

PO = PORCH

SP = SCREENED PORCH/PATIO CP = COVERED PORCH/PATIO

WD = WOOD DECK

WD - WOOD DECK
SW = SIDEWALK
DW = CONC DRIVEWAY
P = CONC PATIO
⊗= COMPUTED POINT

X = MAG NAIL FOUND O= IRON PIPE FOUND

●= IRON PIPE SET •= DRILL HOLE FOUND (WM) = WATER METER

CO = CLEAN OUT AC = AIR CONDITIONER S = SEWER MANHOLE

EB = ELECTRIC BOX

© = CABLE BOX ☐ = TELEPHONE PEDESTAL CB = CATCH BASIN

IC = IRRIGATION CONTROLLER ☼ = LIGHT POLE

UTILITY POLE

= FIRE HYDRANT

DI = DRAIN INLET

WV = WATER VALVE = STREET SIGN = STREET SIC YI = YARD INLET

G = GAS METER E = ELECTRIC METER

I, STEVEN P. CARSON, CERTIFY THAT THIS PLAT WAS DRAWN UNDER MY DIRECT SUPERVISION FROM A SURVEY MADE UNDER MY SUPERVISION (PLAT BOOK REFERENCED IN TITLE BLOCK ); THAT THE **BOUNDARIES NOT SURVEYED ARE CLEARLY** INDICATED AS DRAWN FROM INFORMATION LISTED UNDER REFERENCES; THAT THE RATIO OF PRECISION AS CALCULATED IS 1:10,000+; AND THAT THIS MAP MEETS THE REQUIREMENTS OF THE STANDARD OF PRACTICE FOR LAND SURVEYING IN NORTH CAROLINA. L-4752

This map is of an existing parcel of land and is only intended for the parties and purposes shown. This map not for recordation. No title report provided.

**BUILDER TO VERIFY HOUSE LOCATION DIMENSIONS AND REVIEW TOTAL** IMPERVIOUS NOTED ON THIS PLOT PLAN

## PRELIMINARY PLOT PLAN **FOR**

## **DAVIDSON HOMES**

#### **WELLERS KNOLL - LOT 18**

SINGLE BARREL COURT, LILLINGTON, NC LITTLE RIVER TOWNSHIP, HARNETT COUNTY

DATE: 2/17/23 DRAWN BY: MJA CHECKED BY: SPC

BCS# 230051

REFERENCE: BM 2023 PG. 59-62

SCALE: 1" = 30'