Triangle Soil Consulting, PLLC
5207 Lakefront Drive
Bullock NC 27507
info@trianglesoil.com
(252) 933-5764

[redacted]

10/26/2026

[redacted]

RE: Preliminary Lot Evaluation in Vance County located at 206 Rev Lewis Way, Henderson

Dear [redacted]

The following Preliminary Lot Evaluation technical report is submitted to assist in the development of the approximately 1.35-acre tract of land at 206 Rev Lewis Way (PN: 0451A01006) in Henderson, Vance County, North Carolina.

Triangle Soil Consulting, PLLC conducted the preliminary lot evaluation on October 23rd, 2026, to attempt to delineate an area of potentially suitable soil for subsurface on-site wastewater systems that would support a residential dwelling. The property was traversed and soil borings were conducted with a hand auger 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 above referenced parcel is located in the Piedmont physiographic region of North Carolina and located in the Raleigh Belt geologic region of Vance County. The potentially suitable soils that have formed on the parcel evaluated by Triangle Soil Consulting are similar to the Wedowee soil series. The attached soils map indicates the areas of potentially suitable soils.

Estimated design sewage flow from a house is 120 gallons per bedroom per day. The available space needed is a function of trench length, grade, and topographic features. It would be our suggestion to allocate at least 3,000 to 4,000 square feet of usable soil area per bedroom for the design and layout of residential septic system areas. This square footage will also allow and include sufficient area for a repair field of equal size for use in the future. 3,000 square feet per bedroom is usually sufficient for a level site. 4,000 square feet per bedroom is typically needed for a sloping site, terraced sites, sites with large trees and root mass, and sites with large surface boulders to work around. So, for example a three-bedroom dwelling, 9,000 to 12,000 square feet of usable soil are needed for conventional gravel trenches. These soil area

estimates are based upon soil application rates for a Group IV textured subsoil and Group II textured saprolite with a site LTAR range of 0.25-0.30 gallons per day/square foot for conventional type systems. The ultimate application rate will be assigned by the local county health department based on an individual soil & site evaluation of the lot. If the water supply is proposed to be well water, well setbacks must meet 15A NCAC 02C .0107 requirements,15A NCAC 18E .0600 setback requirements to septic systems and any local well regulations. If the water supply is proposed to be public/municipal water, setbacks to waterlines must meet 15A NCAC 18E .0600 setback requirements to septic systems.

Typical Septic Systems in NC:

The most common septic systems used in the 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), horizontal panel block systems (requires at least 26” of usable soil and allows 50% drain field reduction), low pressure pipe (24”), low profile chamber (20”), and anaerobic 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 needed on any system with over 750’ of drain field. The percent reduction means the amount of drain field trench length reduction allowed 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 can be substituted in lieu of conventional gravel trenches and receive the 25% drain field reduction.

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:

The tract is partially cleared with the sideslopes still remaining wooded, sloping down to a low-lying area that has potential for meeting wetland criteria along the rear of the property. Due to current weather conditions, it was not possible to determine if a surface water feature (stream) is also present along the rear of the property, which would require a 50’ minimum setback. Surrounding properties are utilizing private drinking water wells as their primary water source. There is a required, 50’ minimum setback to private drinking water wells. It is possible that adjacent wells not identified during the site evaluation, could impact the soil area(s) identified. The location of adjacent wells will need to be identified, prior to permitting a septic system on this property.

Soil borings were advanced in multiple locations across the project site. Once the soil borings are completed, areas are delineated based on the potentially usable soil depths. Soils with

depths of 30” or more are potentially usable for conventional, shallow trench conventional systems, chamber systems (25% drain field reduction), polystyrene systems (25% drain field reduction) and panel block systems (requires at least 36” of usable soil and allows 50% drain field reduction). It is important to note that a different system type may be required depending on the amount of slope correction required, which is dependent upon the slope at a particular boring location.

The attached soils map indicates the areas of soils which are potentially suitable for subsurface wastewater systems.

> The “**red, hatched soil units**” on the attached map indicate the areas of soils that have 36 inches or more of potentially suitable soil/saprolite material. These areas have potential for conventional, accepted, modified conventional septic systems and/or PPBPS. There may be inclusions of soils (24-29 inches) that may support LPP or shallow/ultra-shallow conventional septic systems in the areas mapped as conventional.

TABLE 1		
Area ID	**Possible System Type(s)**	**Size of Area (square feet)**
A1	Conventional, Accepted, Modified Conventional, PPBPS (Saprolite)	~10,832 ft^2

The gray areas labeled “**UN**” indicate areas of unsuitable topography or contain fill material from clearing/grading practices. Unsuitable topography characteristics can include gullies, rock outcroppings, streams and other surface waters, flood plains, drainage ways, designated wetlands, headslopes, steep slopes (> 65%), setbacks, old roadbeds, and available space.

