

PRELIMINARY SOIL AND SITE EVALUATION

Cabarrus County Tax Parcels: 56434448040000 and 56434436880000
Sapp Road
Concord, NC 28025

Prepared For:

The McLemore Group
P.O. Box 66
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Prepared By:



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PO Box 541
Midland, NC 28107

October 20, 2025



INTRODUCTION & SITE DESCRIPTION

This Preliminary Soil and Site Evaluation was performed on a portion of two parcels, totaling 10.7-acres, located on Sapp Road, Concord, North Carolina (Cabarrus County Tax Parcels:56434448040000 and 56434436880000).

Thompson Environmental Consulting, Inc. (TEC) was retained to determine whether the soils are suitable for onsite subsurface wastewater treatment and disposal. The property was evaluated in accordance with North Carolina statutes for waste disposal (“Laws and Rules for Sewage Treatment and Disposal Systems”, September 30, 2024).

INVESTIGATION METHODOLOGY & SITE PHYSICAL CHARACTERISTICS

Individual soil borings were assessed, and soil color was classified using the Munsell Soil Color Chart. Landscape features—including slope and drainage patterns—were documented alongside key soil characteristics such as depth, texture, structure, indicators of seasonal wetness, and the presence of restrictive horizons.

The project study area remains undeveloped and is characterized by a mixed deciduous forest. During our evaluation, we identified a jurisdictional stream and associated drainage feature, with their approximate locations illustrated in Figure 1.

FINDINGS

A field survey was conducted on October 20, 2025. Soil borings were advanced manually using a hand-held auger, and their respective locations are indicated in the attached figure.

Provisionally Suitable for Subsurface Drip Systems. Subsurface Drip systems require a minimum of 13 inches of suitable soil. Soil with a restriction of less than 17 inches will require the septic system to include a pretreatment unit that treats the wastewater to Treatment Standards II. Subsurface Drip systems are substantially more costly to install than Conventional Type and Low-Profile Chamber Systems. Long term acceptance rates (LTARs) for the soils will need to be confirmed via in-situ hydraulic conductivity measurements, but these are expected to support an LTAR of 0.1 GPD/sq-ft.

Unsuitable. Borings and pits classified as Unsuitable for Subsurface Drip systems had a restrictive horizon within 12 inches of the ground surface and are depicted in the attached Figure as red points.

DISCUSSION

The soils located within the purple polygon in the attached Figure are classified as Provisionally Suitable for the installation of a Pre-Treated Subsurface Drip Dispersal System. While additional soil analysis will be necessary to establish the site-specific Long-Term Acceptance Rate (LTAR), TEC recommends an LTAR of 0.1 gallons per day per square foot (GPD/sq ft), based on prior evaluations of comparable soil profiles.

At an LTAR of 0.1 GPD/sq ft, approximately 9,600 square feet of unobstructed, suitable soil must be designated for both the system installation and its required repair area to support a four-bedroom residence.

CONCLUSION

The findings presented in this report reflect TEC's professional judgment, informed by our Soil and Site Evaluation and our understanding of current North Carolina laws and regulations governing on-site wastewater systems. It is important to recognize that soils vary naturally across the landscape and often contain inclusions that are difficult to quantify with precision. Given this inherent variability—and the subjective nature of identifying limiting factors—there is no assurance that regulatory authorities will concur with the conclusions outlined herein.

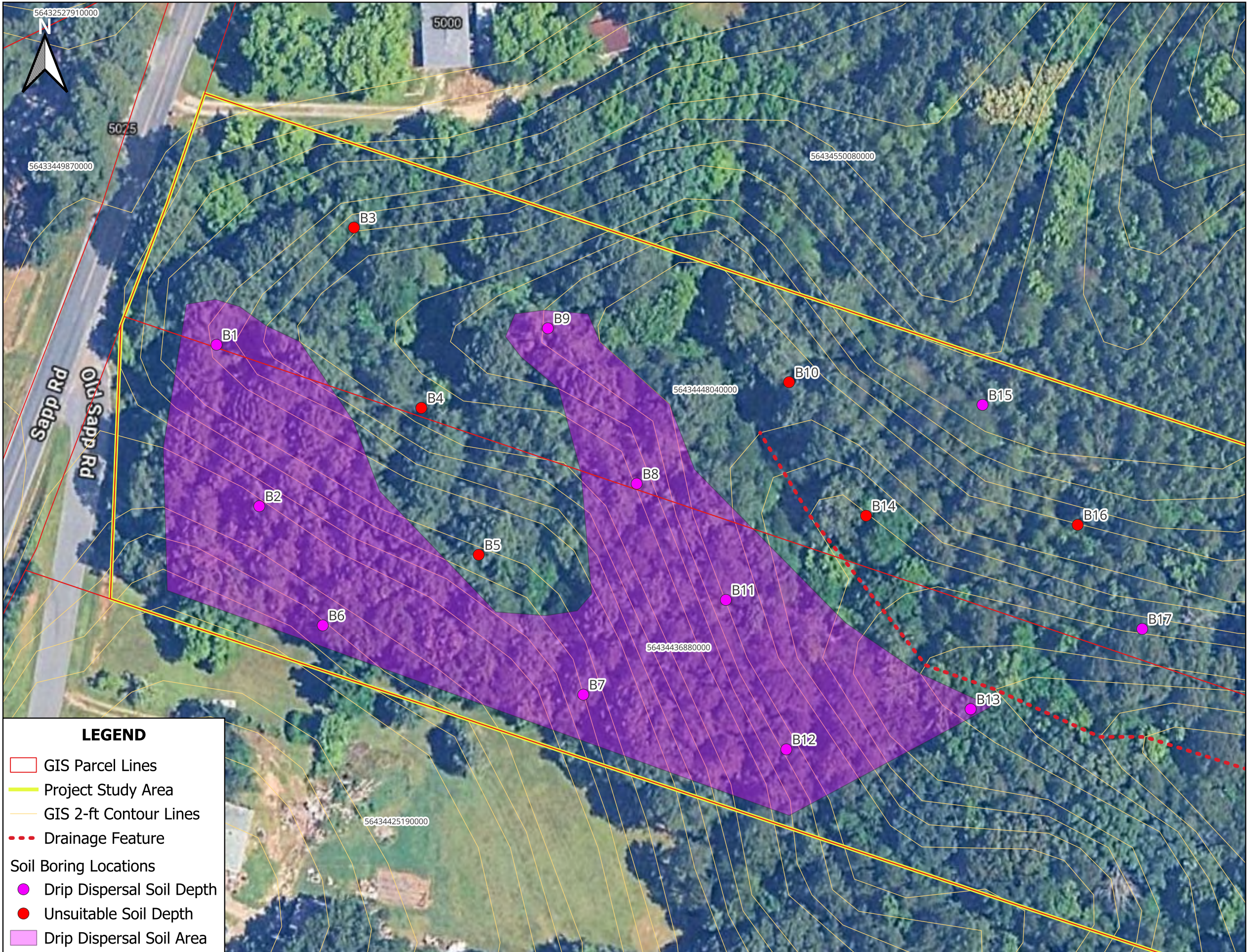


FIGURE 1

Prepared For:
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Soil and Site Evaluation

Parcels: 56434448040000
and 56434436880000
Sapp Road
Concord, NC 28025
Cabarrus County

Scale:
0 30 60 ft

Date:
October 2025

TEC Job No.
25-308

