

# GeoEnvironmental Services, Inc

## AOSE Report for

|   |   |
|---|---|
| <b>Subdivision Approval Letter</b>  |   |
| Location of property:<br>South side of Paddock Wood Road  | Part of Tax Map# 19-25; Lot 1; 4.132 Acres<br>Louisa County   |
| Applicant or Client and address:<br><br>RLP Investments, LC & REW Land, LLC<br>P.O. Box 559<br>Amelia Court House, VA 23002   | Prepared by AOSE:<br><br>Keith M. McQuiddy<br>P.O. Box 1555<br>Mechanicsville, VA 23116   |
| Date of this report: 4/23/18<br><br>Revision Dates: n/a   | AOSE/PE Job Number: n/a<br><br>Health Dept. ID No.: n/a   |
| Contents of this report:  |   |
| <input checked="" type="checkbox"/> Soil Information Summary<br><input checked="" type="checkbox"/> Soil Profile Descriptions<br><input checked="" type="checkbox"/> Water Supply Design Specifications<br><input type="checkbox"/> System Construction Specifications<br><input type="checkbox"/> Product Spec. Sheets   | <input type="checkbox"/> Construction Drawings to Scale<br><input checked="" type="checkbox"/> Site Sketch Drawn to Scale<br><input checked="" type="checkbox"/> Abbreviated Primary/Reserve Calculations<br><input checked="" type="checkbox"/> Additional Site Specific Comments<br><input checked="" type="checkbox"/> Private Well Addendum |
| Certification Statement:  |   |
| <p>I hereby certify that the evaluations and/or designs contained herein were conducted in accordance with the Sewage Handling and Disposal Regulations (12 VAC5-610), the Private Well Regulations (12 VAC5-615), and other applicable policies of the Virginia Department of Health. Furthermore, I certify that my evaluation and/or design contained herein complies with all applicable laws, regulations, and policies implemented by the Virginia Department of Health.</p> <p>I recommend a <u>Subdivision Approval Letter</u> be approved.</p> <p>AOSE <u>Keith M. McQuiddy</u> # 1940 001299<br/>                 Keith M. McQuiddy</p> |   |

### Commonwealth of Virginia Application for a Sewage Disposal and/or Water Supply Subdivision Approval Letter

Health Department ID# \_\_\_\_\_

Date Received \_\_\_\_\_

Owner RLP Investments, LC & REW Land, LLC Telephone (804) 561-2790

Address P.O. Box 559, Amelia Court House, VA 23002

*Ronald L Pemberton.*

Contact \_\_\_\_\_ Telephone same

Directions to Property: From the Louisa County Health Department, travel west on I64; take exit onto Route 15 North; turn left onto West Green Springs Road; turn right onto Columbia Road; turn left onto Paddock Wood Road; property is on the left.

Property ID part of Tax Map# 19-25

Subdivision \_\_\_\_\_ Lot 1

Dimension/Size of Property 4.132 Acres

#### Residential Use

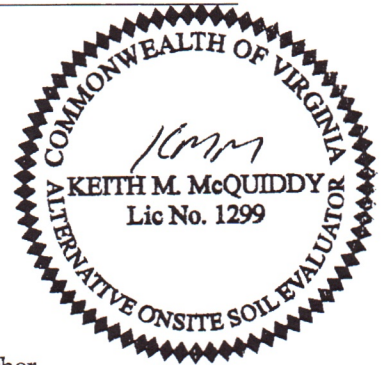
Single Family

Multi-Family \_\_\_\_\_

Number of Bedrooms 4

Number of Units 1

Crawlspace



#### Proposed Onsite Sewage Disposal System

Septic Tank Drainfield  Gravity-Feed \_\_\_\_\_ Pump  Other \_\_\_\_\_

#### Water Supply

Private  Existing \_\_\_\_\_ New

Description: Class IIIC well is to be installed.

