

FOUR RIVERS Environmental, PLLC

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1/7/19
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Ricky Spoon
2475 Redbud Rd
Pittsboro, NC 27312

Subject: Soil/Site Evaluation Report
Mann's Chapel Rd, Chatham County Tax Pin 68308, +/- 12 Acres

Dear Mr. Spoon:

On January 5th, 2019, a soil/site evaluation was performed on the parcel described above. This evaluation was performed in order to locate areas of soil suitable for subsurface wastewater treatment and disposal systems for single family homes. The soil evaluation was performed using hand auger borings. The evaluation was performed in accordance with the Rules and Laws for Onsite Sewage Treatment and Disposal Systems, Title 15A NCAC 18A .1900. The property was evaluated for landscape position, topography, soil morphology, soil depth, depth to seasonal high water table, restrictive horizons and available space.

The property is located in northeastern Chatham County, NC. Suitable soils identified in the field are shown as red shaded areas on the attached map. These soils are suitable for conventional type septic systems. These areas contained 30 inches or more of useable material and are suitable for conventional, modified conventional or approved accepted type systems. These soils are most similar to the Pacolet or Wedowee soil series. These soils generally have a reddish yellow matrix but can also have lithochromic colors deeper in the profile that are derived from parent material. Based on soil borings these soils are a group four soil in accordance with 15A NCAC 18A .1900 "Laws and Rules for Sewage Treatment and Disposal Systems". These soils have a long term acceptance rate of .1-.4 gpd/ft².

Generally, 4000 square feet per bedroom or 30 square feet per gallon will provide the adequate space needed on the ground for the installation of the primary septic system and preserve the repair area. This space is after all setbacks have been met and no obstructions are present. The county health department will ultimately establish the

area for the septic system, the LTAR and the system type. Once they have conducted their evaluation after you have applied for the permit, the area that they designate must remain undisturbed unless authorized by the county health department. Excavation and mechanical type of clearing can render an otherwise usable area unusable if best management practices and careful site preparation and planning are not observed. Please note that neighboring property septic systems and wells may impact setbacks on this property.

The red shaded area is overlain over the proposed lots on diagram 2. Sufficient space for system and repair for a three bedroom residence sized at 360 gallons per day will be 12,000 sq ft for most lots. If a reduction type system is utilized this space may be sufficient for a four bedroom, however a field layout of the system must be performed in order to confirm available space. Lots 1 and 2 do not have sufficient useable soil for conventional systems. Offsites 1A and 2A are proposed for these lots. An offsite septic easement area serving two or more lots must follow the innovative approval. A field layout of the proposed systems will be required as well as tap sheets for pressure manifolds. The supply line easement must meet Chatham county requirements and the supply lines must be installed according to the innovative approval.

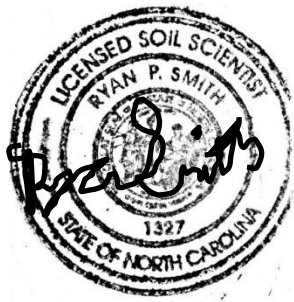
This report does not represent a permit or approval for any site work and in no way guarantees a permit for the areas evaluated. No attempt was made to identify any easements or rights-of-way that may impact or interfere with this area. An independent evaluation must be performed by Chatham County Environmental Health after an application is made with their office. An Improvement Permit and Construction Authorization must be issued by the county health department prior to obtaining any building permits for the property.

The attached map shows areas that contain suitable soil. Please note that given the nature of the soils, inclusions of areas shallow to relic features or saprolite are possible in any area deemed "suitable". A field layout of the proposed septic system and structure may be required as part of the permitting process on a per lot basis.

This report discusses the general location of potentially usable soils for on-site wastewater disposal and the soil site limitations on the property that exists at the time of the evaluation. Four Rivers Environmental provides professional consulting specializing in the practice of soil science and wastewater management. We are therefore hired for its professional opinion regarding these matters. Laws and rules governing wastewater treatment and disposal are forever evolving and subject to the interpretation and opinion of individuals which are employed by local and state agencies that govern these laws and rules. Due to this fact, Four Rivers Environmental, PLLC cannot guarantee in any way that any area located in the field, shown on a sketch, or

discussed with the client will be permitted by any of these agencies. It is for this reason that Four Rivers Environmental, PLLC strongly recommends to anyone considering a financial commitment on any piece of property be completely aware of any and all permit requirements on that property before purchase and obtain those permits prior to a final financial commitment.

If you have any questions regarding our findings or report, or if any additional services are needed such as site meetings, septic system layouts, or system designs, please let us know.



Ryan Smith
North Carolina Licensed Soil Scientist
1327

Encl: Soil Evaluation Sketch

15A NCAC 18A .1950 LOCATION OF SANITARY SEWAGE SYSTEMS

(a) Every sanitary sewage treatment and disposal system shall be located at least the minimum horizontal distance from the following:

- (1) Any private water supply source, including any well or spring 100 feet;
- (2) Any public water supply source 100 feet;
- (3) Streams classified as WS-I 100 feet;
- (4) Waters classified as S.A. 100 feet, from mean high water mark;
- (5) Other coastal waters 50 feet, from mean high water mark;
- (6) Any other stream, canal, marsh, or other surface waters 50 feet;
- (7) Any Class I or Class II reservoir 100 feet, from normal pool elevation;
- (8) Any permanent storm water retention pond 50 feet, from flood pool elevation;
- (9) Any other lake or pond 50 feet, from normal pool elevation;
- (10) Any building foundation 5 feet;
- (11) Any basement 15 feet;
- (12) Any property line 10 feet;
- (13) Top of slope of embankments or cuts of 2 feet or more vertical height 15 feet;
- (14) Any water line 10 feet;
- (15) Drainage Systems:
 - (A) Interceptor drains, foundation drains, and storm water diversions
 - (i) upslope 10 feet,
 - (ii) sideslope 15 feet, and
 - (iii) downslope 25 feet;
 - (B) Groundwater lowering ditches and devices 25 feet;
- (16) Any swimming pool 15 feet;
- (17) Any other nitrification field (except repair area) 20 feet;

(b) Ground absorption sewage treatment and disposal systems may be located closer than 100 feet from a private water supply, except springs and uncased wells located downslope and used as a source of drinking water, for repairs, space limitations, and other site-planning considerations but shall be located the maximum feasible distance and in no case less than 50 feet.

(c) Nitrification fields and repair areas shall not be located under paved areas or areas subject to vehicular traffic. If effluent is to be conveyed under areas subject to vehicular traffic, ductile iron or its equivalent pipe shall be used. However, pipe specified in Rule .1955 (e) may be used if a minimum of 30 inches of compacted cover is provided over the pipe.

(d) In addition to the requirements of Paragraph (a) of this Rule, sites to be used for subsurface disposal for design units with flows over 3,000 gallons per day, will require more stringent setback requirements.