



North Lakes Soil Consulting, PLLC
3325 Jones Lakes Road
Fuquay-Varina, NC 27526
john@northlakessoil.com
910-539-5439

Mr. Jared Guerrero

RE: Soil/Site Evaluation and Septic System design at 104 Lone Star Drive, Louisburg, Franklin County, (PIN 2831-34-7673)

Dear Mr. Guerrero:

The following Preliminary Soil/Site Evaluation technical report is submitted to assist in the development of a proposed addition and improvements at the above address.

North Lakes Soil Consulting, PLLC conducted the preliminary soil/site evaluation to attempt to delineate an area of potentially suitable soils for subsurface on-site wastewater systems that would support a proposed two bedroom, single-family, residential dwelling. The property was traversed and soil borings were conducted with hand augers in suitable topographic areas. The topography and vegetation communities were considered to postulate any possible consistent soil patterns. The soil was evaluated for the following morphological characteristics: soil texture, soil structure, soil depth, depth and thickness of any restrictive horizon(s), soil wetness conditions, soil mineralogy, topography, and landscape position. With these factors considered the areas evaluated were judged based on the "North Carolina Laws and Rules for Wastewater Treatment and Dispersal Systems (15A NCAC 18E)".

The proposed design sewage flow from the proposed dwelling is 240 gpd. The soil evaluation was completed in December 2025. Hand auger borings were advanced under moist soil conditions. The site essentially lies on a linear slope landscape (4% slope). Soil borings conducted in most of this area consisted of 6 or more inches of sandy loam underlain by clay loam and clay soils to 30 or more inches below the soil surface. Soil wetness was not observed shallower than 36 inches from the land surface and parent material (greater than 50%) was not observed shallower than 30 inches below the soil surface. All other soil characteristics were suitable to at least 48 inches. The proposed initial system design was based on a Long-Term Acceptance Rate (LTAR) of 0.3 gallons per day/square foot. The repair system design was based on an LTAR of 0.3 gpd/ft².

The water supply must meet setbacks outlined in 15A NCAC 02C .0107 requirements, 15A NCAC 18E .0600 setback requirements to septic systems and any local well regulations.

Septic System Location & Setbacks:

The location of a septic system shall comply with the setback requirements of 15A NCAC 18E

.0601 LOCATION OF WASTEWATER SYSTEMS.

Findings:

- 2 Bedroom Residence (240 gpd)
- **Initial System:** Gravity to Prefabricated Permeable Block Panel System 50% Reduction (Horizontal) Trenches (133', see septic layout and pressure manifold design detail)
- 18" maximum trench depth as measured on the downhill side
- 0.3 gpd/ft² LTAR
- **Repair System:** Gravity to Prefabricated Permeable Block Panel System 50% Reduction (Horizontal) trenches (85', see septic layout design detail)
- 18" maximum trench depth as measured on the downhill side
- 0.3 gpd/ft² LTAR
- No grading, rutting or filling in septic areas
- No vertical cuts (greater than 2') within 15' of septic lines/areas
- Keep tanks and drainlines 10' from property lines
- Keep supply line 5 or more feet from property lines
- **Install in dry soil conditions**
- Maintain natural contours when clearing the lots
- Direct gutter water away from septic system

Conclusions:

Areas identified are large enough to support an initial system and partial repair area of the proposed two bedroom residence. The attached soil and layout maps are based on soil boring locations collected using an EOS Arrow 100 GPS, ArcGIS and/or AutoCAD. The coordinate system used was NC State Plane NAD 83 3200. The GPS locations can be accurate to submeter but should not be considered as accurate as survey located points. The soil map is scaled to print on 8.5x11 Letter type paper.

Please be aware of any local codes, setbacks, ordinances, and existing easements along with any permitting requirements before making a financial commitment on a property. The soil map and report are provided to you as part of this evaluation. Please feel free to contact me if you have any further questions.