Please note these potential areas may need additional refining with more soil work, field staking (layout) of the initial and repair systems in the field, and design of the septic system to determine system type combinations and final number of bedrooms. Triangle Soil Consulting cannot guarantee that every square foot of area shown as potentially suitable for septic systems will be permitted by the local health department due to the variability of naturally occurring soils.

Conclusions:

This tract has potential for further development using a septic system. Depending on the final house location, proposed well location and a final septic system layout, the tract has the potential of supporting a 3-bedroom residential dwelling, but careful site planning considerations will be required to maximize available space for a septic system and limit development impacts to the area identified.

The potentially suitable area will require the use of a saprolite system. If you plan to pursue permitting with the local health department, an evaluation utilizing backhoe pits is required pursuant to 15A NCAC 18E .0506.

The final house location will determine the method of distribution of the initial and repair systems. The use of a prefabricated permeable block panel system (T&J Panel) drainfield product, which allows for a 50% reduction in drainfield sizing compared to conventional gravel trenches, use of a dual alternating system installation (15A NCAC 18E .0901 (h)) and/or an adjustment to the daily design flow utilizing an engineered flow reduction (15A NCAC 18E .0403/S.L. 2014-120, s.53) may also be options for increasing the development potential.

Keep in mind that a residential dwelling can be built and the sewage can be pumped to the areas identified using a septic effluent pump if gravity flow cannot be achieved. Also, a pump is needed if more than 750' of drainfield is required. No driveways, grading or land disturbing activities should be allowed in the area where septic fields are proposed, as it will affect the site's suitability. The local planning and zoning authority prior to approval shall review and approve any proposed development site plan. The attached soil map is 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 8.5 x 11 Letter type paper.

Triangle Soil Consulting can provide additional septic permitting and site planning consulting upon request. In North Carolina, three primary options for septic system permitting exist. In the "traditional" permitting option, the local county health department in the form of an Improvement Permit grants site approval. A Construction Authorization for 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. In the traditional option, the local county health department can evaluate and permit any site.

NC Session Law 2023-90 now allows a "hybrid" version of the traditional permitting option. 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. If the soil scientist is also an Authorized Onsite Wastewater Evaluator (AOWE), then the soil scientist can prepare the design elements for a Construction Authorization. **This report does not meet the requirements for permitting under NC Session Law 2023-90, commonly referred to an "A2" permit.**

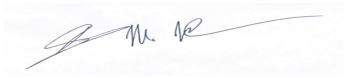
The "private" permitting options are the Engineer Option Permit (EOP) and Authorized Onsite Wastewater Evaluator (AOWE). A NC Licensed Engineer, a NC Licensed Soil Scientist, NC Authorized Evaluator, and a NC Registered Septic Installer can evaluate, design, and install a septic system without Health Department involvement other than record keeping. **This report**

does not meet the requirements for private permitting under the Engineer Option Permit or Authorized Onsite Wastewater Evaluator permitting options.

A preliminary lot evaluation is done as part of the due diligence process where the level of detail for an Improvement Permit is not desired and is often done to determine if there are usable soils on property before purchasing. This preliminary evaluation was conducted using accepted soil science and environmental health practices. This does not guarantee that the local health department will agree with these findings since soil/site evaluations are an interpretation of the state regulations or guarantee issuance of any permits, but all current sampling methods, technologies, and practices were used. 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,

