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SEVERSON SOIL CONSULTING, PLLC

Site Suitability for Domestic Sewage Treatment and Disposal Systems

Savage Family Farms
8658 Savage Road
Spring Hope, NC
Nash County
Parcel ID # 285000695204U

Prepared for: Jennifer Kelly, LD Land Holdings LLC

Prepared by: Erik Severson, Severson Soil Consulting, PLLC

Report Date: 11/21/2023

SYNOPSIS

This report shows the findings of a preliminary soil and site evaluation of the 66-acre portion of the parcel owned by Savage Family Farms in Nash County. The preliminary site evaluation revealed several areas of provisionally suitable soils on five sections

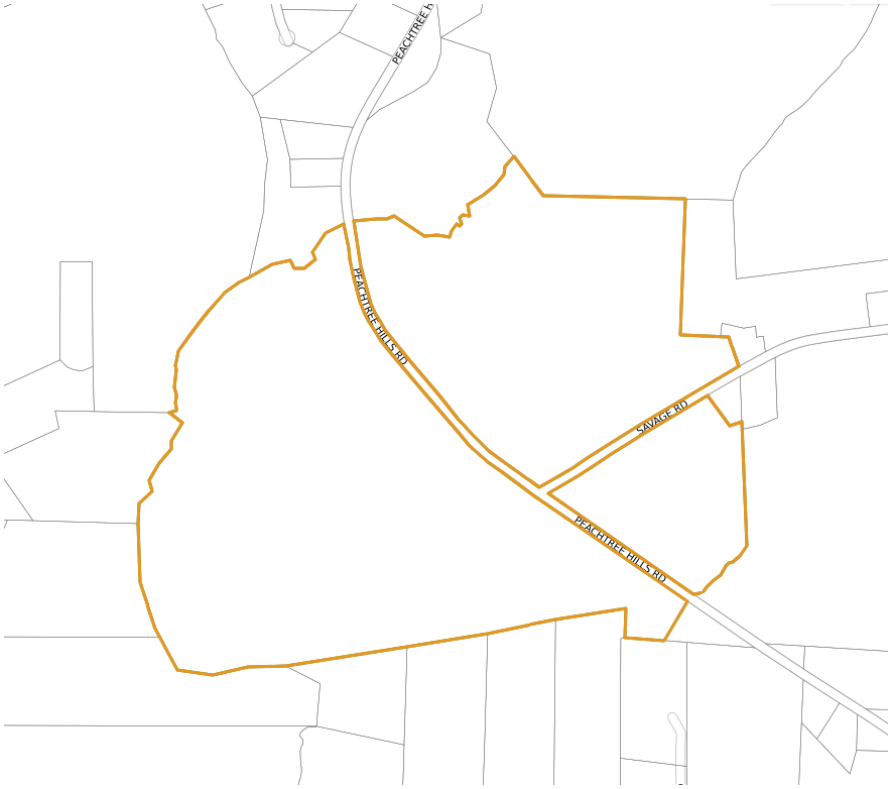

Figure 1. Property and lot locations in Nash County. This report focus is on the upper right portion of this parcel.

To: Jennifer Kelly

Re: Soil Feasibility for parcel: 285000695204U

Jennifer, this is a summary of my findings:

Severson Soil Consulting, PLLC (SSC) conducted a preliminary onsite wastewater soil feasibility study on the above referenced parcel to determine the area of soils, suitable for a subsurface onsite wastewater disposal system. The soil and site evaluation were performed by using a hand auger boring during moist soil conditions based on the recommended criteria found in the "Laws and Rules for Sewage Treatment and Disposal Systems", 15NCAC 18A. 1900. From this evaluation, SSC sketched an area of suitable soils on each lot. Soil boring locations were obtained onX hunt application. The site evaluation was limited to those areas that were accessible by foot.

Site Description

The parcel was split into three sections of approximately 66, 20, and 116 acres on the above referenced property, respectively (see figure 1 above). This report focuses on the 66-acre portion of the property. The parcel was situated near the intersection of Peachtree Hills Road and Savage Road. There were farmed fields and the state roads on the main ridge. Several sideslopes and spur ridges were located in the wooded portions of the property. There was an existing house and well that was located at the intersection.

