

Southeastern Soil & Environmental Associates, Inc.

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Email mike@southeasternsoil.com

May 30, 2018

Harnett County Health Department
307 Cornelius Harnett Blvd.
Lillington, N.C. 27546

Re: Soil evaluations and final septic recommendations (off site repair area relocation),
Ballard Woods Subdivision, Lots 133, 134 & 171, Gwendolyn Drive, Harnett County,
North Carolina

To whom it may concern,

A soils investigation has been completed for each of the above referenced properties. The property is located on Gwendolyn Drive as shown on the accompanying map. The purpose of the investigation was to identify additional provisionally suitable soil areas for relocated septic repair areas currently permitted in phase 5 for each lot. All ratings and determinations were made in accordance with "Laws and Rules for Sanitary Sewage Collection, Treatment, and Disposal, 15A NCAC 18A .1900".

As proposed, the relocated repair areas for lots 133 & 171 (see map) appears to contain at least one area that meets minimum criteria for subsurface waste disposal systems for at least a typical (60' x 60') 3 bedroom home (may include the use of conventional drainlines, gravelless drainlines, low pressure pipe, pumps, fill, large diameter pipe, French drains, pretreatment, drip irrigation, etc.). Soil characteristics in the usable areas were dominantly provisionally suitable to at least 18 inches (fill, drip irrigation and/or pretreatment) or 24 inches (conventional or LPP) including .1940, .1941, .1942, .1943, .1944 and .1945. A soil map indicating typical soil areas that meet these criteria is enclosed.

Lot 134 was combined with lot 135. As recombined, this lot has its own permitted initial and repair septic system on the lot. The previous off site repair area (in phase 5) is no longer needed and is being eliminated.

Any or all lots may require specific design/layout on our part prior to action by the local health department due to space and soil considerations (at separate cost to client). Alternative systems (mentioned above) could be required on any lot to compensate for shallow unsuitable soil conditions. There should be no grading.

logging or other site disturbance in soil areas designated as usable for subsurface waste disposal until approved by the local health department (any site disturbance could remove soil and render the area unusable).

When evaluated, the soil areas designated as usable for subsurface waste disposal were dry to at least 24 inches. During wetter time periods, subsurface water could be found in any of these soil areas at shallower depths. The local health department has the authority to deny a permit to any soil where water saturates a soil boring. SSEA cannot be certain that this will not occur on any of these lots. If this occurs (and cannot be remedied with a French drain or other drainage), any of these lots could become unsuitable due to .1942 (soil wetness).

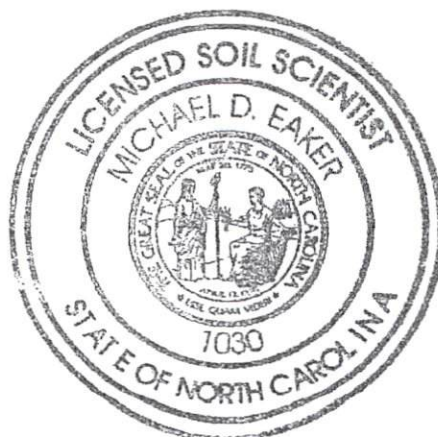
This report does not guarantee or warrant that a septic system will function for any specific length of time.

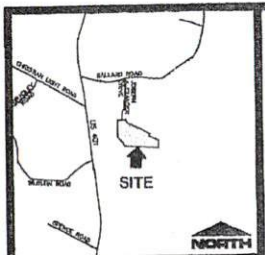
As with any property, this report does not guarantee, represent or imply approval or issuance of improvement permit as needed by the client from the local health department (as such, any potential buyers of these properties should obtain appropriate permits from the local health department prior to making and/or completing purchase obligations or financial commitments. Since professional opinions sometimes differ, an actual improvement permit issuance by the local health department is the only "guarantee" of a site's suitability for a buyers intended use.). This report only addresses rules in force at the time of evaluation. Permits will only be granted if the local health department concurs with the findings of this report. This report only represents my professional opinion as a licensed soil scientist. I trust this is the information you require at this time. If you have any questions, please call.