The property lines, building location, and sewage disposal system site are clearly marked and the property is sufficiently visible to see the topography. I give permission to the Department to enter onto the property described for the purpose of processing this application, and to perform quality assurance checks as necessary until the sewage disposal system has been constructed and approved.

*Richard E. Dallas* *Manager*

Owner or Agent Signature

*Ronald L Pemberton*

4/25/18

Date

4/25/18

## ATTENTION

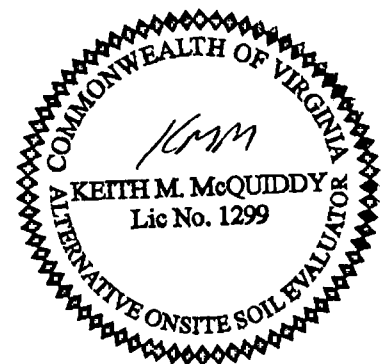
### BE ADVISED:

Soil absorption areas are very sensitive and require protection from grading and compaction or encroachment by heavy equipment and any other construction activity not related to drainfield installation. Regardless of the depth of the proposed installation soil absorption areas are extremely sensitive environmental areas. It is important that clearing, grading and construction work in the vicinity of the drainfield area be carefully planned to protect the drainfield site. The drainfield should be protected from vehicular and construction traffic and should not be used for storage of construction materials. We recommend that the drainfield area be protected by barricade to prevent encroachment.

Given the sensitive nature of these wastewater disposal areas GESI offers to place barricade tape around the site to protect this area from the development and construction activity. This service is offered on a per unit basis at \$65.00.

Respectfully,

Staff, GeoEnvironmental Services, Inc.



### SOIL SUMMARY REPORT

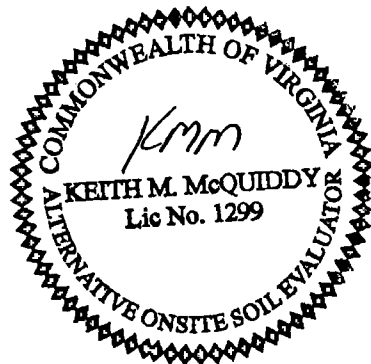
#### GENERAL INFORMATION

Date 4/23/18 Submitted to Louisa County Health Department  
 Applicant RLP Investments, LC & REW Land, LLC Telephone (804) 561-2790  
 Address P.O. Box 559, Amelia Court House, VA 23002  
 Contact \_\_\_\_\_ Telephone same  
 Location of Property South side of Paddock Wood Road  
 Subdivision \_\_\_\_\_ Lot 1  
 Property I.D. part of Tax Map# 19-25  
 Size 4.132 Acres

#### SOIL INFORMATION SUMMARY

Position in Landscape: Satisfactory  Unsatisfactory \_\_\_\_\_ Slope: 4-5%  
 Description: Proposed primary drainfield occupies a wooded upland sideslope topographic position and has good surface drainage.  
 Depth to Rock or Impervious Strata: None  Max. \_\_\_\_\_ Min. \_\_\_\_\_ Inches  
 Depth to Seasonal Water Table (Gray Mottling or Gray Matrix Color): None  \_\_\_\_\_ Inches  
 Free Water Present: No  Range: \_\_\_\_\_ Inches  
 Soil Percolation Rate 50 min/inch Estimated  Field Test \_\_\_\_\_; Soil Texture Group IIB  
 Permeability Test Performed: No  Yes \_\_\_\_\_  
 Recommended Trench Bottom 34-36 Inches  
 Reserve Drainfield Required: Yes  No \_\_\_\_\_ Percent Available Area 100%  
 System Type: Gravity \_\_\_\_\_ Pump / Enhanced Flow  Other \_\_\_\_\_  
 Water Supply: Public \_\_\_\_\_; Class IIIA \_\_\_\_\_; Class IIIB \_\_\_\_\_; Class IIIC

NOTE: See the site sketch for the location of the homesite, drainfield, well, and driveway (when applicable).



