

Mitchell Environmental, P.A.

February 8, 2019

Ms. Sarah O'Brien
Bryan Properties, Inc.
400 Market Street, Suite 115
Chapel Hill, North Carolina 27516

**Re: Site Evaluation for Use of On-Site Sewage Disposal Systems for:
Sunset Grove Phase 2
Mt. Gilead Church Road, Pittsboro, Orange County, North Carolina**

Ms. O'Brien:

At your request, Mitchell Environmental, PA, has completed a site evaluation for use of on-site sewage disposal systems for Phase 2 of Sunset Grove Subdivision. The 43 acre site is located east of Mount Gilead Church Road in Pittsboro, Chatham County and is contained within the boundaries of a single property (AKPAR 17425). The "Septic Soils Delineation" illustrates proposed lots contained in Sunset Grove Phase 2 and delineated units of provisionally suitable soil areas. The site evaluation was completed on various dates in 2006, 2007, 2014, 2015, and 2017.

Status of Site Improvements and Vegetative Cover

With the exception of recently installed paved roads, stormwater devices, and associated appurtenances, the entire tract is covered with forest vegetation of various ages and degrees of maturity. Other improvements may be present but were not observed.

Method of Evaluation and Soil Moisture Conditions

Soils on the site were evaluated using a combination of hand auger borings and soil pits installed using a tracked excavator. Portions of the detailed evaluation were completed during drought conditions (2007), hence observed soil moisture was minimal during those periods. Outside of jurisdictional streams and wetlands, no standing water was observed at any location on the site.

Soils Analysis

According to the Chatham County Soil Survey, the site is covered by soils of the Badin-Nanford Complex, Cid-Lignum Complex, Georgeville Series, Georgeville-Badin Complex and Nanford-Badin Complex. Each of these soils has moderate limitations for septic system nitrification fields due to slow percolation rates. Provisionally suitable soils represented by the above listed series have formed in Carolina Slate Belt rocks and other fine grained rocks.

Floodprone areas of the site were not evaluated due to their unsuitable landscape position. Additionally, several areas on the property were found to be unsuitable or potentially unsuitable for subsurface nitrification fields due to improvements listed above, shallow depth to expansive or mixed-mineralogy clays, saprolite or bedrock, landscape position, compaction, gullies, remnant ditches from past land use activities and/or evidence of a shallow seasonal high water table. Soil suitability observations for each auger boring and soil pit are detailed on high visibility flagging.

1501 Lakestone Village Lane, Suite 205
Fuquay-Varina, North Carolina 27526
919-669-0329

Mitchell Environmental staff utilized a color coding system to indicate the provisionally suitable soil depth ranges as follows:

- Red: 36"+
- Pink and Black stripe: 30" to < 36"
- Blue and White stripe: 24" to < 30"
- Yellow: 18" to <24"
- Orange, or Orange and Yellow combination: 13" to < 18"
- Orange stripes: < 13"

The attached map indicates the approximate boundaries of provisionally suitable soil depth ranges on the site. Observed soils on this site exhibit various controlling textures including clay loam, silty clay loam, silty clay and clay. Conventional sewage systems for proposed lots should be designed for a long-term acceptance rate of 0.35 to 0.25 gpd/ft² for conventional trench systems and 0.20-0.10 gpd/ft² for nitrification fields that utilize LPP or subsurface drip dispersal. Lots with insufficient area of soils useable for currently permissible subsurface septic systems will utilize surface application systems permitted through the DWR Non-Discharge Permitting Unit.

Proposed Use and Source of Water Supply

Upon approval, Phase 2 of the site will be subdivided into 25 lots for 3 to 5 bedroom, single-family homes. Individual septic systems will be installed on each lot. Potable water will be supplied by a connection to the Chatham County public water supply system.