Sincerely,



Mike Eaker
NC Licensed Soil Scientist





NEW SEPTIC AREA (BY COORDINATE COMPUTATION)
 LOT 133 17,477 SF (0.40 AC)
 LOT 171 8,195 SF (0.14 AC)

ZONING: RA-30
 35' FRONT
 10' SDE
 25' REAR
 20' CORNER SIDE

TO VERIFY SETBACK INFORMATION
 CONTACT THE HARNETT COUNTY
 PLANNING DEPARTMENT 910-893-7525

DLN NO. 0651-39-5066.000
 0651-39-6080.000
 0651-39-4183.000

**STATE OF NORTH CAROLINA
 COUNTY OF HARNETT**

I, _____ REVIEW OFFICER OF HARNETT COUNTY, CERTIFY THAT THE MAP OR PLAN TO WHICH THIS CERTIFICATE IS AFFIXED MEETS ALL STATUTORY REQUIREMENTS FOR RECORDING.

REVIEW OFFICER _____
 DATE _____

CERTIFICATE OF OWNERSHIP AND DEDICATION

I HEREBY CERTIFY THAT I AM THE OWNER OF THE PROPERTY SHOWN AND DESCRIBED HEREON, WHICH IS LOCATED IN THE SUBDIVISION JURISDICTION OF HARNETT COUNTY, NORTH CAROLINA AND THAT I HEREBY ADOPT THIS PLAN OF THE SUBDIVISION WITH MY FREE CONSENT AND ESTABLISH PERMANENT BOUNDARY SETBACK LINES AS NOTED. I FURTHER CERTIFY THAT I HAVE NOT BEEN INVOLVED AS AN OWNER, LEASER, OPTION HOLDER OR HAD ANY LEGAL OR EQUITABLE INTEREST IN ANY PROPERTY ADJACENT TO OR LOCATED DIRECTLY ACROSS A STREET, EASEMENT, ROAD RIGHT-OF-WAY FROM THE PROPERTY SHOWN AND DESCRIBED HEREON.