Existing NRCS Soil Map

The site lay in the Carolina Slate Belt subsection of the Piedmont. The NRCS soil map showed several soil mapping units on the subject property: GeB, GeC, GeE (Georgevile soils); and Wh (Wehadkee). The soil evaluation focused on the GeB, and GeC mapping units and to a lesser extent, the steeper GeE unit. The Wh unit is a hydric floodplain soil and therefore both were not evaluated. See Figure 2 for the NRCS soil map.

Figure 2. Soil map of the of the subject property.

Soil Borings

SSC advanced over 86 soil borings on all of the parcels shown in figure 3. Their depths to suitable soils categorized the soils: the red dots represent soils to 30". The red dots were the Georgeville soils on an upland flat terrace and gently sloping areas in the woods. The brown dots were the Nason soils (20-24" of soil). The yellow (18-19"), purple (13-17"), and black (<12" of soil) dots were the Cid soils.

The recommended loading rate (LTAR) for the Georgeville soils are 0.3 gallons per day per square foot (GPD/ft2) and 0.25 GPD/ft2 for the Nason soils.

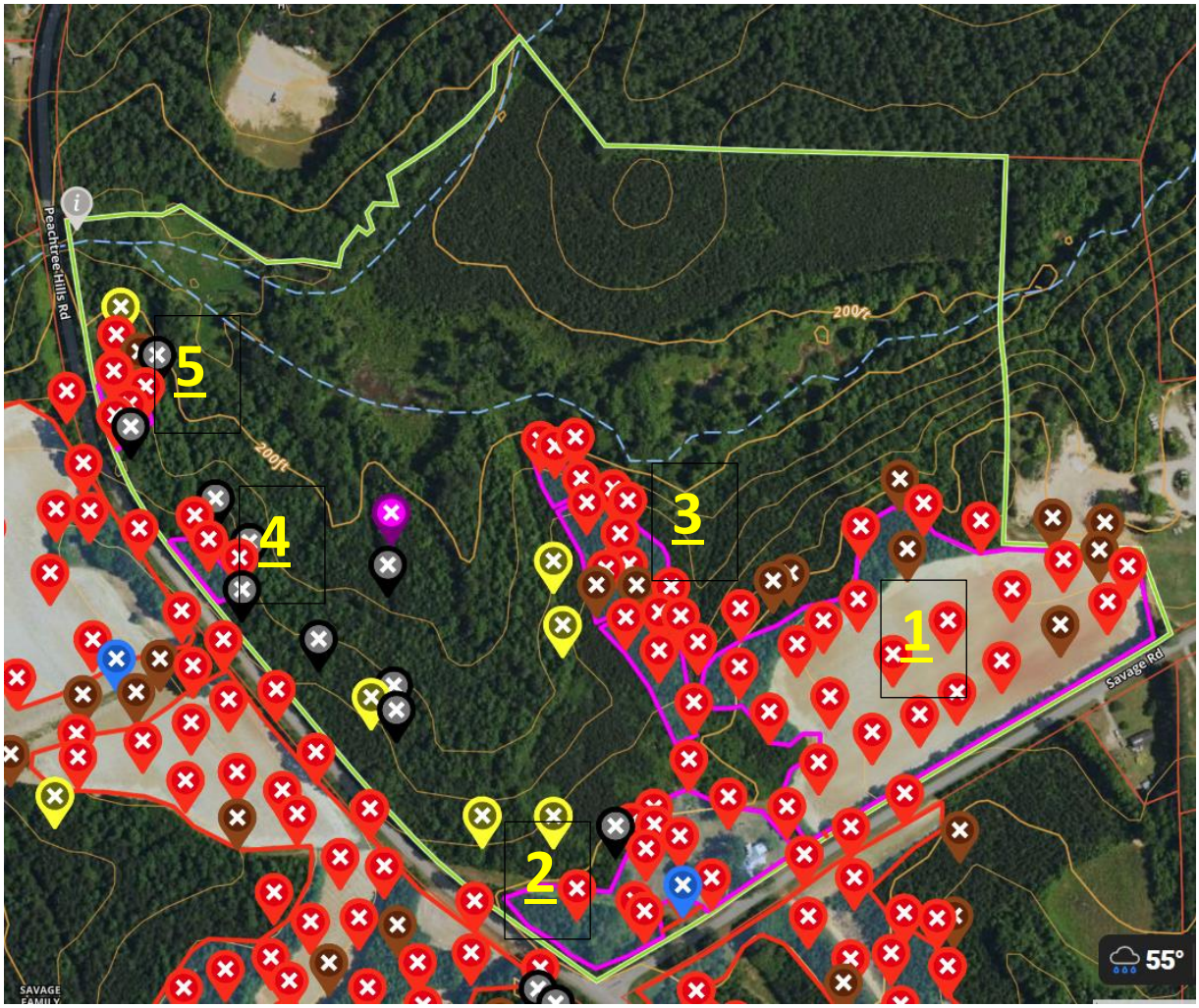

Figure 3. Soil boring and usable area locations within each section (onX Hunt).

Usable Areas

Five usable areas on each subsection of the property were found that were capable of supporting the installation of a conventional onsite wastewater system. Their relative locations on a broad scale of the entire property are referenced in figure 3 above. The usable area on each lot were as follows:

- Area 1 had 8.23 acres or 358,498 ft2
- Area 2 had 2.42 acres 105,415 ft2
- Area 3 had 1.9 acres 82,764 ft2
- Area 4 had 0.22 acres 9,583 ft2
- Area 5 had 0.32 acres 13,939 ft2

Total of 13.09 usable acres or 570,200 ft2

A brief discussion of each area follows:

Area 1

This area was located off of Savage Road. There was a total of 8.32 acres of usable soils in a large farmed field and wooded sideslopes (Figure 4). There were spots of erosion with shallower soils (as denoted by the brown dots) than the remaining area. This area would be well suited for multiple lots.

