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

July 25, 2019
Project #802

Steven Pate

RE: Preliminary soil/site evaluation for ~42 acres located adjacent to Old Hamilton and Antioch Church Roads in Harnett County.

Mr. Pate,

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 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 sketched the boundary between the suitable soils and unsuitable soils onto property map obtained from the Harnett County GIS database. There were portions of the wooded area of the property that were not thoroughly evaluated.

At the time of the evaluation the property was vacant of any residential dwellings. The parcel is located in the Coastal Plain region of Harnett County. The soils have formed from marine parent material. The suitable soils on this parcel have characteristics similar to the Goldsboro and Norfolk soil series. The attached soils map indicates the areas of suitable vs. unsuitable soils. The Goldsboro and Norfolk soil series variations found on the property were generally suitable for subsurface wastewater systems. That is, the morphology of the soils contains suitable characteristics that would support subsurface septic systems such as sandy clay loam textured subsoils which is not considered expansive and have blocky structure with no indicators of restrictive characteristics within 24 inches of the soil surface. This soil unit is shown as the cross-hatched soil unit on the attached soil map and generally would be suitable for ultra-shallow conventional type (at grade with 12-inch trench bottoms) septic systems.

Several factors should be considered before a final subdivision plan is created for this property. The suitable soil areas cannot be affected by future homes, driveways, patios, excavation or filling activities and if an on-site well is used then a 100' setback is required around the well head. An exact square footage of suitable soils required per lot to obtain a permit cannot be given due to soil variability and topographic characteristics on each lot. The amount of suitable soils required to support a 3-bedroom residence may range between 8,000ft^2-12,000ft^2 per lot. These soil area estimates are based upon soil application rates for a sandy loam to clay textured subsoil with a range of 0.3 gallons per day/square foot and 0.4 gallons per day/square foot for conventional type systems. The ultimate application rate will be assigned by the Harnett County Health Department based on a detailed evaluation. During construction activities the disturbed areas should be

minimized as much as possible. The same precautions should be taken when the individual lots are cleared for home sites. Only the vegetation should be removed in the areas of the proposed drain fields on lots to prevent any disturbance of the naturally occurring soil. A lot with adequate areas of suitable soils can be deemed unsuitable due to poor planning or site disturbance. Adams Soil Consulting recommends that all lot clearing activities are delayed until a permit is issued by the local health department, with the exception of clearing thick vegetation to access the lot.

This report discusses the location of suitable soils for subsurface wastewater disposal systems and does not guarantee any permits or approval required by the local health department. Any potential lots may require septic systems utilizing pumps, shallow or ultra-shallow conventional trench placement, low pressure pipe systems, and/or reductions systems for final approval. The rules governing on-site wastewater disposal systems are complex and the interpretation of the rules are based upon the opinions of regulators (state and county level). Due to the subjective nature of the permitting process and the variability of naturally occurring soils, ASC cannot guarantee that areas delineated as suitable for on-site wastewater disposal systems will be permitted by the governing agencies. These permitting considerations should be taken into account before a financial commitment is made on a tract of land.

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

Sincerely,

Alex Adams
NC Licensed Soil Scientist #1247

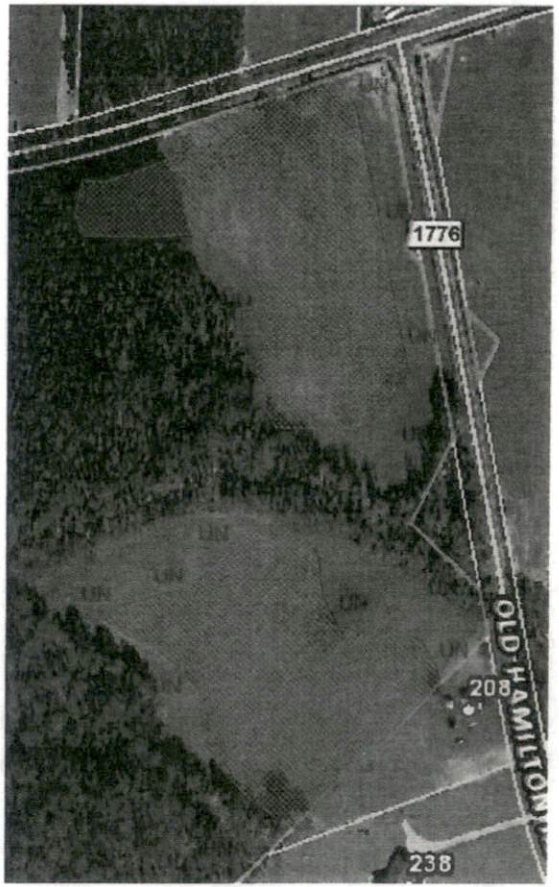
Profile Description #1

0-3% Slope, Linear Slope

Horizon	Depth	Color	Texture	Structure	Moist Consistence	Wet Consistence
Ap	0-5"	10YR 4/4	Sandy Loam	granular	friable	non sticky, non plastic
E	5-20"	10YR 6/4	Loamy Sand	granular	V. friable	non sticky, non plastic
Bt1	20-36"	10YR 4/6	Sandy Clay Loam	SBK	firm	slightly sticky, slightly plastic

Preliminary Soils Evaluation

Portion of ~42 acres (PIN #1506-37-3257)
Old Hamilton and Antioch Church Roads - Harnett County



Areas contain soils with 24 inches or more of useable restrictive and have potential for ultra-shallow conventional or LPP type septic systems.

UN Unsuitable areas or areas not evaluated

LICENSED SOIL SCIENTIST
ALEX ADAMS
1247
STATE OF NORTH CAROLINA

GRAPHIC SCALE
1" = 200'

200 0 200 400

*Preliminary Soils Evaluation
*Soil boundary was sketched onto a preliminary map of the property taken from public records.
*Not a Survey.
*Septic system setbacks listed below for new lots.
1) 10' from property lines.
2) 100' from wells for primary systems.
3) 50' from surface waters (streams, ponds, lakes).
*Any mechanical disturbances such as grading, cutting and filling of the suitable soil areas can render areas unsuitable for future septic systems.
*See accompanying report for additional information.
*Due to Soil Variability, Adams soil consulting cannot guarantee that the areas shown as suitable will be permitted by the local Health Department.

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