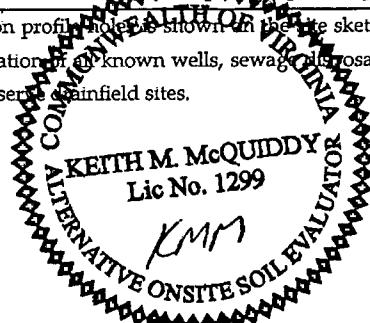
## SOIL PROFILE DESCRIPTIONS REPORT \*

Site Evaluation: February 22, 2018

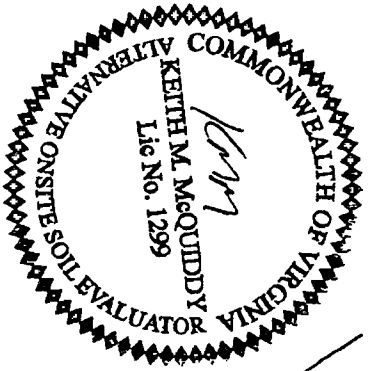
| HORIZON          | DEPTH INCHES | DESCRIPTION OF COLOR, MOIST CONSISTENCE, TEXTURE, STRUCTURE  | TEXTURE GROUP |
|------------------|--------------|--|---------------|
| <b>Boring# 1</b> |              |  |               |
| A                | 0-3          | Brown (10YR 5/3); friable; loam  | IIB           |
| EB               | 3-16         | Light yellowish brown (10YR 6/4); friable; loam  | IIB           |
| Bt               | 16-30        | Red (2.5YR 4/6) mottled with common medium distinct brownish yellow (10YR 6/8), strong brown (7.5YR 5/6), and white parent material colors; friable; light clay loam with mica flakes and quartz                                 | III           |
| BC               | 30-46        | Red (2.5YR 4/6) mottled with common medium distinct brownish yellow (10YR 6/8); friable; loam with mica flakes   | IIB           |
| C                | 46-54+       | Variegated strong brown (7.5YR 5/6), red (2.5YR 5/8), brownish yellow (10YR 6/8), yellowish red (2.5YR 4/6), yellowish brown (10YR 5/6), and white (lithochromic); friable; micaceous loam                                       | IIB           |
| <b>Boring# 2</b> |              |  |               |
| A                | 0-10         | Brown (10YR 5/3); friable; loam  | IIB           |
| Bt1              | 10-26        | Yellowish red (5YR 4/6); friable; light clay loam  | III           |
| BC               | 26-42        | Yellowish red (5YR 4/6) mottled with common medium distinct yellowish brown (10YR 5/6), and strong brown (7.5YR 5/6); friable; light clay loam to loam with few mica flakes  | III-IIB       |
| C                | 42-60        | Variegated strong brown (7.5YR 5/6), red (2.5YR 5/8), reddish yellow (5YR 6/8), yellowish red (2.5YR 4/6), yellowish brown (10YR 5/6), and white (lithochromic); friable; loam to micaceous loam                                 | IIB           |
| <b>Boring# 3</b> |              |  |               |
| A                | 0-12         | Brown (10YR 5/3); friable; loam  | IIB           |
| Bt               | 12-32        | Strong brown (7.5YR 5/6); friable; light clay loam   | III           |
| BC               | 32-46        | Yellowish red (5YR 4/6) mottled with common medium distinct yellowish brown (10YR 5/6), and strong brown (7.5YR 5/6); friable; loam with few mica flakes   | IIB           |
| C1               | 46-54        | Variegated strong brown (7.5YR 5/6), red (2.5YR 5/8), yellowish red (2.5YR 4/6), yellowish brown (10YR 5/6), and light gray (lithochromic); friable; loam with many mica   | IIB           |
| C2               | 54-60        | Variegated strong brown (7.5YR 5/6), red (2.5YR 5/8), brownish yellow (10YR 6/8), yellowish red (2.5YR 4/6), yellowish brown (10YR 5/6), and white (lithochromic); friable; crushes to sandy loam with parent material fragments | IIB           |
| <b>Boring# 4</b> |              |  |               |
| A                | 0-4          | Brown (10YR 5/3); friable; loam  | IIB           |
| Bt1              | 4-32         | Yellowish red (5YR 4/6); friable; light clay loam with few mica flakes and quartz  | III           |
| BC               | 32-50        | Red (5YR 4/6) mottled with common medium distinct brownish yellow (10YR 6/8); friable; loam with mica flakes   | IIB           |
| C                | 50-56        | Variegated strong brown (7.5YR 5/6), red (2.5YR 5/8), brownish yellow (10YR 6/8), yellowish red (2.5YR 4/6), yellowish brown (10YR 5/6), and white (lithochromic); friable; micaceous loam                                       | IIB           |

