

Needham & Gulley Environmental, PLLC

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November 19, 2025

Alysia Huffman
Generation Family Properties

RE: Septic Evaluation for PID: 431400223554, located on Hardy Graham Rd, Onslow County, North Carolina.

Dear Alysia:

On November 12, 2025, I made a site visit to the above-mentioned property, which totals approximately 13.23 acres in size. The purpose of this visit was to evaluate the property for the placement of onsite, subsurface, conventional, modified conventional, alternative, or innovative waste water system. The North Carolina Department of Health and Human Services, Division of Environmental Health Regulations, 15A NCAC 18E, were used as a guideline for making this evaluation. This evaluation was performed by placing hand auger borings to depths of approximately 36" at various locations on the property. The property was not surveyed prior to this evaluation.

This property was thickly vegetated in some areas and an evaluation of the entire property is not possible without access paths being mowed. I have attached a "Bore Hole Location Map" showing the areas that I was able to evaluate. Based on our correspondence, the goal is to divide this property into at least three lots, with a septic system on each lot to support up to a 4-bedroom home. Please note that there is an existing cemetery area on the property, which is labeled on the map. This area was not evaluated.

The yellow squares labeled #1 and #3 on the attached map represent areas that are provisionally suitable for a 4-bedroom fill-mound system utilizing conventional drainlines. These are 120' x 120' areas which is large enough for an initial and repair fill-mound system sized at a 0.3 gallon/day/square foot Long Term Acceptance Rate (LTAR). A four-bedroom system will require 533 linear feet of drainline and the fill-mound height will vary based on the specific soil wetness condition in the system area and the difference in elevation in the fill mound area but will generally be 18" to 24" in height. A three-bedroom septic system will require 400 linear feet of drainline and the mound area will be smaller. There were some soils that were provisionally suitable for a shallow conventional septic system to the south of the yellow square labeled #1. If this area is large enough, a less expensive shallow conventional initial system may be located in this area. The soils around the yellow square labeled #3 are only suitable for a fill-mound system so a fill-mound system will be required in that area.

The white rectangle labeled #2 on the attached map represents an area that is provisionally suitable for a 4-bedroom low-profile chamber septic system. This is a 60' x 83' area which is large enough for an initial and repair low-profile chamber system sized at a 0.4 gal/day/sqft LTAR. A four-bedroom system in this area will require 400 linear feet of low-profile chamber drainline. A three-bedroom system in this area will require 300 linear feet of low-profile chamber drainline. A 6" loamy soil cap or cover will be required over the drainfield.

The purple rectangle labeled #4 on the attached map represents an area that is provisionally suitable for a 4-bedroom shallow conventional septic system using alternative drainlines with a 25% reduction. This is a

42' x 70' area which is large enough for a an initial and repair shallow-conventional septic system sized at a 0.6 gal/day/sqft LTAR. A four-bedroom system in this area will require 200 linear feet of drainline, using a 25% reduction. A three-bedroom system in this area will require 150 linear feet of low-profile chamber drainline using a 25% reduction. A 6" loamy soil cap or cover may be required over the drainfield.

Based on these findings, the property could be subdivided into at least four lots.

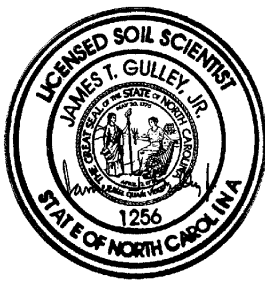
While on the property, I also evaluated the property for the presence of any jurisdictional wetlands. Wetlands were evaluated using the U.S. Army Corps of Engineers (C.O.E.) Wetlands Manual - 1987 edition, the Regional Supplement for the Atlantic and Gulf Coastal Plain Region, and subsequent definitions and guidance. Wetlands were identified using a three-parameter approach incorporating soils, vegetation, and hydrological indicators. Potential jurisdictional wetlands appear to be confined to the southwestern portion of the property and I have approximated the wetland/upland line with a light blue dotted line on the attached map. There is another area on the property that was extremely thickly wooded and in a lower landscape position than the surrounding areas. I have approximated this area with a white oval on the attached map. I could not get into this portion of the property and I expect it to contain soils that are unsuitable for septic systems and there could be some areas that are considered jurisdictional wetlands.

If you have any questions or concerns regarding this report, please contact me at (910)795-0319, (910)297-1282, or by e-mail at tgulley@gmail.com.

Sincerely,



J. Tom Gulley, Jr.
North Carolina Soil Scientist License# 1256

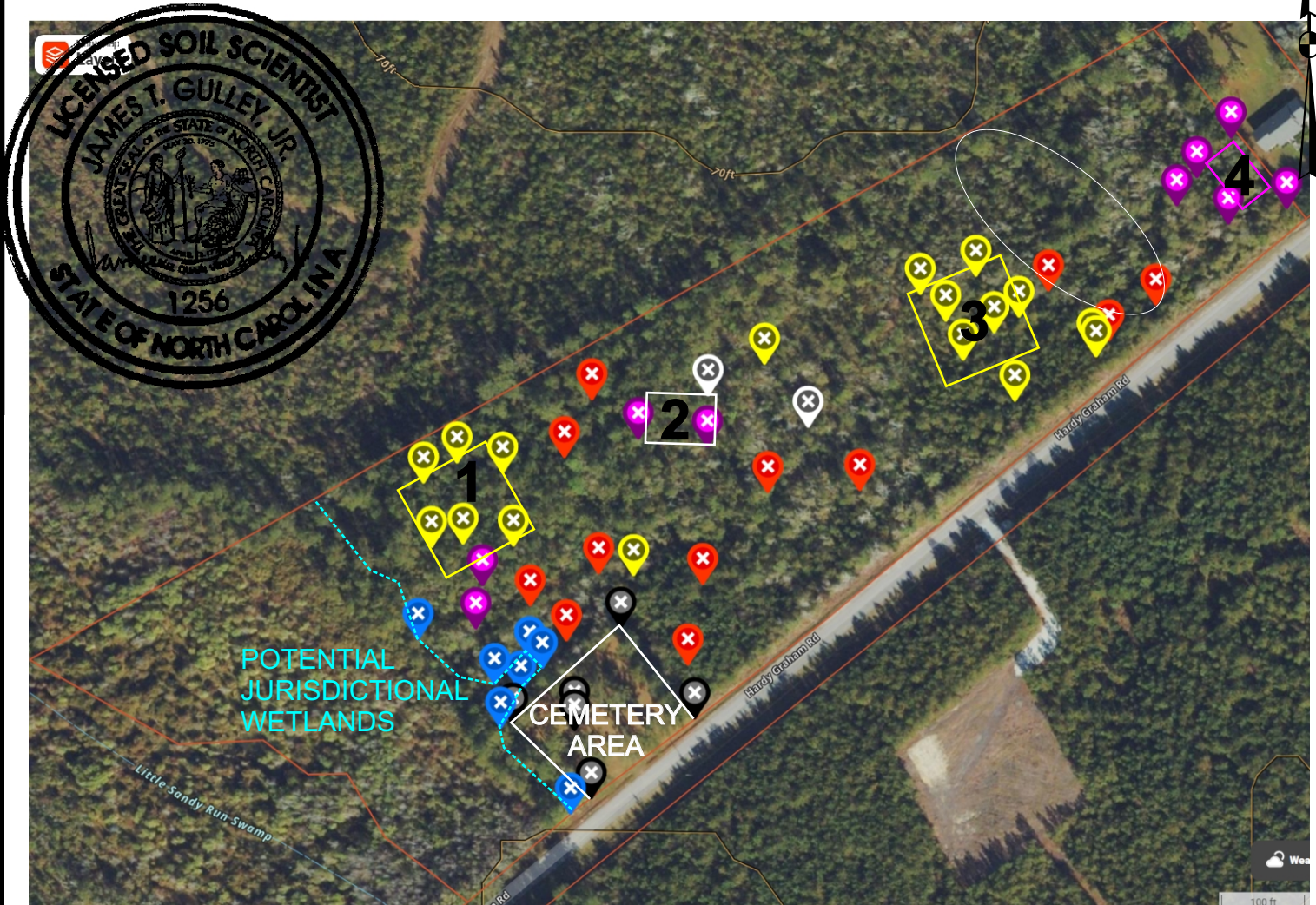


BORE HOLE LOCATION MAP

PID: 431400223554

MAPLE HILL AREA - ONSLOW COUNTY - NORTH CAROLINA

N



Map Source: OnXMaps

SEE ATTACHED LETTER DATED 11/19/25

SCALE 1" = 200'

LEGEND



A SINGLE HAND AUGER BORING AT THIS LOCATION YIELDED SOILS THAT ARE CONSIDERED PROVISIONALLY SUITABLE FOR ON-SITE SUBSURFACE WASTE TREATMENT USING SHALLOW CONVENTIONAL SEPTIC SYSTEMS. EST. SEASONAL HIGH WATER TABLE >24 INCHES. EST. PERMEABILITY 120-240 MIN/IN. LTAR= 0.4-0.6 GAL/DAY/SQFT (BAYMEADE SOILS)



A SINGLE HAND AUGER BORING AT THIS LOCATION YIELDED SOILS THAT ARE CONSIDERED PROVISIONALLY SUITABLE FOR ON-SITE SUBSURFACE WASTE TREATMENT USING LOW-PROFILE CHAMBER & ANAEROBIC DRIP SEPTIC SYSTEMS. EST. SEASONAL HIGH WATER TABLE 20 - 24 INCHES. EST. PERMEABILITY 120-240 MIN/IN. LTAR= 0.4-0.6 GAL/DAY/SQFT (FORESTON SOILS)



A SINGLE BORING AT THIS LOCATION YIELDED SOILS THAT ARE CONSIDERED PROVISIONALLY SUITABLE FOR ON-SITE SUBSURFACE WASTE TREATMENT USING SHALLOW FILL MOUND AND PRETREATMENT SEPTIC SYSTEMS. EST. SEASONAL HIGH WATER TABLE 12-20. INCHES. EST. PERMEABILITY 60-240 MIN/IN. LTAR= 0.3-0.6 (FORESTON SOILS)



A SINGLE HAND AUGER BORING YIELDED SOILS THAT ARE CONSIDERED UNSUITABLE FOR ON-SITE WASTE TREATMENT DUE TO A SEASONAL HIGH WATER TABLE OF <12 INCHES. (LEON & WOODINGTON SOILS)



POTENTIAL 404-WETLAND (MURVILLE SOILS)

FOR PRELIMINARY PLANNING PURPOSES ONLY

THIS IS NOT A SURVEY.
LOCATIONS SHOWN WERE TAKEN WITH A
SMART PHONE & THE ONXHUNT APP.
C:\NEEDHAM&GULLEY\03-25-063 HardyGrahamRd\BoreHoleLocation.CDR

NEEDHAM & GULLEY ENVIRONMENTAL, PLLC

November 16, 2025

DRAWN BY: JTG