DATE _____ OWNER'S SIGNATURE _____

COUNTY, NORTH CAROLINA

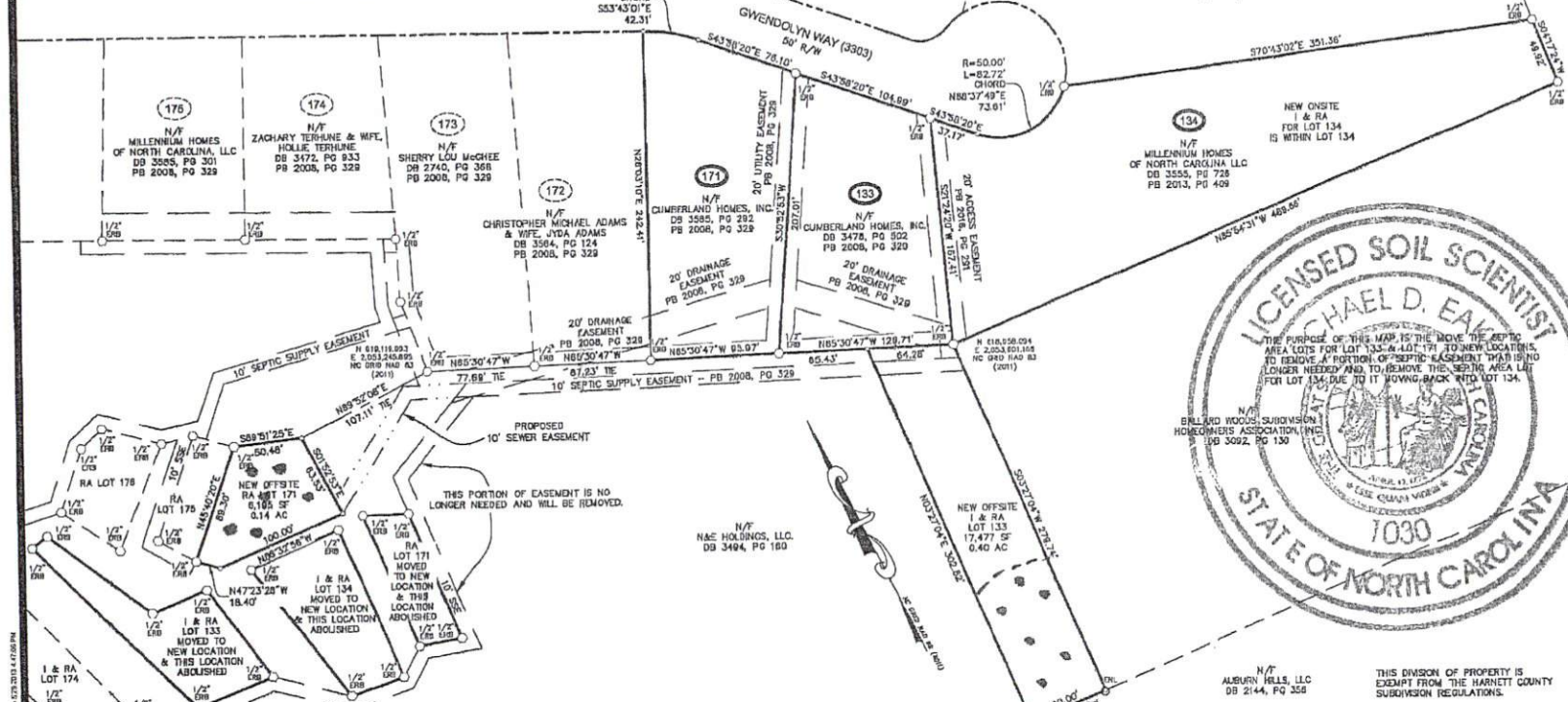
_____ A NOTARY PUBLIC OF THE COUNTY AND STATE AFORESAID, CERTIFY THAT

PERSONALLY APPEARED BEFORE ME THIS DAY AND ACKNOWLEDGED THE EXECUTION OF THE FOREGOING INSTRUMENT, WITNESS MY HAND AND OFFICIAL STAMP AND SEAL, THIS _____ DAY OF _____, 2018.

NOTARY PUBLIC _____
 MY COMMISSION EXPIRES _____

SOURCE OF TITLE
 DB 3494, PG 160
 PB 2008, PG 328
 HARNETT COUNTY REGISTER OF DEEDS

**VICINITY MAP
 NOT TO SCALE**



NOTES:

- ALL DISTANCES SHOWN ARE HORIZONTAL GROUND DISTANCES UNLESS OTHERWISE NOTED.
- COMBINED SCALE FACTOR: 0.99987878
 LOCALIZATION POINT N: 818,804.381 E: 2,082,200.883
 CONTROL ESTABLISHED VIA NORTH CAROLINA GEODETIC SURVEY VIRTUAL REFERENCE SYSTEM.
- THE HORIZONTAL AND VERTICAL CONTROL FOR THIS SURVEY WERE ESTABLISHED USING THE NORTH CAROLINA GEODETIC SURVEY VIRTUAL REFERENCE SYSTEM.
- LINE(S) NOT SURVEYED ARE SHOWN AS DASHED LINES FROM INFORMATION REFERENCED ON THE FACE OF THIS MAP.
- NONCONFORMING STRUCTURES HAVE NOT BEEN CREATED BY THIS SURVEY.
- THIS SURVEY WAS DONE WITHOUT BENEFIT OF A TITLE SEARCH AND IS BASED ON REFERENCED INFORMATION SHOWN HEREON. OTHER DOCUMENTS OF RECORD MAY EXIST WHICH COULD AFFECT THIS PROPERTY. NO RESPONSIBILITY IS ASSUMED BY THIS SURVEYOR FOR ANY CONDITIONS WHICH MAY PRESENTLY EXIST BUT ARE UNKNOWN OR REFERENCED HEREON, SUCH AS BUT NOT LIMITED TO HAZARDOUS WASTE MATERIALS, EASEMENTS, EASEMENTS, AND FLOOD AREAS.
- THIS PROPERTY DOES NOT LIE WITHIN A FLOOD ZONE ACCORDING TO MAP# 372006400J OF THE FLOOD INSURANCE RATE, DATED OCTOBER 3, 2008.

I, SEAN R. SEEVER, CERTIFY THAT THIS SURVEY IS OF ANOTHER CATEGORY, SUCH AS THE RECOMBINATION OF EXISTING PARCELS, A COURT-ORDERED SURVEY, OR OTHER EXEMPTION OR EXCEPTION TO THE DEFINITION OF "SUBDIVISION".