Remarks: The soils of this site have developed from the weathering products of granite gneiss and mica schist of the Piedmont Physiographic Province. These soils are deep and well drained. This site is on an upland topographic position and has good surface drainage.

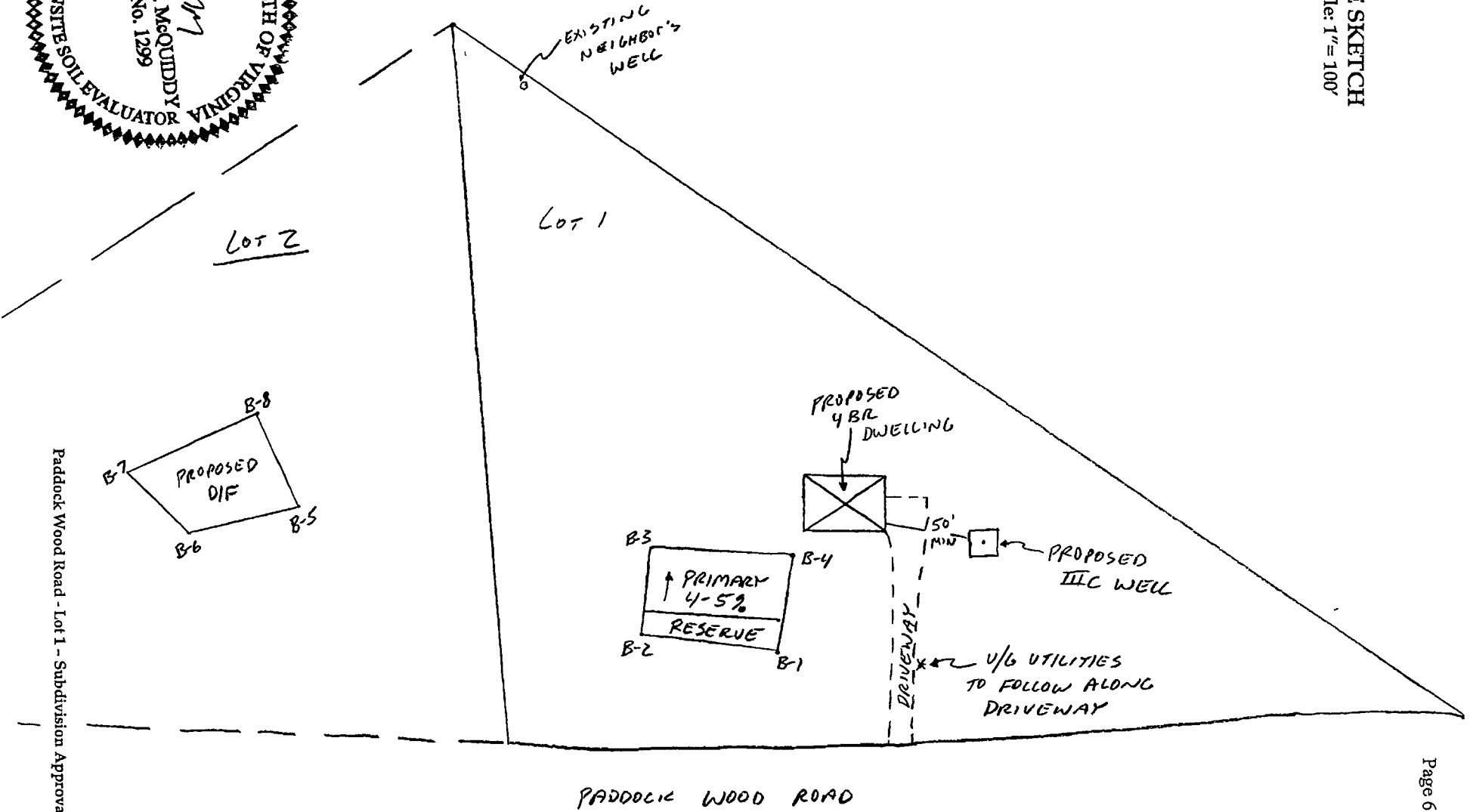
\* The location of soil evaluation profile holes is shown on the site sketch, which accompanies this report. The site sketch includes the estimated or measured location of all known wells, sewage disposal systems, springs and structural features within 200 feet of the proposed drainfield and reserve drainfield sites.