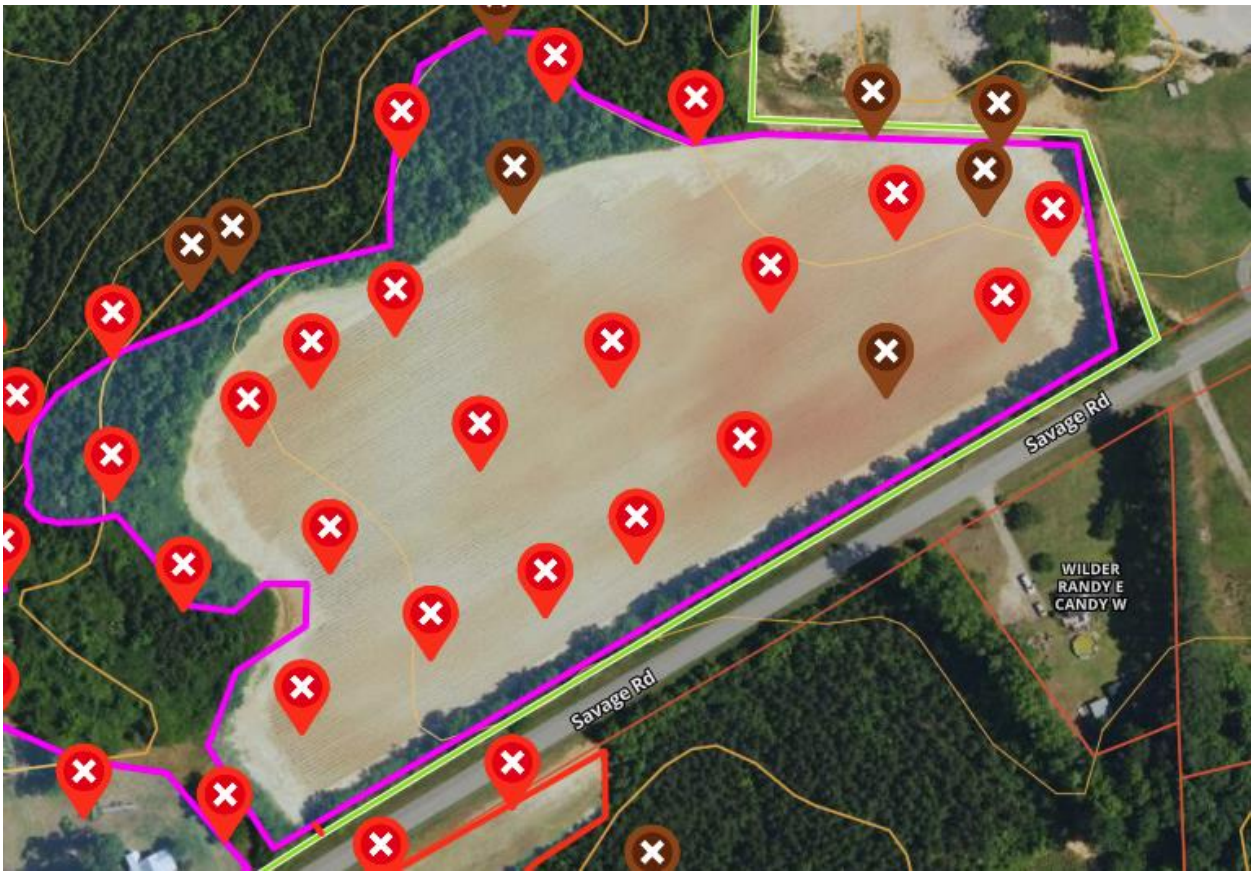

Figure 4. Approximate usable soil areas of area 1 (onX Hunt produced locations).

Area 2

This 2.42-acre area was located around the old homestead on the property (Figure 5). The spaces on the upland ridge were generally suitable. Items of concern in this area are the existing well (which must have at least a 50-foot setback for the well arc), a utility line, and the presence of an existing home and drainfield (not located).