PRELIMINARY PLAT
 NOT FOR RECORDATION, CONVEYANCE, OR SALES
 PROFESSIONAL LAND SURVEYOR - L-4531

I, SEAN R. SEEVER, CERTIFY THAT THIS MAP WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION (DEED DESCRIPTION RECORDED IN BOOK SHOWN, PAGE HEREON) OR OTHER REFERENCE SOURCE. I THAT THE BOUNDARIES NOT SURVEYED ARE INDICATED AS DRAWN FROM INFORMATION IN BOOK _____ PAGE _____ OR OTHER REFERENCE SOURCE. THAT THE RATIO OF PRECISION OR POSITIONAL ACCURACY IS 1:10,000; THAT THIS PLAT WAS PREPARED IN ACCORDANCE WITH G.S. 47-30 AS AMENDED, WITNESS MY HAND AND SEAL THIS 22ND DAY OF OCTOBER, 2018.

PRELIMINARY PLAT
 NOT FOR RECORDATION, CONVEYANCE, OR SALES
 PROFESSIONAL LAND SURVEYOR - L-4531

**DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS**

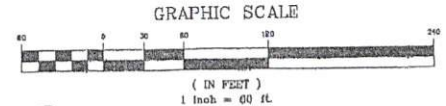
NO APPROVAL NECESSARY

DISTRICT ENGINEER _____
 DATE _____

I, SEAN R. SEEVER, CERTIFY THAT THE CONTROL FOR THIS SURVEY WAS ESTABLISHED FROM AN ACTUAL GPS SURVEY UNDER MY SUPERVISION. THIS GPS SURVEY WAS PERFORMED TO C-21 FCC SPECIFICATIONS RISK GPS WITH VRS FIELD PROCEDURES WERE USED. THE COORDINATES WERE OBTAINED THROUGH A GND TO GROUND ADJUSTMENT USING THE COMBINED SCALE FACTOR SHOWN HEREON. THIS SURVEY WAS PERFORMED ON AUGUST 16, 2017 USING TWO TRIMBLE SVA10 RECEIVERS.

PRELIMINARY PLAT
 NOT FOR RECORDATION, CONVEYANCE, OR SALES
 PROFESSIONAL LAND SURVEYOR - L-4531

- LEGEND:**
- ENL - EXISTING NAIL
 - ERB - EXISTING REBAR
 - SRS - SET REBAR
 - CP - COMPUTED POINT
 - N/W - NOW OR FORMERLY
 - R/W - RIGHT OF WAY
 - PROPERTY LINE
 - - - ADJACENT PROPERTY LINE
 - - - RIGHT-OF-WAY
 - - - PERMANENT EASEMENT
 - - - PERMANENT EASEMENT



REVISIONS

PRELIMINARY PLAT
 NOT FOR RECORDATION, CONVEYANCE, OR SALES

PROJECT NAME:
**RECONSTRUCTION
 SURVEY OF LOTS
 133, 134 & 171
 SEPTIC FIELDS
 BALLARD WOODS**

TAX ID# 0651-39-5066.000
 0651-39-6080.000
 0651-39-4183.000

**GWENDOLYN WAY
 HECTOR'S CREEK TOWNSHIP
 HARNETT COUNTY
 NORTH CAROLINA**

CLIENT
**N&E HOLDINGS,
 LLC**

PO Box 727
 Darr, North Carolina 28335
 Phone: (919) 368-8797

PROJECT INFORMATION

SURVEYED BY:	MIKE
DRAWN BY:	SEAN
CHECKED BY:	JIMMY
PROJECT NUMBER:	1306

DRAWING SCALE
 HORIZONTAL: 1"=60'

DATE SURVEYED
 AUGUST 16, 2017

SHEET NUMBER
 1
 OF 1

00 = Provisionally Suitable Soil

SOUTHEASTERN SOIL & ENVIRONMENTAL ASSOC., INC.

PROPOSED SUBSURFACE WASTE DISPOSAL SYSTEM DETAIL SHEET

SUBDIVISION: Ballard Woods
 INITIAL SYSTEM: Pump to APPROVED 25% REDUCTION

LOT 133 offsite
 REPAIR Pump to APPROVED 25% Reduction

DISTRIBUTION: SERIAL

DISTRIBUTION SERIAL

BENCHMARK: 100.0

LOCATION Back Left Corner/pen

NO. BEDROOMS: 4

LTAR 0.45 gpd/ft²

LINE	FLAG COLOR	ELEVATION	LENGTH
1	Y	100.50	30
2	B	99.83	50
3	W	99.33	50
4	O	99.08	50
5	Y	98.25	50
6a	B	97.67	50 270 AVAIL
6b	B	97.67	10
7	W	96.0093	50
8	O	96.00	50
9	Y	95.17	50
10	B	93.83	55
11	W	92.83	55 270 AVAIL