Paddock Wood Road - Lot 1 - Subdivision Approval Letter



SITE SKETCH  
Scale: 1" = 100'



Paddock Wood Road - Lot 1 - Subdivision Approval Letter

ABBREVIATED DESIGN FORM  
 PRIMARY  
 TYPE II - CONVENTIONAL

DESIGN BASIS

- A. a. Estimated Percolation Rate: 50 min/inch
- b. Recommended trench bottom 34-36 in
- c. Depth to seasonal high water table \_\_\_\_\_ or to limit of evaluation \_\_\_\_\_ x
- d. Minimum separation required 54 in
- e. Separation distance in inches provided in design (Ac-Ab) 18 in
- f. Minimum trench bottom due to slope [(% slope-8)/2 + (12 or 18)] 18 in
- g. Is the slope greater than 10% no
- h. If Ag is Yes, does greater than 24 inches to rock exist below Ab n/a
- i. If yes to Ah, add 1 ft. to the minimum center to center spacing beginning at 20% slope and continue for each 10% slope increase above 20%. If no to Ah, add 1 ft. to the minimum center to center spacing beginning at 10% slope and continue for each 10% slope increase above 10%. (Report the value of the increase in center-to-center spacing above the minimum.) n/a

B. Trench bottom area required per bedroom (From Table 5.4 based on Gravity x LPD \_\_\_\_\_): 376 sq. ft.

C. Number of bedrooms: 4

TRENCH CALCULATIONS

|    |   |      |         |
|----|---|------|---------|
| D. | Length of Trench                          | 85   | ft.     |
| E. | Width of Trench                           | 3    | ft.     |
| F. | Number of Trenches                        | 6    |         |
| G. | Center-to-Center Spacing                  | 9    | ft.     |
| H. | Width Required                            | 48   | ft.     |
| I. | Total Area Required (B x C)               | 1504 | sq. ft. |
| J. | Design Area (D x E x F)                   | 1530 | sq. ft. |
| K. | Reserve Area Required? Yes _____ No _____ | x    |         |

a. Percent required 100%  
 b. Percent available 100% - see separate design on page 8.



ABBREVIATED DESIGN FORM  
RESERVE  
TYPE II - ALTERNATIVE w/ PAD DISPERSAL

**DESIGN BASIS**

|                            |              |
|----------------------------|--------------|
| Install Pad Bottom         | 34-36 in.    |
| Estimated Percolation Rate | 50 min/in.   |
| Design Flow                | 600 gal./day |
| Active Pad area required   | 1133 sq. ft. |

*(600 gal./day) / (0.53 gal./day/sq. ft.)  
calculated using Table I of the Regulations for Alternative Onsite Sewage Systems  
Ecopod N-Series Treatment Unit (or equivalent) to produce TL-2 effluent*