Certification Statement

CERTIFICATION OF REVIEW BY LICENSED SOIL SCIENTIST

I HEREBY CERTIFY THAT LOTS 7-31 SHOWN ON THIS SUBDIVISION PLAT FOR Sunset Grove Phase 2 HAVE BEEN REVIEWED AS APPROPRIATE AND WITH RESPECT TO MINIMUM LOT REQUIREMENTS SET FORTH IN 15A NCAC 18A .1900 – SEWAGE TREATMENT AND DISPOSAL SYSTEMS, 15A NCAC 02T – WASTE NOT DISCHARGED TO SURFACE WATERS AND 15A NCAC 02U – RECLAIMED WATER. AS OF THIS DATE, AND BASED ON THIS REVIEW OF EXISTING SITE CONDITIONS THE LOTS NUMBERED ABOVE ON THIS PLAT WILL PRESUMABLY MEET THESE REGULATIONS.

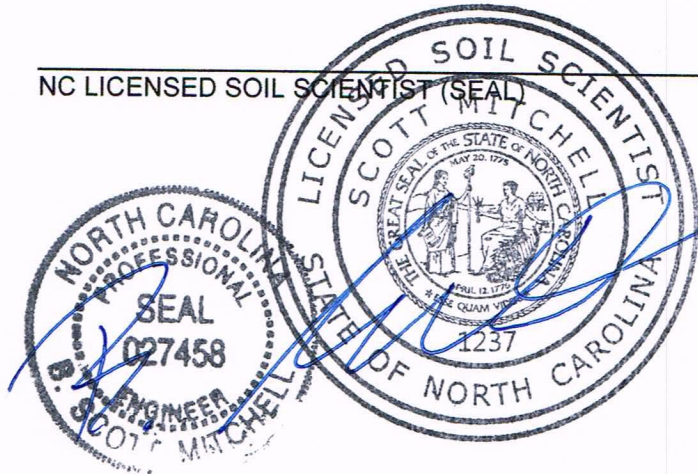
PRELIMINARY CERTIFICATION DOES NOT REPRESENT APPROVAL OR A PERMIT FOR ANY SITE WORK, NOR DOES IT GUARANTEE ISSUANCE OF AN IMPROVEMENT PERMIT FOR ANY LOT. FINAL SITE APPROVAL FOR ISSUANCE OF IMPROVEMENT PERMITS IS BASED ON REGULATIONS IN FORCE AT THE TIME OF PERMITTING AND IS DEPENDENT ON SATISFACTORY COMPLETION OF INDIVIDUAL SITE EVALUATIONS FOLLOWING APPLICATION FOR AN IMPROVEMENT PERMIT DETAILING A SPECIFIC USE AND SITING.

ANY CHANGE IN USE OR ANY SITE ALTERATION MAY RESULT IN SUSPENSION OR REVOCATION OF CERTIFICATION.

2-8-2019
DATE

NC LICENSED SOIL SCIENTIST (SEAL)

Sincerely,



Scott Mitchell, PE, LSS
President

Notes:




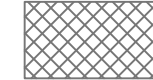


This drawing illustrates soil suitability observations made by Mitchell Environmental, PA staff. This drawing is a representation of our professional opinions regarding soil suitability on this site and is based on North Carolina laws, rules, and regulations in effect as of the date listed hereon. Soils are formed by the forces of nature and are inherently variable. Hence, some inclusions of soils that are suited for different septic system types than those labeled should be expected.

This drawing does not represent approval or a permit for any site work, nor does it guarantee issuance of an improvement permit for any lot or structure. Final site approval for issuance of improvement permits is based on regulations in force at the time of permitting and is dependent on satisfactory completion of individual site evaluations following application for an improvement permit detailing a specific use and siting. This soil suitability evaluation has not been approved by any regulatory body as of the date listed hereon; hence, it is suitable for preliminary planning purposes only until and unless it is formally approved by the appropriate regulatory body.