BY B.C. Raynor

DATE 06/20/2018

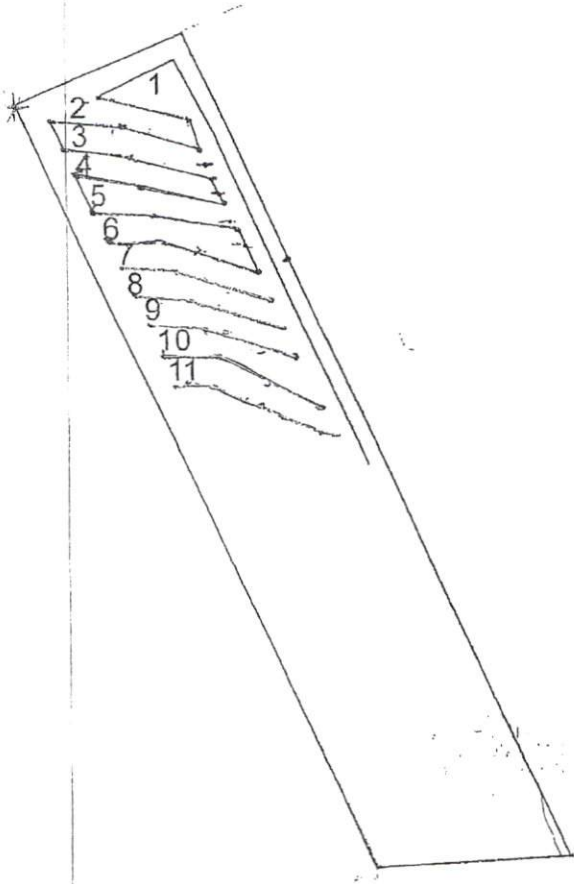
TYPICAL PROFILE
0-15 LS VFBZ gran
15-30e SCL firm SBK
CA-2 730"

THERE SHALL BE NO GRADING,
 CUTTING, LOGGING OR OTHER SOIL
 DISTURBANCE IN SEPTIC AREA

Lot 133

Blow up of
new septic area

NT OF TRANSPORTATION
OF HIGHWAYS



REPUTATION)

STATE OF NORTH CAROLINA
COUNTY OF HARNETT

CERTIFICATE OF OWNERSHIP AND EDUCATION

I, _____ REVIEW OFFICER OF HARNETT COUNTY, CERTIFY THAT THE MAP OR PLAT TO WHICH THIS CERTIFICATE IS AFFIXED MEETS ALL STATUTORY REQUIREMENTS FOR RECORDING.

