

HTE# 09-5-22044

Harney County Department of Public Health

25654

Improvement Permit

A building permit cannot be issued with only an Improvement Permit

ISSUED TO: KEN DAWSON HOMES INC PROPERTY LOCATION: HWY 27E  
 SUBDIVISION WC GARDNER LOT # \_\_\_\_\_  
 NEW  REPAIR  EXPANSION   
 Type of Structure: SFD (54x43') Site Improvements required prior to Construction Authorization Issuance: \_\_\_\_\_  
 Proposed Wastewater System Type: 25% REDUCTION SYSTEM  
 Projected Daily Flow: 360 GPD  
 Number of bedrooms: 3 Number of Occupants: 6 max  
 Basement  Yes  No  
 Pump Required:  Yes  No  May be required based on final location and elevations of facilities  
 Type of Water Supply:  Community  Public  Well Distance from well 100 feet Permit valid for:  Five years  
 No expiration  
 Permit conditions: \_\_\_\_\_

Authorized State Agent: [Signature] RS Date: 8/28/09 SEE ATTACHED SITE SKETCH  
 The issuance of this permit by the Health Department 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 site 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 the Laws and Rules for Sewage Treatment and Disposal and to conditions of this permit.

Construction Authorization

(Required for Building Permit)

The construction and installation requirements of Rules .1950, .1952, .1954, .1955, .1956, .1957, .1958, and .1959 are incorporated by references into this permit and shall be met. Systems shall be installed in accordance with the attached system layout.

ISSUED TO: KEN DAWSON HOMES INC PROPERTY LOCATION: HWY 27E  
 SUBDIVISION W.C. GARDNER LOT # \_\_\_\_\_  
 Facility Type: SFD (54x43')  New  Expansion  Repair  
 Basement?  Yes  No Basement Fixtures?  Yes  No  
 Type of Wastewater System\*\* 25% REDUCTIONAL (Initial) Wastewater Flow: 360 GPD  
 (See note below, if applicable  LPR (Repair))

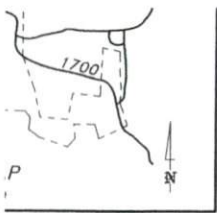
**Installation Requirements/Conditions**  
 Septic Tank Size 1000 gallons Number of trenches 1  
 Pump Tank Size \_\_\_\_\_ gallons Exact length of each trench 180 feet Trench Spacing: 9 Feet on Center  
 Trenches shall be installed on contour at a Soil Cover: 2 inches  
 Maximum Trench Depth of: 18 inches (Maximum soil cover shall not exceed 36" above the trench bottom)  
 (Trench bottoms shall be level to +/- 1/4" in all directions)  
 Pump Requirements: \_\_\_\_\_ ft. TDH vs. \_\_\_\_\_ GPM \_\_\_\_\_ inches below pipe  
 Aggregate Depth: \_\_\_\_\_ inches above pipe

Conditions: THIS PERMIT BASED ON A PROPOSAL FROM APPLICANTS SOIL CONSULTANT. SEE ATTACHED SHEET FOR SEPTIC EASEMENT LOCATION AND DRAINFIELD LAYOUT WATER LINE MUST BE AT LEAST 10' FROM ANY PART OF THE SEPTIC SYSTEM

\*\*If applicable: I understand the system type specified is different from the type specified on the application. I accept the specifications of this permit.  
 Owner/Legal Representative Signature: \_\_\_\_\_ Date: \_\_\_\_\_

This Construction Authorization is subject to revocation if the site plan, plat, or the intended use changes. The Construction Authorization shall not be transferred when there is a change in ownership of the site. This Construction Authorization is subject to compliance with the provisions of the Laws and Rules for Sewage Treatment and Disposal and to the conditions of this permit. SEE ATTACHED SITE SKETCH

Authorized State Agent: [Signature] RS Date: 8/28/09  
 Construction Authorization Expiration Date: 8/28/14



- TP Telephone Pedestal
- MH Manhole
- Trans. Electric Transformer
- WM Water Meter
- Esmt. Easement
- R/W Right-of-Way
- C/L Centerline
- P.C. Plat Cabinet
- D.B. Deed Book
- M.B. Map Book
- B.M. Book of Maps
- PIN Parcel Identifier
- Ac. Acres
- Sq. Ft. square feet
- 27 MBL Minimum Building Line
- 33 FH Fire Hydrant
- SL Street Light
- ECIP Existing Crimped Iron Pipe
- s SFT United States Survey Feet

**FEMA FLOOD HAZARD STATEMENT**

Lots shown on this plat are not located within the FEMA 100 year Flood Hazard Area as shown on FEMA map No. 372006800J dated October 3, 2006

This plat was drawn under my supervision and my supervision (deed description recorded and indices not surveyed are clearly indicated) references as shown; that the ratio of the Global Positioning System (GPS) spatial Positioning Accuracy Standards, at the 2-centimeter accuracy of the NC Geodetic Survey RTK Network, in accordance with G.S. 47-30 as amended, this the 26 day of JUNE, 2009.