Triangle Soil Consulting, PLLC



Justin M. Milstein, LSS, REHS
Owner & Soil Scientist



Encl.: Preliminary Lot Evaluation Map
Survey Plat

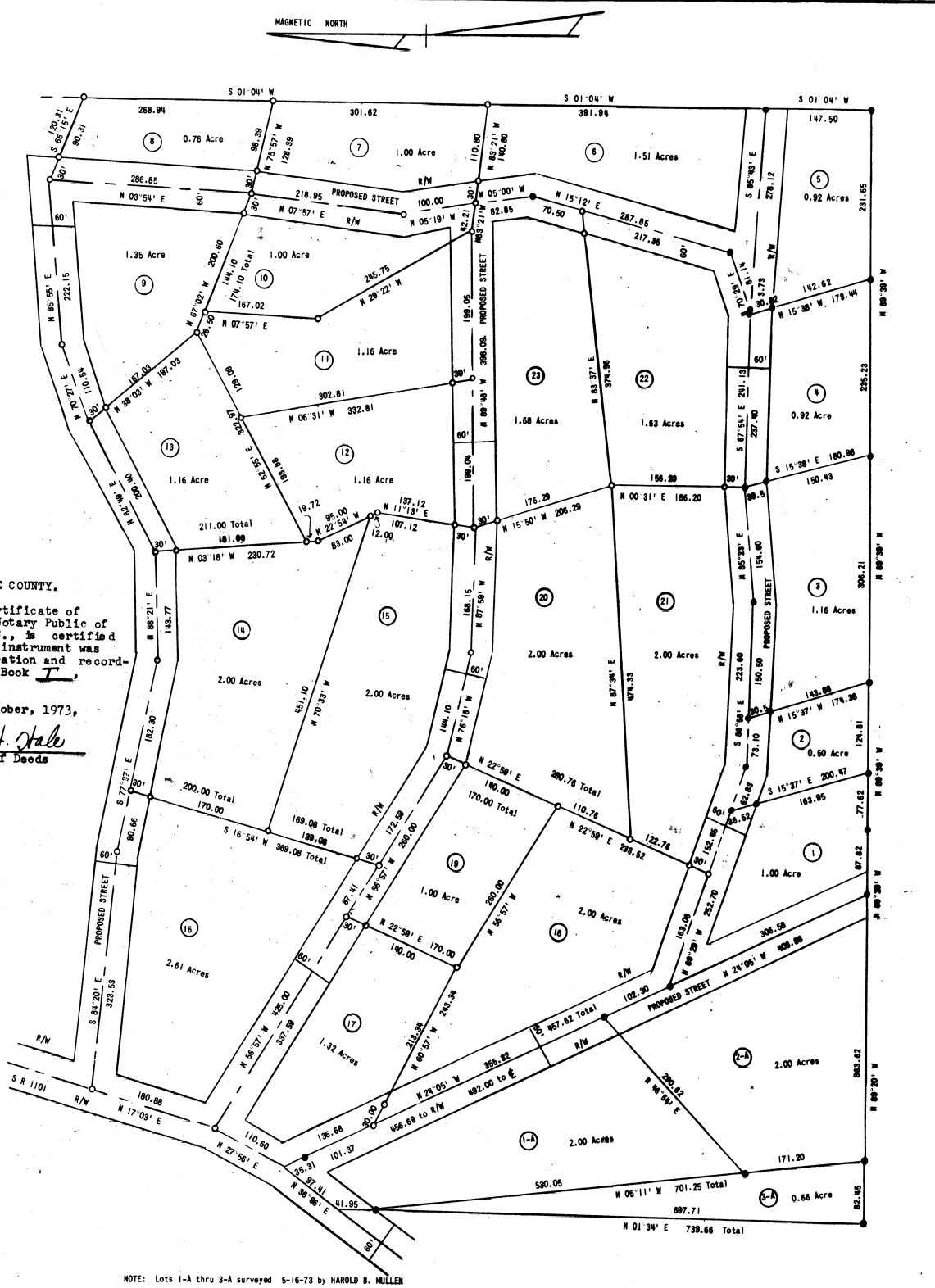


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Site Information	Lot: 9		Draw Date: 10/24/2026
Project Name: 206 Rev Lewis Way, Henderson			Project #: 26-034
County: Vance	State: NC	Scale: 1" = 50'	Revision:
Job Description:		Drawn By: JMM	
Preliminary Lot Evaluation			

T-229

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NORTH CAROLINA, VANCE COUNTY.

The foregoing certificate of Brunetta R. Taylor, Notary Public of Franklin County, N. C., is certified to be correct. This instrument was presented for registration and recorded in this office in Book T, Page 229.

This 25 day of October, 1973, at 2 o'clock P. M.

Sarah H. Hale
Register of Deeds

NOTE: Lots 1-A thru 3-A surveyed 5-16-73 by HAROLD B. MULLEN
Lots 1 thru 6 surveyed 7-5-73 by HAROLD B. MULLEN
Lots 7 thru 23 surveyed 10-23-73 by HAROLD B. MULLEN
Lot 6 revised 10-23-73.

LEGEND
● existing iron pipe
○ new iron pipe

100 50 0 100 200 300 400

NORTH CAROLINA REGISTERED SEAL L-1126 LAND SURVEYOR HAROLD B. MULLEN
seal

I, HAROLD B. MULLEN, certify that under my direction and supervision this map was drawn from an actual field survey; that the error of closure of the survey as calculated by latitudes and departures is 1: 5,000 ; that this map was prepared in accordance with G.S. 47-30 as amended.

Witness my hand and seal this 23 day of October, 1973.

R. L. S. L-1126 Harold B. Mullen

Sworn to and subscribed before me this 23 day of October, 1973.

My Commission expires 12-10-77.

Brunetta R. Taylor
NOTARY PUBLIC

BRUNETTA R. TAYLOR NOTARY PUBLIC FRANKLIN COUNTY, N.C.
seal

PROPERTY SURVEY FOR
WILLIAM H. LEWIS
VANCE COUNTY
NORTH CAROLINA

HAROLD B. MULLEN
REG LAND SURVEYOR
ZEBULON N C

DRAWN BY: WDH & BRT
CHECKED BY: HBM
DATE: 10-23-73
SCALE: 1" = 100'