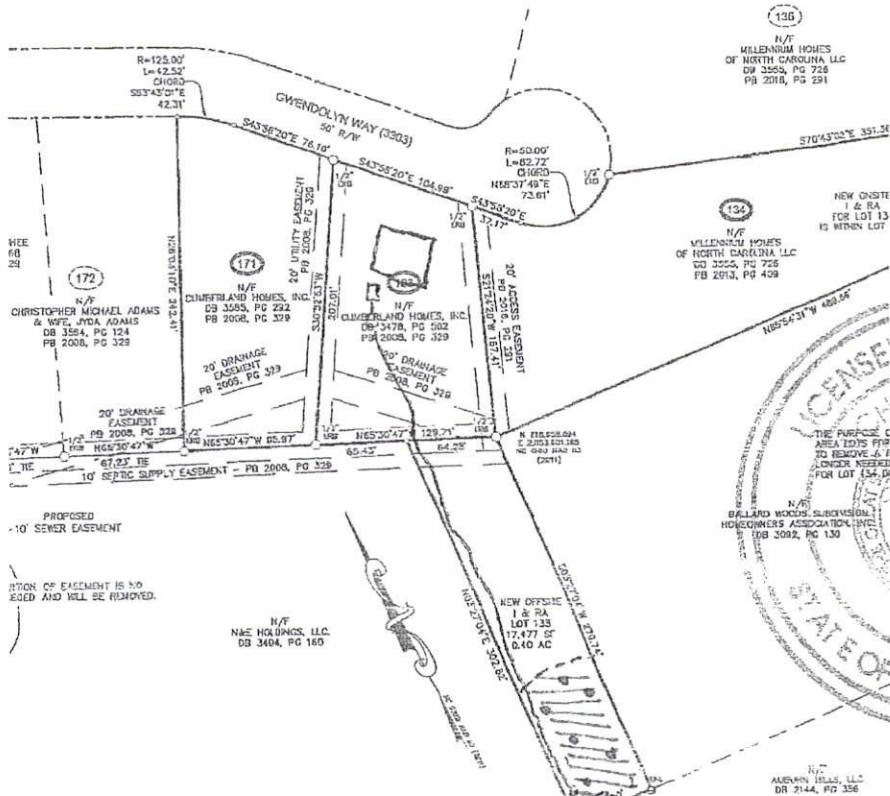
I HEREBY CERTIFY THAT I AM THE OWNER OF THE PROPERTY SHOWN AND DESCRIBED HEREON, WHICH IS LOCATED IN THE SUBDIVISION JURISDICTION OF HARNETT COUNTY, NORTH CAROLINA AND THAT I HEREBY ADOPT THIS PLAN OF THE SUBDIVISION WITH MY FREE CONSENT AND ESTABLISH MINIMUM BUILDING SETBACK LINES AS NOTED. I FURTHER CERTIFY THAT I HAVE NOT BEEN INVOLVED AS AN OWNER, LEASEE, OPTION HOLDER OR HAD ANY LEGAL OR EQUITABLE INTEREST IN ANY PROPERTY ADJACENT TO OR LOCATED DIRECTLY ACROSS A STREET, EASEMENT, ROAD RIGHT-OF-WAY FROM THE PROPERTY SHOWN AND DESCRIBED HEREON.

THE COUNTY AND PERSONALLY AFFIRMED AND ACKNOWLEDGED THIS INSTRUMENT, WITH SEAL, THIS _____

REVIEW OFFICER _____

DATE _____ OWNER'S SIGNATURE _____

NOTARY PUBLIC BY COMMISSION I _____



I, SEAN R. STEVER, CERTIFY THAT THIS SURVEY IS OF RECORD, SUCH AS THE RECOMMENDATION OF LINES, A COURT-ORDERED SURVEY, OR OTHER IN EXCEPTION TO THE DEFINITION OF RELIMINARY PLAT FOR RECORDATION, CONFORMANCE OR SALES.

DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
NO APPROVAL NECESSARY

- LEGEND
- DL - EXISTING MAIL
- DL - EXISTING ROAD
- DL - SET NEAR
- DL - CORNER POINT
- N/E - NEW OR FORMERLY
- R/W - RIGHT OF WAY
- EASEMENT LINE
- ALIENATED PROPERTY LINE
- RIGHT-OF-WAY
- PERMANENT EASEMENT
- PERMANENT EASEMENT

I, SEAN R. STEVER, CERTIFY THAT THIS MAP WAS DRAWN UNDER SUPERVISION FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION. THIS GPS SURVEY WAS PERFORMED TO 6-8 FIGURE SPECIFICATIONS BY GPS WITH WGS 84 FIELD PROCEDURES WERE USED. THE COORDINATES WERE OBTAINED THROUGH A GRID TO GROUND ADJUSTMENT USING THE COGNATE SCALE FACTOR SHOWN HEREON. THIS SURVEY WAS PERFORMED ON AUGUST 16, 2017 UNDER MY SUPERVISION.

I, SEAN R. STEVER, CERTIFY THAT THE CONTROL FOR THIS SURVEY WAS ESTABLISHED FROM AN ACTUAL GPS SURVEY UNDER MY SUPERVISION. THIS GPS SURVEY WAS PERFORMED TO 6-8 FIGURE SPECIFICATIONS BY GPS WITH WGS 84 FIELD PROCEDURES WERE USED. THE COORDINATES WERE OBTAINED THROUGH A GRID TO GROUND ADJUSTMENT USING THE COGNATE SCALE FACTOR SHOWN HEREON. THIS SURVEY WAS PERFORMED ON AUGUST 16, 2017 UNDER MY SUPERVISION.

PRELIMINARY PLAT
NOT FOR RECORDATION, CONFORMANCE, OR SALES

GRAPH

10' = Provisionally Suitable Soil

SOUTHEASTERN SOIL & ENVIRONMENTAL ASSOC., INC.