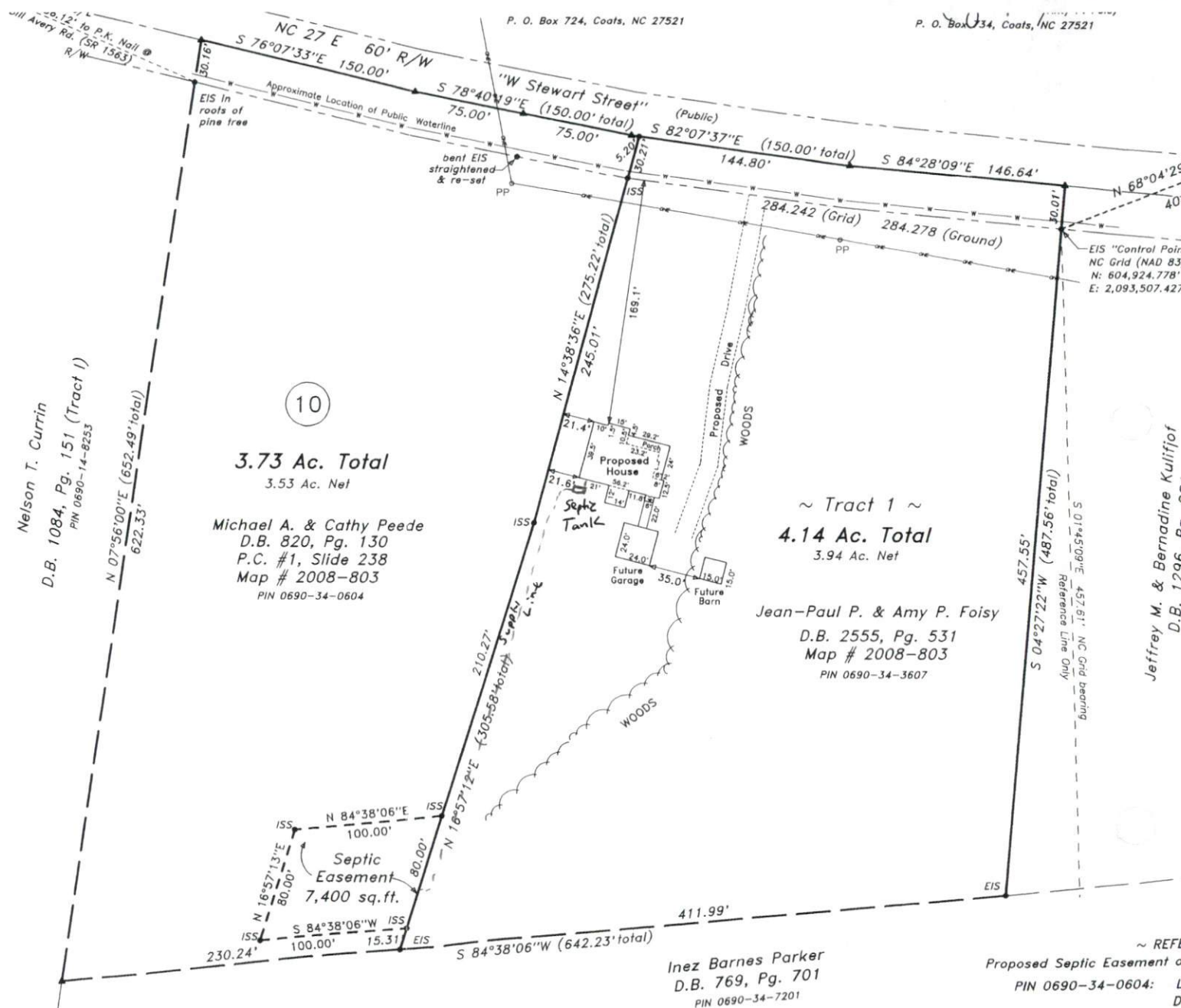
I certify that the survey is of an parcel or parcels of land and does not create a new street or change an

*John M. Godwin, Jr.*  
 Godwin, Jr., P.L.S.  
 License Number: L-3790

Underground utilities that were not shown by this survey.