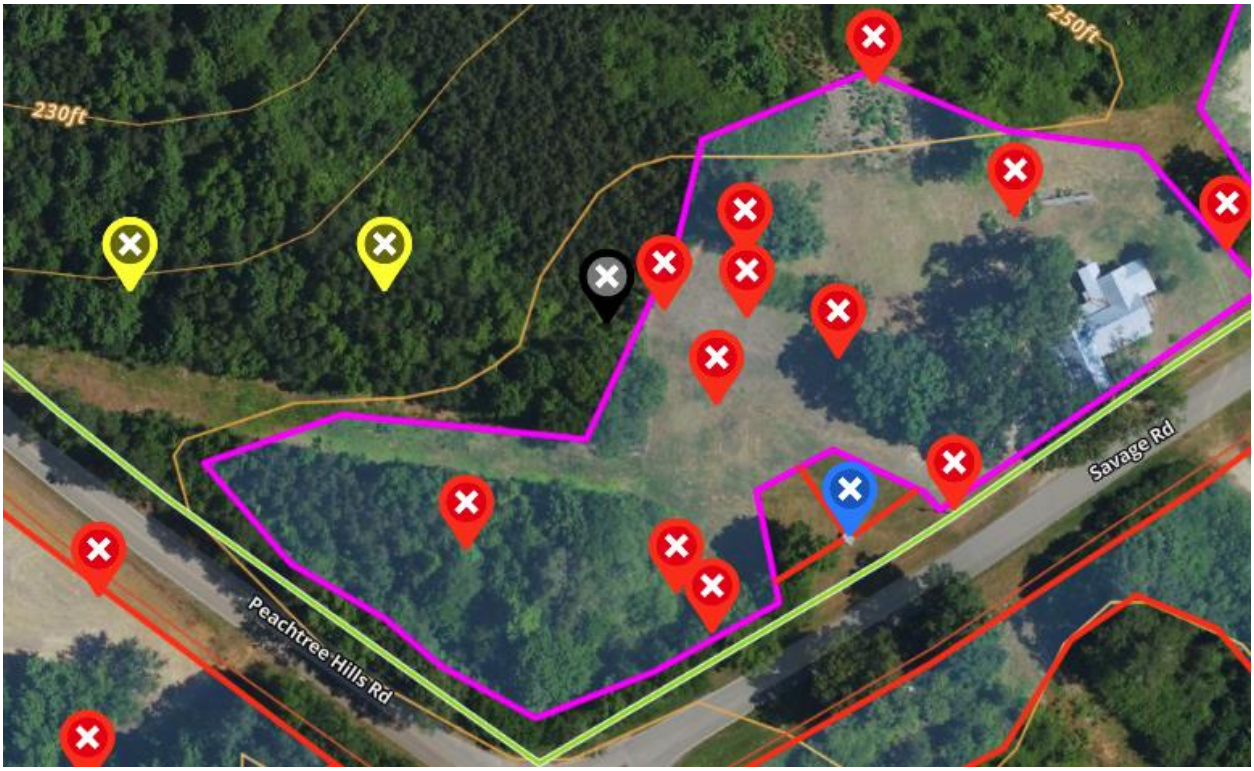

Figure 5. Approximate usable soil areas of area 2 (onX Hunt produced locations).

Area 3

This 1.9-acre area was located in the dense woods on a broad summit that became narrower and steeper toward the creek (Figure 6). The space on the upland ridge were generally suitable.