PROPOSED SUBSURFACE WASTE DISPOSAL SYSTEM DETAIL SHEET

SUBDIVISION: BALLARD WOODS LOT 134 (REVISED DESIGN) ON SITE
 INITIAL SYSTEM: APPROVED 25% REDUCTION REPAIR DRIP IRRIGATION (NO PRETREAT)
 DISTRIBUTION: SERIAL DISTRIBUTION MANIFOLD (TO BE DESIGNED)
 BENCHMARK: 100.0 LOCATION Δ #8986
 NO. BEDROOMS: 3 LTAR 0.3 GPD / FT²

LINE	FLAG COLOR	ELEVATION	LENGTH
1	B	99.67	75'
1A			75'
1B			75'
2	Y	98.00	80'
2A			80'
2B			80'
3	P	96.08	75'
3A			75'
3B			75'
4	W	93.75	70'
4A			70'
4B			70'
5	B		35'
5B	B	91.42	35'
6	P	89.50	60'
7	Y	87.34	60'
8	B	85.42	50'
9	W	83.84	30'
10	P	81.67	45'
			300'

1440 LF AVAILABLE

Initial

BY B. C. Rogers

DATE 06/20/18

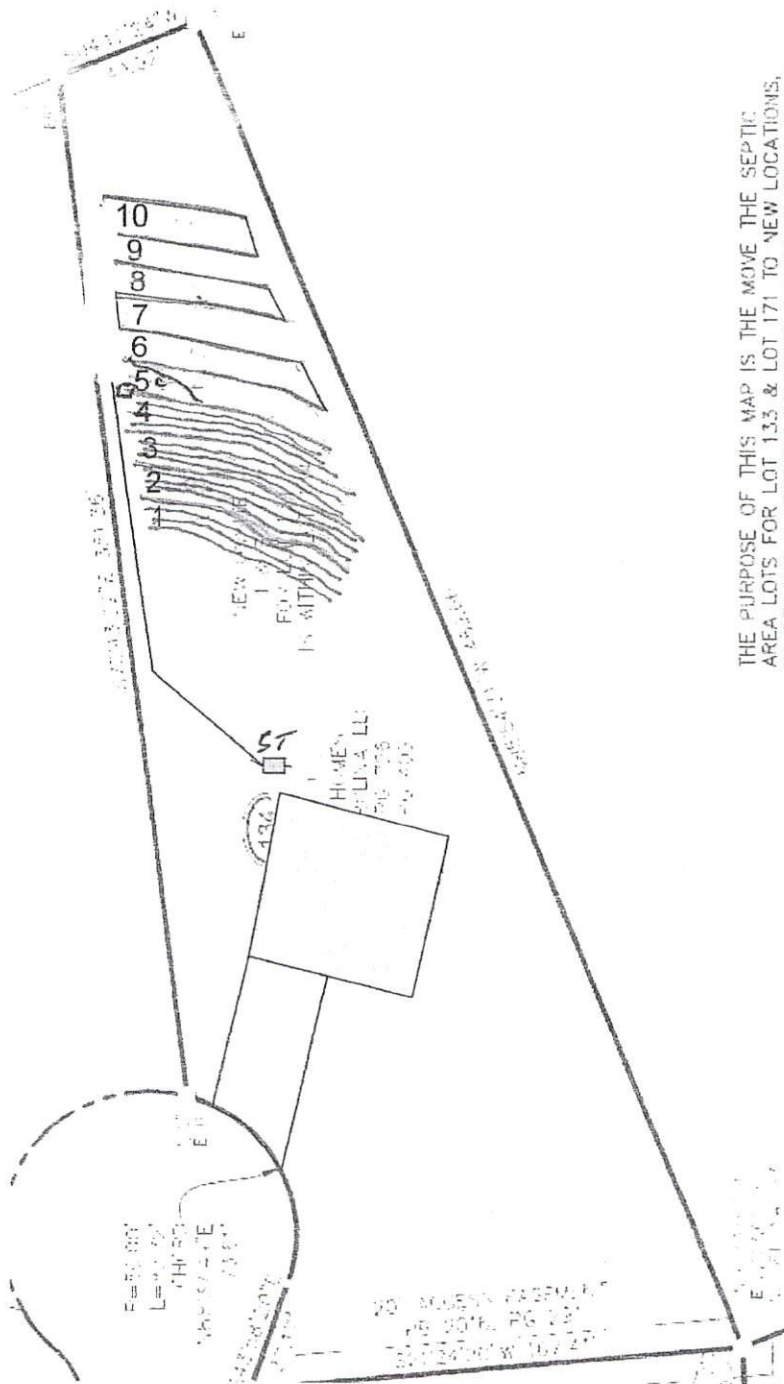
TYPICAL PROFILE: (INITIAL)