**PERCOLATION AREA DESIGN**

|                         |                  |                                  |
|-------------------------|------------------|----------------------------------|
| Total Pad Area Required | 1133             | sq. ft.                          |
| Design Area             | 80' x 15' = 1200 | sq. ft.                          |
| Length of Pad           | 80               | ft.                              |
| Width of Pad            | 15               | ft.                              |
| Pad Thickness           | 36               | inches *Stone aggregate required |

**MINIMUM SEPARATION DISTANCES**

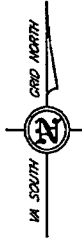
|                                 |     |     |
|---------------------------------|-----|-----|
| To Bedrock or Impervious Strata | n/a | in. |
| To Wetness Features             | n/a | in. |
| Other Restrictions:             | 54  | in. |
| Limit of evaluation             |     |     |





**SURVEY PLAT**  
(Attached)

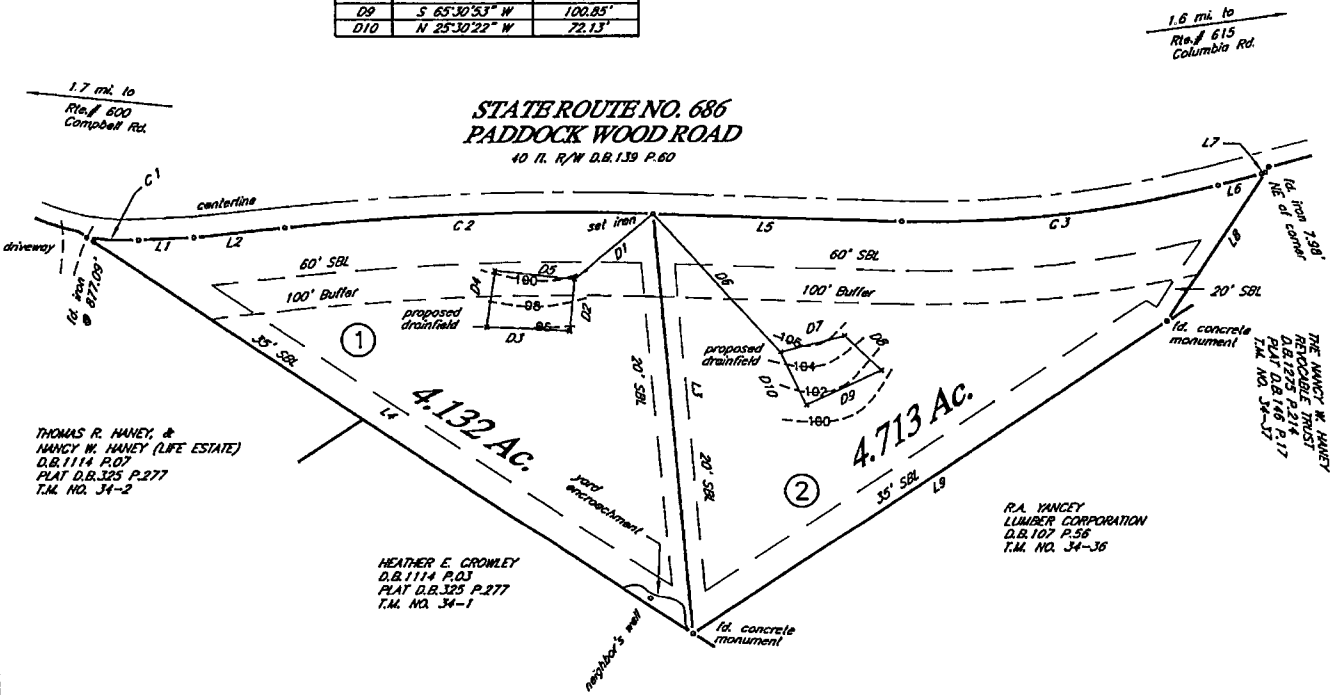
- NOTE: 1. ELEVATIONS SHOWN ARE ASSUMED FOR THAT DRAINFIELD ONLY AND NOT FROM DRAINFIELD TO DRAINFIELD.  
2. SEE PLAT FOR LOT DIMENSIONS.  
3. PART OF T.M. NO. 19-25  
4. REFERENCE PLATS: PART OF D.B.220 P.251 AND SEE UNRECORDED PLAT BY ROGER W. RAY & ASSOC., INC. DATED FEBRUARY 12, 2016 IN POSSESSION OF H. CURTIS PEARSON, JR.  
5. FLOOD ZONE X: THIS PROPERTY DOES NOT LIE IN A HMD FLOOD HAZARD AREA IN ACCORDANCE WITH F.I.R.M. COMMUNITY PANEL NO. 51109C0075B WITH EFFECTIVE DATE OF NOVEMBER 5, 1997