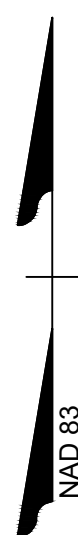
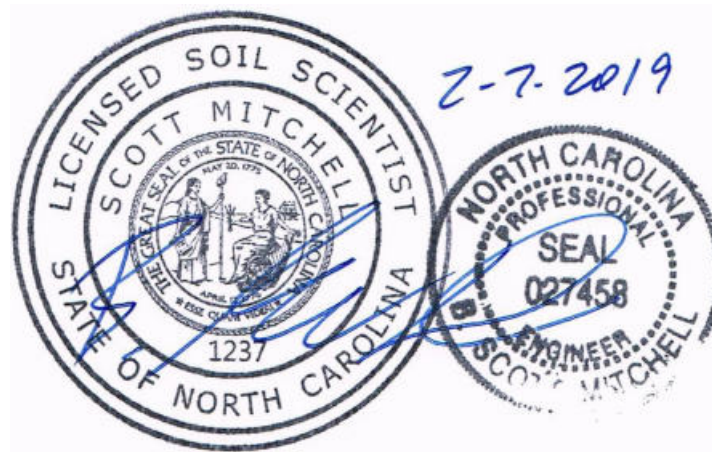
Property boundaries provided by Sullivan Surveying.

All components of this drawing are approximate, including stream and surface water buffers.

NOT A SURVEY.

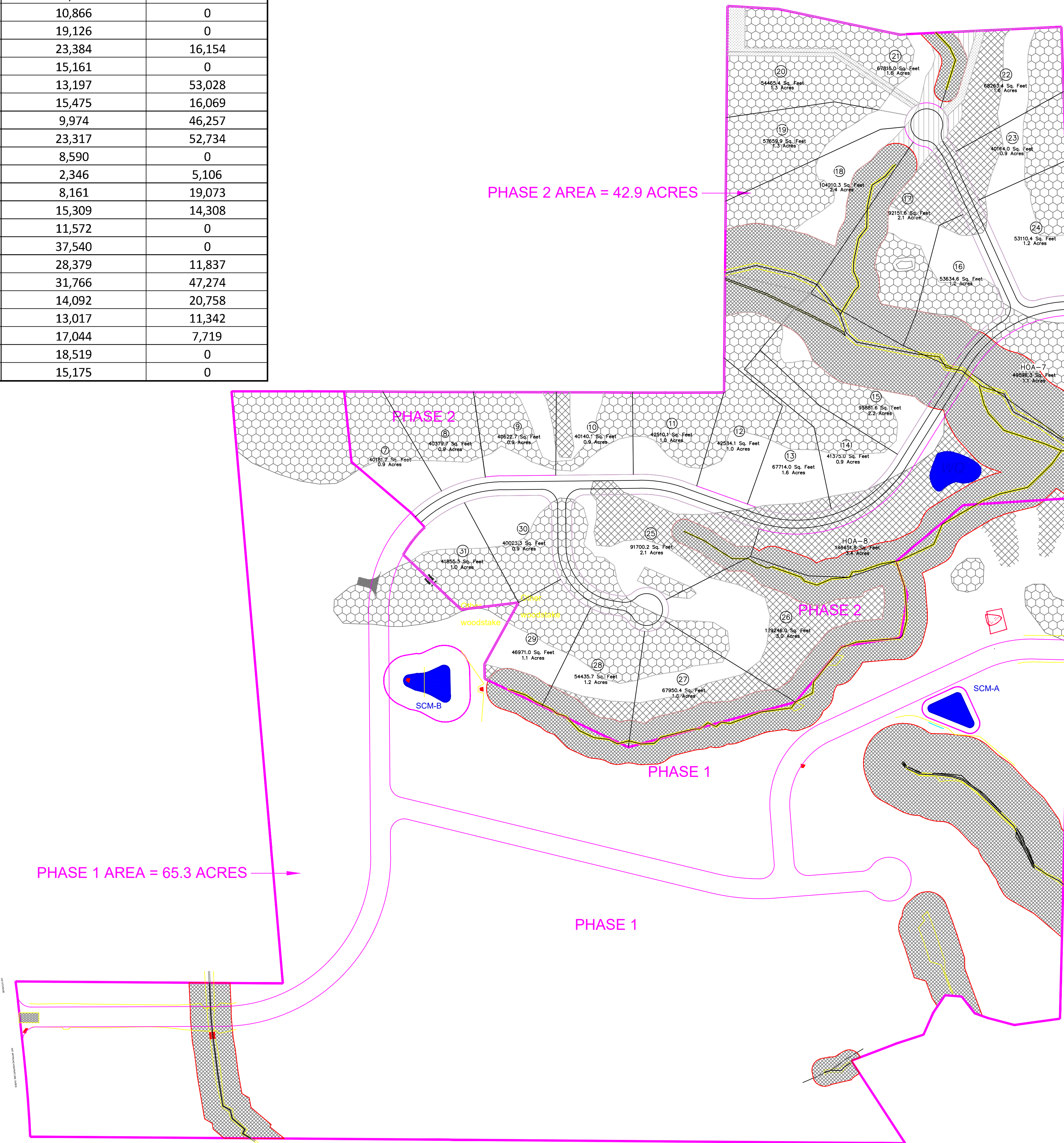
-  Provisionally suitable for conventional or LPP systems.
-  Provisionally suitable for sub-surface drip or fill systems.
-  Suitable for surface application systems.
-  Stream Buffer
-  Water Quality Pond
-  Unsuitable Topography