THERE SHALL BE NO GRADING,
 CUTTING, LOGGING OR OTHER SOIL
 DISTURBANCE IN SEPTIC AREA

0-10 W (VF, g=)
10-30+ SIL (SIL (Fi, sW))
C12/SAP >50% >27"

Southeastern Soil & Environmental Associates, Inc.

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Email mike@southeasternsoil.com



SOUTHEASTERN SOIL & ENVIRONMENTAL ASSOC., INC.

PROPOSED SUBSURFACE WASTE DISPOSAL SYSTEM DETAIL SHEET

SUBDIVISION: Ballard Woods

LOT 171

INITIAL SYSTEM: ^{Pump to} APPROVED 25% REDUCTION

REPAIR ~~_____~~ ^{pump to} Revised off site TBD

DISTRIBUTION: D-Box

DISTRIBUTION ~~_____~~ TBD

BENCHMARK: 100.0

LOCATION FC Lot 171/133

NO. BEDROOMS: 3

LTAR 0.8 gpd/ft² (INITIAL SYSTEM)

LINE	FLAG COLOR	ELEVATION	LENGTH
1	B	100.42	50
2	W	99.42	50
3	V	98.75	50
			<u>150</u>

I 3

BY B.C. Raynor

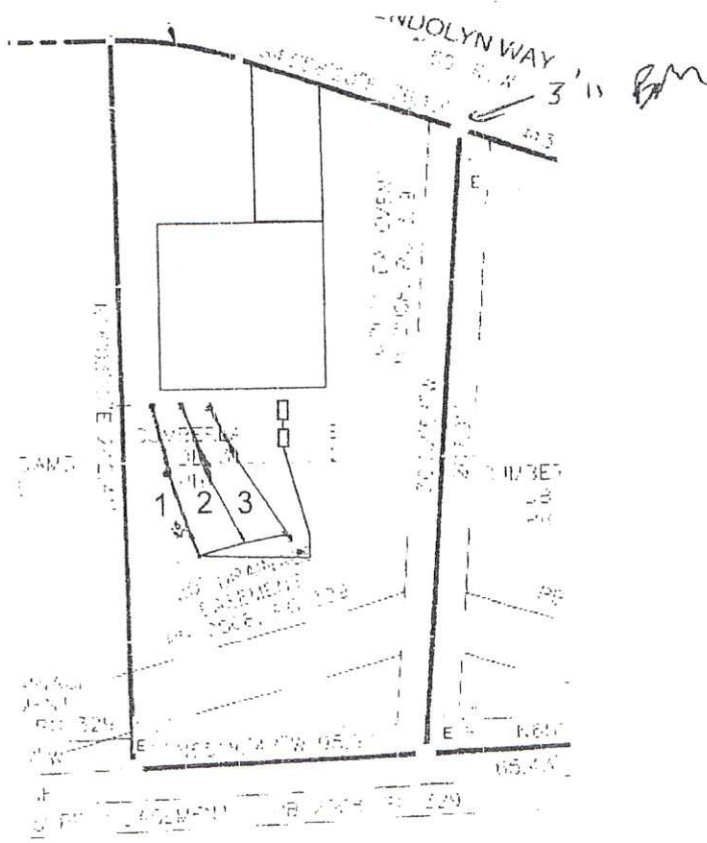
DATE 06/20/2018

TYPICAL PROFILE (INITIAL SYSTEM)

THERE SHALL BE NO GRADING, CUTTING, LOGGING OR OTHER SOIL DISTURBANCE IN SEPTIC AREA

I 3 0-30 LS VHS GRAN

CR 2 7 3/4"



FC Lot 171/172

1	B	50	3'6
2	W	50	4'6
3	Y	50	5'2
4	P	50	5'10
5	B	50	6'5
6	W	50	7'4