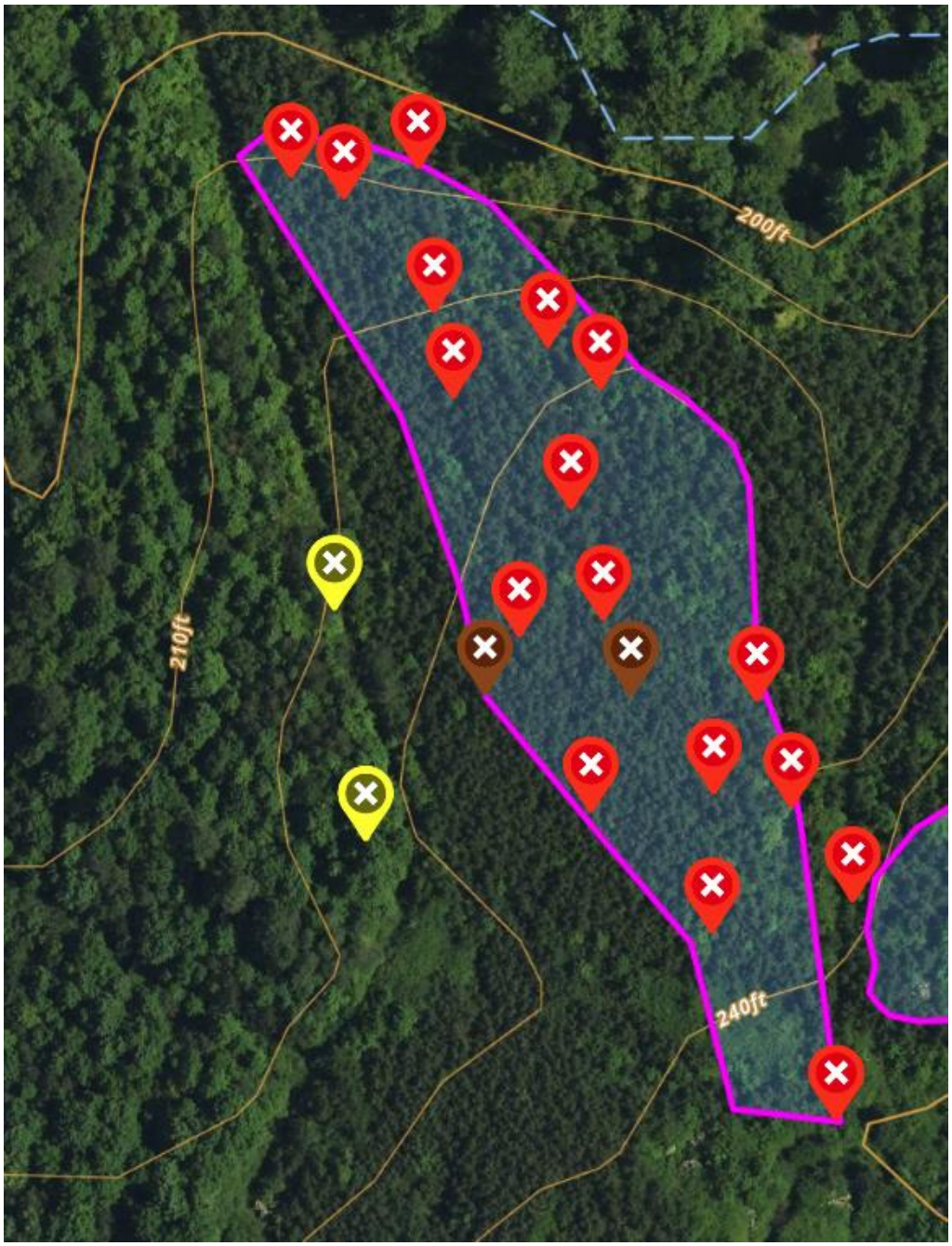

Figure 6. Approximate usable soil areas of area 3 (onX Hunt produced locations).

Areas 4 and 5

Two small areas of suitable soils were found in areas 4 and 5 off of Peachtree Hills Road. Area 4 had 0.22 acres and area 5 had 0.32 acres of available space (Figure 7).