Seal:



SCALE 1"=150'
0 150' 300'

Septic Soil Classification					
Lot #	Lot Total (s.f.)	Suitable for surface application systems (s.f.)	Provisionally suitable for conventional or LPP systems (s.f.)	Provisionally suitable for sub-surface drip systems or fill systems (s.f.)	Unsuitable (s.f.)
7	40,182	0	24,992	15,190	0
8	40,380	0	32,739	7,641	0
9	40,623	1,874	21,335	17,414	0
10	40,140	6,071	14,588	19,481	0
11	42,510	0	31,644	10,866	0
12	42,584	0	23,458	19,126	0
13	67,714	4,434	23,742	23,384	16,154
14	41,375	1,799	24,415	15,161	0
15	95,882	0	29,657	13,197	53,028
16	53,635	2,273	19,818	15,475	16,069
17	92,152	18,316	17,605	9,974	46,257
18	104,910	0	28,859	23,317	52,734
19	57,660	0	49,070	8,590	0
20	54,465	0	47,013	2,346	5,106
21	67,815	0	40,581	8,161	19,073
22	68,263	23,232	15,414	15,309	14,308
23	40,164	11,147	17,445	11,572	0
24	53,110	553	15,017	37,540	0
25	91,700	34,533	16,951	28,379	11,837
26	129,246	42,005	8,201	31,766	47,274
27	67,950	15,804	17,296	14,092	20,758
28	54,436	6,153	23,924	13,017	11,342
29	46,971	877	21,331	17,044	7,719
30	40,023	0	21,504	18,519	0
31	41,855	0	26,680	15,175	0

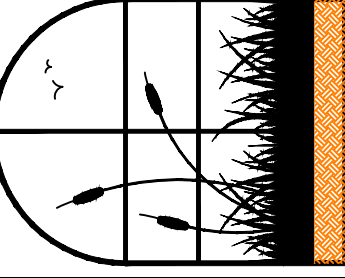


SHEET NUMBER
1 OF 1
Sunset Grove-Phase 2
Septic Soils

SEPTIC SOILS DELINEATION
CHATHAM COUNTY
SUNSET GROVE SUBDIVISION
PHASE 2

PREPARED FOR : CHATHAM CAPITAL, LLC
DATE : February 7, 2019
DESIGNER CONTACT : SCOTT MITCHELL, P.E., L.S. Scott@MitchellEnvironmental.com
SURVEYOR CONTACT :

MITCHELL ENVIRONMENTAL, PA
1501 Lakeshore Village Lane
Suite 205
FUQUAY VARINA, NC 27526



DESIGNER SEAL: