

Saturday, October 10, 2020

Kyle Swicegood
277 N Main St
Mocksville, NC 27028

Re: Parcel # C300000080 - Preliminary soil investigation

Mr. Swicegood,

Per your request, a soil/site investigation was performed on the above referenced property. This investigation was performed as part of the planning process for the sale of the reference property at auction. Work was conducted to adhere to requirements set forth in Rules .1901-.1968 of Title 15A Subchapter 18A of the North Carolina Administrative Code (T15A.18A.1901-.1968). Fieldwork was completed on Friday, October 9, 2020.

Soil borings were placed on suitable landscape positions across the property and soil characteristics such as texture, structure, mineralogy, wetness conditions, depth to saprolite, etc. were observed. The location of borings was mapped using handheld GPS equipment (Trimble Geo 7x) and borings were flagged using survey ribbon. All soil was evaluated with a hand auger.

SITE DESCRIPTION

This property is a site of established farm field and mixed hardwood forest. It is predominated by gently sloping to steeply sloping landscapes. The predominate soils of this property are weathered from shale or sandstone parent material.

FINDINGS

This property was investigated for soil areas based on the preliminary division map provided by the client. Suitable areas were identified for each of the 5 proposed tracts. There are three soil area types described in the map attached that were identified for septic system use during the evaluation of this property. The areas shown on the attached map are shaded according to their suitability for septic system types:

Red hatching represents areas of soil that are generally suited for conventional (gravel) or accepted system trenches. The predominance of the soils in these areas have suitable depths exceeding 30 inches. Due to greater depth of suitable soil, there are fewer limitations for system



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type allowing the use a less expensive system types as well as the luxury of utilization of space saving trench types like prefabricated permeable block panel systems.

The areas shaded in the blue and red cross-hatching pattern are generally suitable for modified system types. These may include at-grade conventional and accepted systems, low-profile chamber, and large diameter pipe. Due to the shallow depth of installation of these system types, imported soil for capping of the drainfield may be required, slightly driving up cost of installation.

The areas in green stippling are predominated with soils of suitable depths of 20 inches or less. These areas are suitable mainly for alternative trench types such as Drip Irrigation and Fill Systems.

Areas on the attached map that are unshaded in one of the above schemes were likely not evaluated for the scope of this project.

SYSTEM DESIGN FOR CONVENTIONAL SEPTIC SYSTEMS

Residential septic systems are sized according to the number of bedrooms and the value given to the soil in which the system will be installed. The design flow for a bedroom is 120 gallons per day (gpd). This assumes a two-person occupancy allowing 60 gallons per person per day. For example, a four-bedroom house would have a design daily flow of 480 gpd (four bedrooms at 120 gallons per bedroom). The soil is given a value, known as the Long Term Acceptance Rate (LTAR) that is dependent on the soil texture. Group IV soils (clays) have a LTAR range of 0.1-0.4 gallons per day per square foot. This number is an approximation of the amount of sewage effluent that can be absorbed and treated by one square foot of soil per day. The square footage requirement of the septic field is determined by dividing the design daily flow by the assigned LTAR. For example, a four-bedroom house with an LTAR of 0.30 gal/day/ft² would require 1600 ft² of drain field. The linear footage requirement is determined by dividing the square footage by the trench width (typically 3'). In this example, the four-bedroom house would require 533 linear feet of septic drain line.

The above example discusses the design of a standard conventional septic system. Other systems, such as LPP, LDP, etc, require additional steps for the system design.

CONCLUSION

This property contains three distinct areas of soil suitable for use with septic systems. These areas are delineated on the maps attached to this report. As with any preliminary evaluation, this report is no guarantee of the approval or permitting of any system for the sites indicated by this report or soil map. Any areas intended for use with septic systems should not be graded or filled. Failure to protect the soil sites identified by this report from disturbance could lead to rendering currently suitable sites unsuitable.



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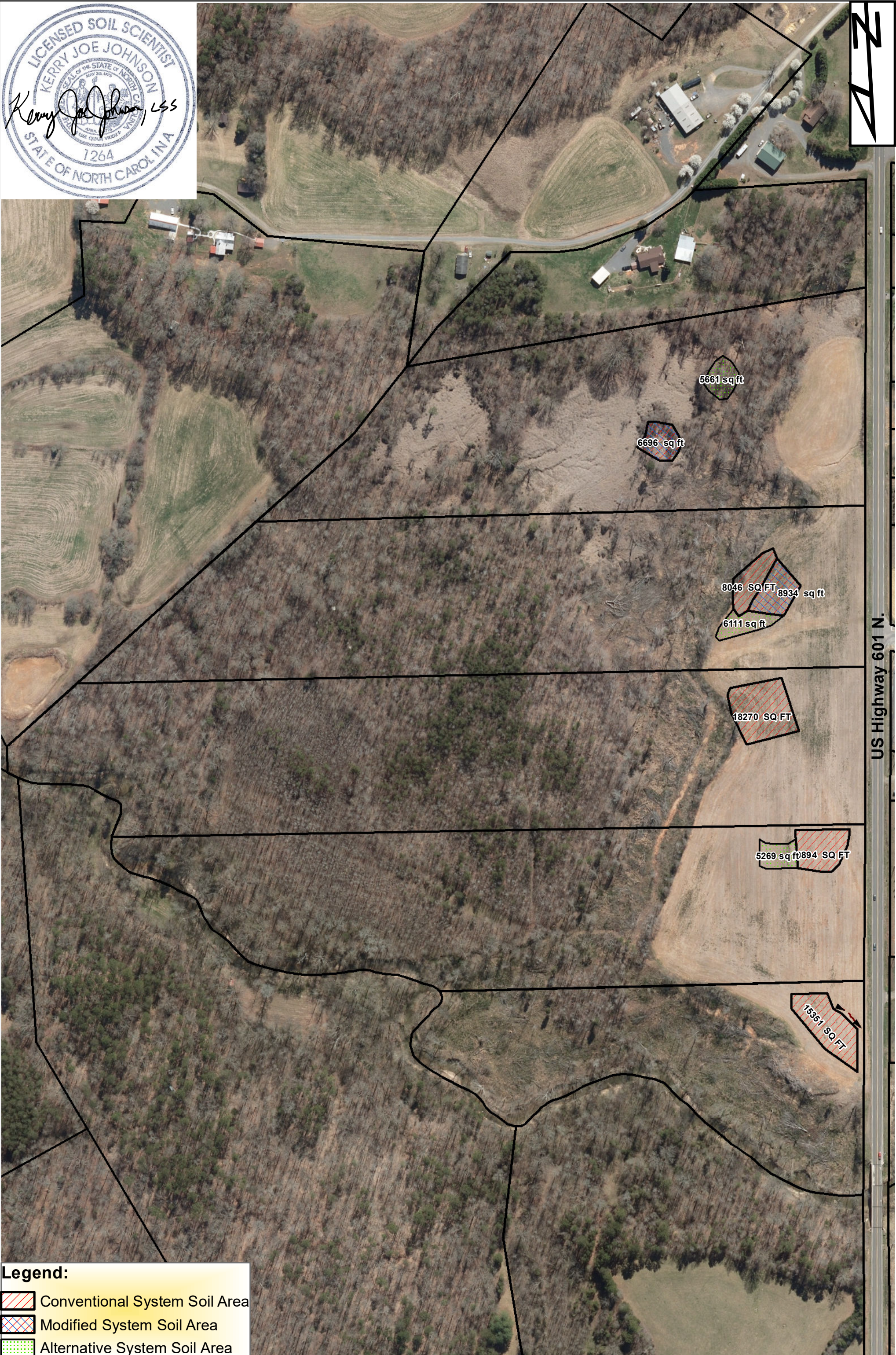
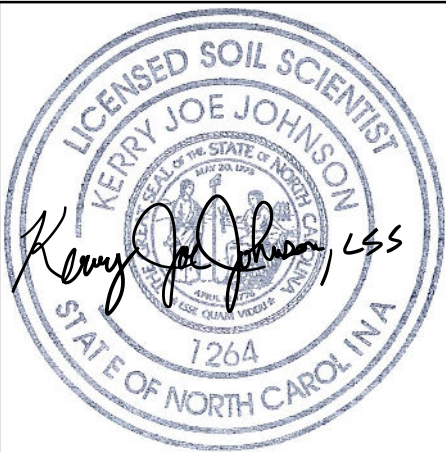
I am pleased to be of service in this matter and will be available to provide further assistance in the future if necessary, to aid in the successful completion of this project.

Sincerely,

K. Joe Johnson, LSS
Kerry Joe Johnson, LSS



K. Joe Johnson, LSS
Licensed Soil Scientist
3311 Old Liberty Rd.
Franklinville, NC 27248
(336) 953-0763



US Highway 601 N.

Legend:

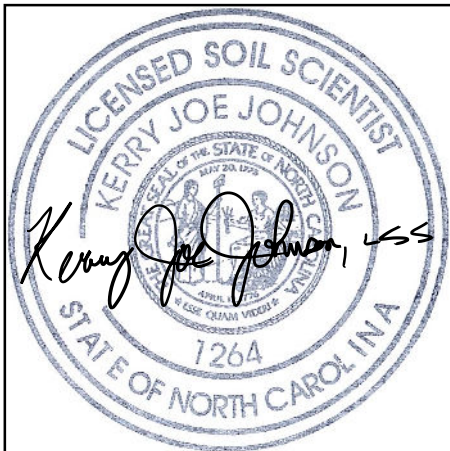
- Conventional System Soil Area
- Modified System Soil Area
- Alternative System Soil Area

1 inch = 200 feet

Swicegood Project
US Highway 601 N. Mocksville, NC
Davie County Parcel # C30000080

This document is intended for the identification of soil areas for use in development of the property in question and is not intended to substitute for a land survey not should it be used as legal documentation for land transfer. Noted soil locations are approximate and do not infer in any way survey accuracy.

Base Map: Davie County GIS



5661 sq ft

6696 sq ft

8046 SQ FT 8934 sq ft

6111 sq ft




18270 SQ FT

5269 sq ft 894 SQ FT

1357 SQ FT

US Highway 601 N.

Legend:

-  Conventional System Soil Area
-  Modified System Soil Area
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