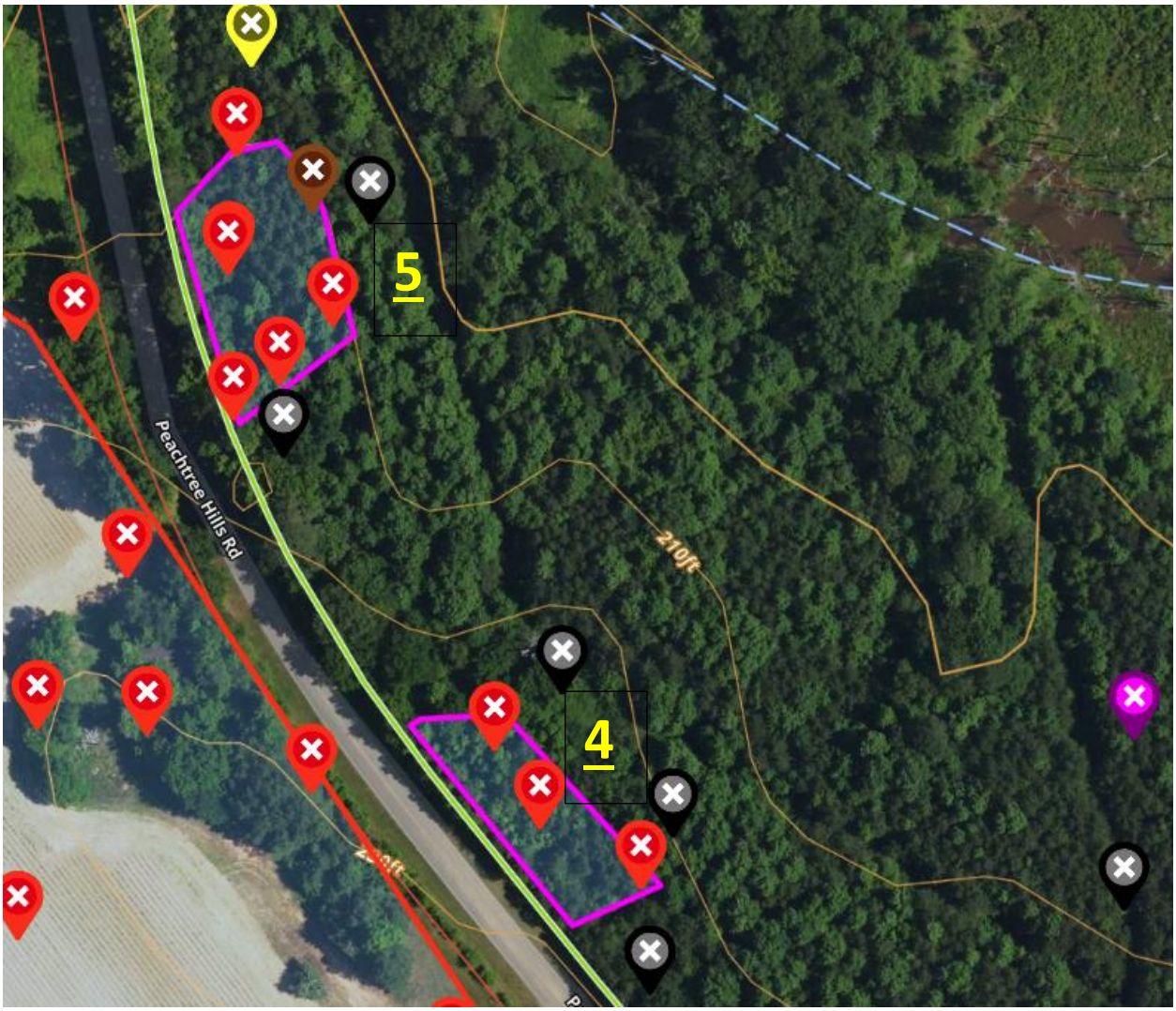

Figure 7. Approximate usable soil areas of area 4 and 5 (onX Hunt produced locations).

Figures 8 and 9 show close up views of areas 4 and 5. The number of homesites it could support would be limited to one per area.

Figure 8. Approximate usable soil (0.23 acres) for area 4 (onX Hunt produced locations).

Figure 9. Approximate usable soil (0.32 acres) for area 5 (onX Hunt).

Soil and Usable Area Summary

The minimum required linear footage for a four-bedroom septic system is 400 linear feet of accepted status product and 400 linear feet for a repair area (using a 25% reduction system). The total minimum usable space for a septic system and repair area for a four-bedroom using a soil loading rate of 0.3 GPD/ft2 is approximately 6,600 ft2 (assuming eight-100 feet lines plus nine feet minimum center to center spacing). Adding a safety factor to account for microtopography, slopes, and other variables, this number becomes 10,000 ft2 for a more realistic total area needed for a single four-bedroom dwelling.

Below is an analysis of how much area is present relative to **one** potential drainfield site (including primary and reserve areas):

Area 1 contains thirty-five (358,498 ft2/ 10,000 ft2) times the needed area.

Area 2 contains ten (105,415 ft2/ 10,000 ft2) times the needed area.

Area 3 contains eight (82,764 ft2/ 10,000 ft2) times the needed area.

Area 4 contains sufficient space only for one 3-bedroom dwelling (9,583 ft2).

Area 5 contains sufficient space only for one 4-bedroom dwelling (13,939 ft2).

Lot Layouts

The farmed fields are the areas that could support multiple homesites. This preliminary soil report is intended to assist the layout of lots in these areas. With considering regulatory setbacks to property lines, easements, wells, homesites, and other uses of land, the number of lots within a given area will depend upon a layout created by a surveyor or engineering firm. *The number of actual buildable lots will be less than what is reported above.* The results above reference an area needed based upon one homesite.

Permitting

Prior to the issuance of a septic permit, the lot will require a soil and site evaluation by the Nash County Health Department or other permitting pathway. The specific trench product type and soil loading rate will be determined by their assessment. The areas for proposed drainfields shall not be impacted by home sites, pools, garages, nor be mechanically altered from the natural lay of the land. Regulatory setbacks to property lines, roads, wells, etc. are to be maintained.

Exact locations of future drainfields, repair areas, buffer from property lines (current and future), building foundations, pools, decks, and well locations are not addressed in this report. Those items should be fully considered as the plans develop for the potential future use of the site. Depending on the position of the house location, house size, property lines and setbacks that may encroach on available usable space, this lot may require a septic system utilizing a pump.

Due to the subjective nature of the permitting process, zoning, variability of naturally occurring soil, and unforeseen circumstances, SSC cannot guarantee that areas delineated as suitable for on-site wastewater disposal systems will be permitted, as the permits are issued by the local governing agency. However, the areas of suitable soil found have 1-35 times the needed space for a conventional system and repair for a four-bedroom dwelling. This report may be used to assist the local permitting agency to issue a septic permit.

Thank you for your business. Please do not hesitate to ask for more information regarding this report.

Sincerely,

Erik D. Severson

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North Carolina Licensed Soil Scientist #1275