ASSARY

6/26/09  
 Date



Scale: 1" = 100'

~ REFERRED ~  
 Proposed Septic Easement on Lot  
 PIN 0690-34-0604: Lot  
 D.B.

Jeffrey M. & Bernadine Kuliflof  
 D.B. 1296, Pg. 281

S 01°45'09"E 437.61' NC Grid bearing  
 Reference Line Only

EIS "Control Point"  
 NC Grid (NAD 83)  
 N: 604,924.778'  
 E: 2,093,507.427'

P. O. Box 724, Coats, NC 27521

P. O. Box 734, Coats, NC 27521

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Nelson T. Currin  
 D.B. 1084, Pg. 151 (Tract 1)  
 PIN 0690-14-8253

3.73 Ac. Total  
 3.53 Ac. Net  
 Michael A. & Cathy Peede  
 D.B. 820, Pg. 130  
 P.C. #1, Slide 238  
 Map # 2008-803  
 PIN 0690-34-0604

~ Tract 1 ~  
 4.14 Ac. Total  
 3.94 Ac. Net  
 Jean-Paul P. & Amy P. Foisy  
 D.B. 2555, Pg. 531  
 Map # 2008-803  
 PIN 0690-34-3607

Inez Barnes Parker  
 D.B. 769, Pg. 701  
 PIN 0690-34-7201

28  
47

2001-1-100

# Foisy, Amy - Tract 1 (4.14 Acres)

## On-Site Wastewater Design Specifications

House Footprint: 41-ft x 56-ft  
 Foundation Drain Possible  
 Bedrooms: 3 (Daily Flow 360 gallons)

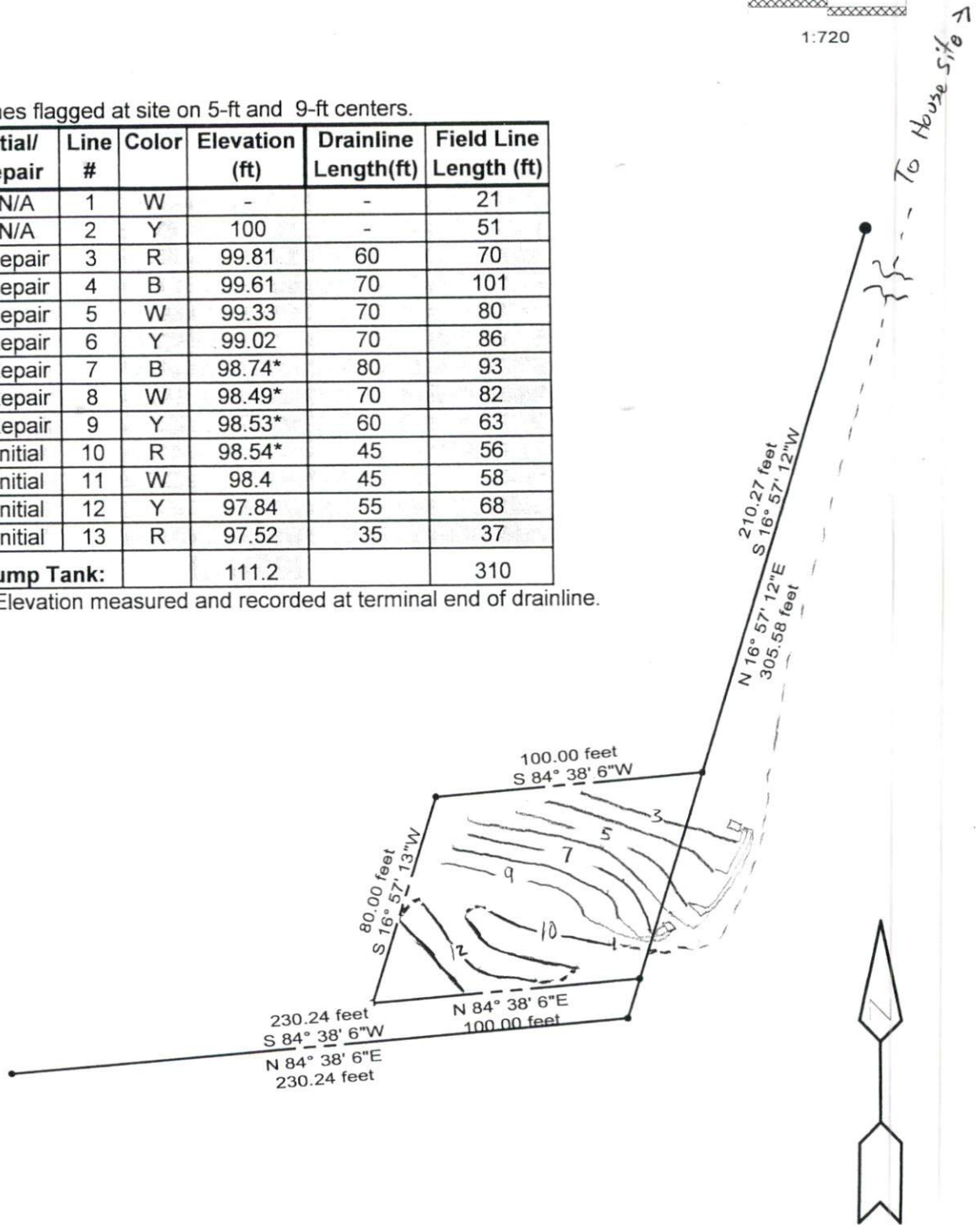
LEGEND			
☆	EIP	□	Septic Tank
---	Supply Line	■	Pump Tank
⊙	Proposed Well	⊙	D-Box
⊗	Existing Well	⊗	Pressure Manifold