Sincerely,

North Lakes Soil Consulting, PLLC



John Kase, LSS, REHS





	Site Information		Lot: N/A	Draw Date: 12/18/2025
	Project Name: 104 Lone Star Drive			Project #: 25-062
	County: Franklin	State: NC	Scale: 1" = 30'	Revision:
	Job Description:		Drawn By: JMM	
	Preliminary Lot Evaluation			





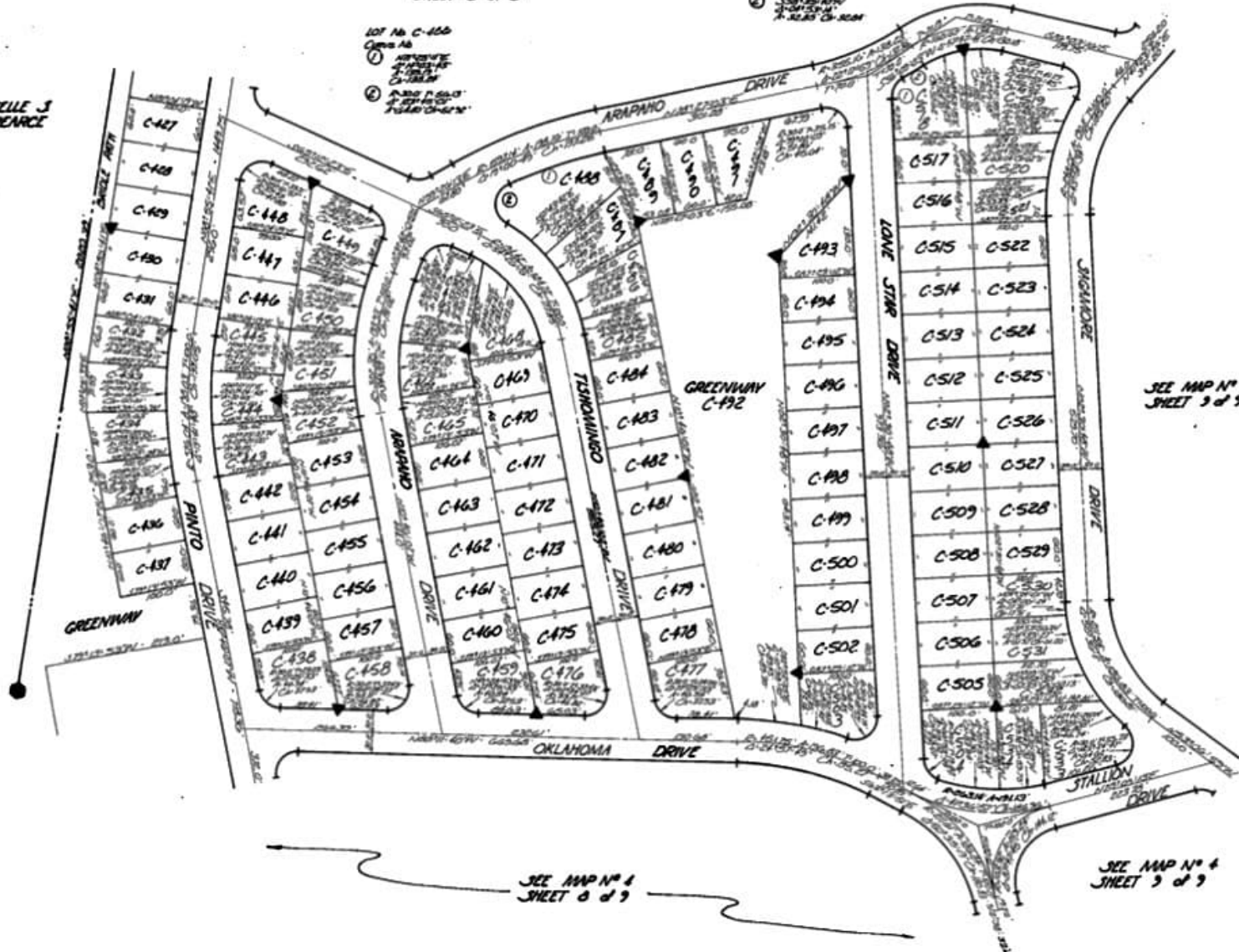
ESTELLE J
PERNCE

SEE MAP N° 5
SHEET 3 of 3

LOT No C-450
Owner AB
① ADJUTANT
GENERAL
C-450
② ADJUTANT
GENERAL
C-450

LOT No C-505
Owner AB
① ADJUTANT
GENERAL
C-505
② ADJUTANT
GENERAL
C-505

SEE MAP N° 5
SHEET 3 of 3



SEE MAP N° 4
SHEET 3 of 3

SEE MAP N° 4
SHEET 3 of 3

SEE MAP N° 4
SHEET 3 of 3