| Curve | Radius   | Length  | Delta     | Chord   | Chord Bear.   |
|-------|----------|---------|-----------|---------|---------------|
| C1    | 302.81'  | 62.78'  | 11°52'41" | 62.66'  | S 86°38'45" E |
| C2    | 3211.55' | 450.46' | 8°02'11"  | 450.09' | N 87°55'58" E |
| C3    | 1334.70' | 388.06' | 16°39'31" | 386.70' | N 83°37'18" E |

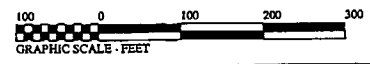
| Course | Bearing       | Distance |
|--------|---------------|----------|
| L1     | N 87°24'54" E | 66.89'   |
| L2     | N 83°54'52" E | 111.54'  |
| L3     | S 04°56'17" E | 516.39'  |
| L4     | N 56°27'23" W | 881.42'  |
| L5     | S 88°02'57" E | 301.88'  |
| L6     | N 75°17'30" E | 54.40'   |
| L7     | N 72°25'36" E | 5.22'    |
| L8     | S 33°36'34" W | 216.91'  |
| L9     | S 56°35'47" W | 693.67'  |

| PROPOSED DRAINFIELDS |               |          |
|----------------------|---------------|----------|
| Course               | Bearing       | Distance |
| D1                   | S 50°46'14" W | 125.41'  |
| D2                   | S 05°49'41" W | 62.35'   |
| D3                   | N 87°29'39" W | 101.56'  |
| D4                   | N 08°44'11" E | 68.97'   |
| D5                   | S 83°47'28" E | 97.89'   |
| D6                   | S 42°22'00" E | 227.19'  |
| D7                   | N 75°19'30" E | 80.41'   |
| D8                   | S 46°34'35" E | 61.56'   |
| D9                   | S 65°30'53" W | 100.85'  |
| D10                  | N 25°30'22" W | 72.13'   |



**DRAINFIELD PLAT**  
SCALE: 1 IN. = 100 FT.  
**Paddock Wood Road**  
**SUBDIVISION**  
OWNER/DEVELOPER: REW LAND, LLC & RLP INVESTMENTS, LC  
SOURCE OF TITLE: REW LAND, LLC & RLP INVESTMENTS, LC  
D.B.1505 P.511  
GREENE SPRINGS DISTRICT LOUISA COUNTY  
VIRGINIA

FEBRUARY 23, 2017  
DIVIDED MARCH 26, 2018



### CERTIFICATION STATEMENT

This homesite and the associated drainfields have been located to meet the limits of the Chesapeake Bay Ordinance. The documented drainfield area and design specified in this report is of sufficient size to accommodate a minimum of one type II conventional drainfield (primary), and one type II alternative drainfield (reserve), for the maximum house size indicated in this report.

**\*A PLAT WITH SURVEY-LOCATED BOREHOLES MUST ACCOMPANY THIS REPORT.**

If a well is necessary for this site, it must be installed and flow tested prior to the start of construction of the structure to be built on this site. The location of the well should be as shown on the homesite map/sketch. No warranties are given or implied regarding the well site shown on the site map/sketch.