Lines flagged at site on 5-ft and 9-ft centers.

Initial/Repair	Line #	Color	Elevation (ft)	Drainline Length(ft)	Field Line Length (ft)
N/A	1	W	-	-	21
N/A	2	Y	100	-	51
Repair	3	R	99.81	60	70
Repair	4	B	99.61	70	101
Repair	5	W	99.33	70	80
Repair	6	Y	99.02	70	86
Repair	7	B	98.74*	80	93
Repair	8	W	98.49*	70	82
Repair	9	Y	98.53*	60	63
Initial	10	R	98.54*	45	56
Initial	11	W	98.4	45	58
Initial	12	Y	97.84	55	68
Initial	13	R	97.52	35	37
<b>Pump Tank:</b>			111.2		310

\* Elevation measured and recorded at terminal end of drainline.





## Onsite Wastewater Design Specifications

House Footprint: 41' x 56' Foundation Drain: Yes  
 # Bedrooms: 3 Daily Flow (gpd): 360

### Initial System

Gravity distribution to 180-ft of accepted system drainline with lines 11-13 installed on contour at 18 inches. Line 10 is to be installed at 18 inches and deepen to 22 inches below the natural surface. LTAR 0.5 gal/day/sqft

### Repair System

Pressure distribution to 480-ft of LPP drainline with lines 3-6 installed on contour at 12 inches. Lines 7-9 are to be installed at 18 inches and shallow to 12 inches below the natural surface. LTAR 0.15 gal/day/sqft

Lines flagged at site on 5-ft and 9-ft centers.

Initial/Repair	Line #	Color	Elevation (ft)	Drainline Length(ft)	Field Line Length (ft)
N/A	1	W	-	-	21
N/A	2	Y	100	-	51
Repair	3	R	99.81	60	70
Repair	4	B	99.61	70	101
Repair	5	W	99.33	70	80
Repair	6	Y	99.02	70	86
Repair	7	B	98.74*	80	93
Repair	8	W	98.49*	70	82
Repair	9	Y	98.53*	60	63
Initial	10	R	98.54*	45	56
Initial	11	W	98.4	45	58
Initial	12	Y	97.84	55	68
Initial	13	R	97.52	35	37
<b>Pump Tank:</b>			111.2		310

\* Elevation measured and recorded at terminal end of drainline.

Repair System

## Low Pressure Pipe Distribution Flow Sheet

Subfields	Line #	Line Color	Line Length	Relative Elev(ft)	Elevation Change	Pressure Head(ft)	Hole Size	Flow/ Hole	Flow/ Lateral	gpm/ft	# Holes	Hole Spacing	First/Last Holes
1	3	R	60	99.8	0.0	4.0	5/32	0.5757	6.33	0.1055	11	5	5.00
1	4	B	70	99.6	0.2	4.2	5/32	0.5899	7.08	0.1011	12	5	7.50
1	5	W	70	99.3	0.5	4.5	5/32	0.6092	6.70	0.0957	11	5.75	6.25
1	6	Y	70	99.0	0.8	4.8	5/32	0.6306	6.31	0.0901	10	6	8.00
2	7	B	80	98.7	0.0	4.0	5/32	0.5757	6.91	0.0864	12	6	7.00
2	8	W	70	98.5	0.2	4.2	5/32	0.5899	5.90	0.0843	10	7	3.50
2	9	Y	60	98.5	0.0	4.0	5/32	0.5757	4.61	0.0768	8	7	5.50
Total line length=			480				Total Flow=			43.83			
Pump Tank =				111.2	% Decrease of gpm/ft from top to bottom line=				27.20379				

**Calculations:**

$gpm/ft = (flow /hole) \times \# \text{ Holes} / \text{Line Length}$

$\text{Supply Ln Volume} = \text{Supply Line Length} / 100 \times \text{Pipe Size \& Volume Table}$

$\text{Lateral Ln Vol (1\&1/4)} = \text{Total linear footage} / 100 \times \text{Pipe Size \& Volume Table}$

$\text{Manifold Vol.} = \text{Manifold Length} \times \text{Pipe Volume} / 100$

$\text{Dose Vol} = \text{Supply Line Vol.} + \text{Manifold Vol.} + (5 \text{ to } 10)(\text{Lateral Line Vol.})$

$\text{Run Time} = \text{Dose Volume} / \text{Total Flow}$

$\text{Draw Down} = \text{Dose Vol} / \text{Pump Tank Vol} \times \text{liquid depth of tank(inches)}$

$\text{Elev Head} = \text{Manifold Elevation} - (\text{Pump Tank Elevation} - 5ft)$

$\text{Friction Head} = [0.00113 \times (\text{Supply Line Length(ft)} + 70ft \text{ for fittings in pump tank}) \times \text{Flow(gpm)}^{1.85}] / \text{Pipe Inside Diameter(in)}^{4.87}$  *Computed by the Hazen Williams Formula*

$\text{TDH} = \text{Pressure Head} + \text{Elevation Head} + \text{Friction Head}$

**Design Specifications**

Supply Line Volume=	53.9
Lateral Line Volume=	74.9
Manifold Volume=	0.0
Dose Vol Range=	428.34-802.7
Dose Vol=	428.3 @ x 5

Total Flow =	43.83
LTAR=	0.15
Run Time =	9.77
Draw Down=	20.40

Pressure Head (ft)=	4.00
Elevation Head (ft)=	0.00
Friction Head (ft)=	2.51
TDH (ft)=	6.51

# HALLOWEN & ASSOCIATES, INC.

SOIL & ENVIRONMENTAL SCIENTISTS

P.O. Box 400, 266 Old Coats Road

Lillington, NC 27546-0400

Phone (910) 893-8743 / Fax (910) 893-3594

E-mail: [service@halowensoil.com](mailto:service@halowensoil.com)

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17 August, 2009

Mr. Oliver Tolksdorf  
Harnett County Department of Environmental Health  
307 Cornelius Harnett Blvd.  
Lillington, NC 27546

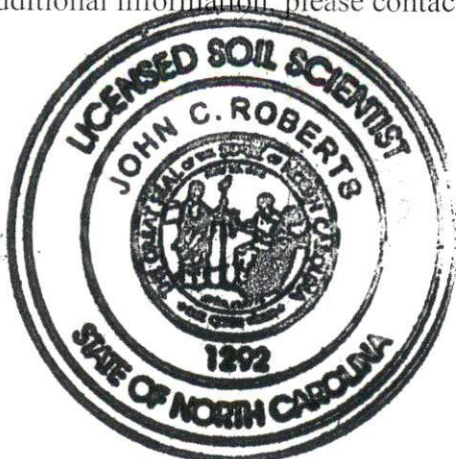
Reference: Jean-Paul and Amy Foisy – Septic Easement Design  
4.14 Total Acres  
PIN: 0690-34-3607

Dear Mr. Tolksdorf,

A site investigation was conducted for the above referenced property located on the southern side of N.C. Highway 27, Grove Township, Harnett County, North Carolina. The purpose of the investigation was to determine the ability of a septic easement area for this lot to support a subsurface sewage waste disposal system and 100 % repair area for a typical three-bedroom home.

A foundation drain will be possible for this lot. Gravity distribution to 180 feet of accepted system drainline is the proposed design for the initial septic system. Minor topographical differences were observed in the upper reaches of the initial system and therefore line 10 of the initial system will need to be installed at 22 inches below the soil surface and shallow to 18 inches below the soil surface at the terminal end. The repair system includes pressure distribution to 480 feet of low pressure pipe drainline. Due to complex topography observed within the repair area, lines 7, 8 and 9 will need trench bottoms installed at 18 inches below the soil surface and shallow to 12 inches at the terminal end. All other septic drainlines at the site are demonstrated on contour.

Attached is the septic system layout and supporting information for this lot. I trust that this report provides all the information that you require at this time. If you have any questions or need additional information, please contact me at your convenience.



Sincerely,

A handwritten signature in black ink that reads "John C. Roberts". The signature is fluid and cursive, written over a white background.

John C. Roberts  
Licensed Soil Scientist