\*\*\*The AOSE wishes to be contacted if a Level II review is necessary.\*\*\*

County: Louisa County, Virginia Date: 4/23/18

Property Identification: Part of Tax Map# 19-25; Lot 1; 4.132 Acres

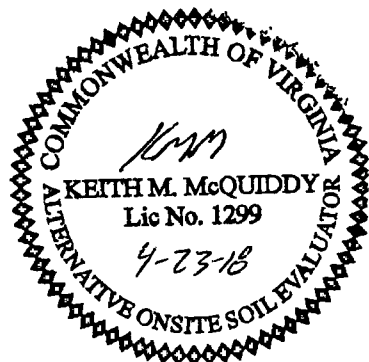
Submitted By: GeoEnvironmental Services, Inc.  
P.O. Box 1555, Mechanicsville, Virginia 23116  
Ph: 804-730-8220 Fax: 804-730-0167

This is to certify according to Section 32.1-163 of the *Code of Virginia* that work submitted for the referred property is in accordance to and complies with *the Sewage Handling and Disposal Regulations* of the Virginia Department of Health.

I recommend a Subdivision Approval Letter be Approved.

AOSE: Keith M. McQuiddy #1940 001299 Date: 4/23/18

Soil Consultant: \_\_\_\_\_ Date: \_\_\_\_\_



Respectfully Submitted,

*Keith M. McQuiddy*  
Keith M. McQuiddy  
Certified Professional Soil Scientist  
AOSE

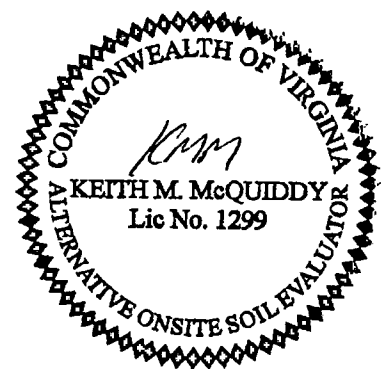
Paddock Wood Road - Lot 1 - Subdivision Approval Letter

## NOTICE TO DRAINFIELD CONTRACTORS

GeoEnvironmental Services, Inc. (GESI) will be required to inspect the installation of this drainfield. **There will be a fee charged to the drainfield contractor for this inspection.** Drainfield contractors should call GESI at 804-730-8220 prior to bidding the installation of the system to discuss fees for this inspection. *A Completion Statement from GESI will not be released until this invoice is paid in full.*

**GESI requires a minimum 72 hours notice be given prior to an inspection.** It is also recommended that as many of the components of the system as possible be operational during the inspection (including pumps) in order to limit the number of site visits. Inadequate prior notification for an inspection, as well as multiple site visits, will result in additional fees.

**GESI will not be held liable for premature drainfield failure due to errors or defects in execution of design.**



**Addendum to AOSE/PE Certification Statement  
For Private Well Construction Permit  
Lot 1; 4.132 Acres  
part of Tax Map# 19-25**

Instructions: Please check one box in 1-3 below. Statement templates for item #2 and #3 are on the following pages.

The proposed well site shown herein,

- 1. Is located a minimum of 50 feet from all property lines.
- 2. Is located within 50 feet of the adjacent property line(s) but I have determined that the adjacent property is not used for an agricultural operation.
  - i. Written affirmation from the adjacent property owner(s) that their property is not used for an agricultural operation.
  - ii. Other confirmation that land use is not an agricultural operation, please describe: See recorded subdivision plat
- 3. Is located within 50 feet of adjacent property line where the property is used for an agricultural operation. For confirmation, I have attached the appropriate documentation pursuant to § 32.1-176.5:2 of the *Code of Virginia*. (check one below)
  - 1. Written permission from the adjacent property owner(s) for the well construction.
  - ii. I certify that on other site on the property complies with the Board's Regulations for the construction of a private well.

