

O.S.T. SYSTEM DESIGNS, Inc.

Armando G. Flores, REHS
PO BOX 274
BIOLA, CA 93606
(559) 288-8494
OSTPERCS@GMAIL.COM

November 25, 2019

Mariposa County Health Dept.,
Environmental Health Services
Brian Hodge
PO Box 5
Mariposa CA 95338

Re: **A Soils Report for Land Division Application # _____**
Applicant: Reza Abrahamzadeh & Susan Zaker
Site: 5565 Meadow Lane, Mariposa CA 95338
APN#: 015-090-006
Tentative Parcel Map by: Freeman & Seaman Land Surveyors

INTRODUCTION:

The proposed 21.04 ± Acre Land Division is located in the Lushmeadows Farms subdivision (Lot 6) in the county of Mariposa, CA. The proposal is to divide Lot 6 into three new Parcels: A (5.06 ± Acres), B (10.92 ± Acres), & C (5.06 ± Acres). Parcels B & C have already been developed with single-family residences (SFR's) and On-Site Sewage Treatment Systems (OSTS's). This report addresses the Parcel A, which is comprised of 5.06 ± Acres of undeveloped land.

The purpose of the Sewage Feasibility Investigation and Soils Report is to address the feasibility of sewage dispersal on Parcel A using an Individual On-Site Sewage Treatment System (OSTS) and sizing a Sewage Reserve Area based on data collected from a Sewage Feasibility Investigation and Soils Analysis. The proposed Sewage Reserve Area meets the requirements of the Mariposa County Local Agency Management Plan (LAMP), Sewage Disposal Rules, and Mariposa County Code, Section 13.08.090.

SITE DESCRIPTION:

The proposed Parcel has plenty area available for a SFR, driveway(s), a domestic well and sewage dispersal using a conventional OSTs. Vegetal growth is comprised of Pine, Oak, and Manzanita Trees as well as native brushes and grasses. There were not site restrictions noted in the area selected for a Sewage Reserve Area. Please see Tentative Parcel Map by Freeman & Seaman Land Surveyors for Topography, Contours, Vicinity Map, etc., dated June 20, 2019.

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SOILS ANALYSIS:

The Soils Analysis consisted of using a backhoe owned and operated by Bob Todd Backhoe Services to excavate and analyze two soil profile test pits and conducting four percolation tests. Table A below summarizes Parcel A Data and Soils Analysis data as well as the size of Sewage Reserve Area required. The soil profile test pits and percolation test sites have been plotted on the attached Soils Report Plot Plan.

Soil Profiles

The Soil Profiles found that the upper 12 inches of top soil consists of a brown dry fine grained firm sandy loam with slight plasticity (CL) followed by 36" of brown/red dry fine grained very stiff blocky sandy clay loam/clay (CL) followed by an underlying layer of light brown/tan/green slightly moist fine grained sandy loam with minor clay, slightly sticky when wet (CL) to 12.0 Ft. There was no evidence of seasonal ground water encountered or restrictive soil layer encountered to 12.0 Ft.

Percolation Tests

Percolation Tests were conducted at depths ranging from 5.0 – 7.0 Ft. Six-inch diameter Percolation holes were bored out using a Bobcat – Toolcat 5600 and a 6" auger. All percolation holes were presoaked for a period of at least 24 hours and tested at thirty-minute intervals for 3 hours.

TABLE A
Parcel & Soils Analysis Data Summary

Parcel #	Lot Size (Gross) Acres	# Soil Profiles	Soil Profile Depth (Ft)	# Perc Tests	Perc Test Depth	Avg. Perc Rate (MPI)	Sewage Reserve Area Required
A	5.06	4	12 Ft	4	5.0 – 7.0 Ft	77.00	14,000 Ft ²
B	10.92	N/A	N/A	N/A	N/A	N/A	N/A
C	5.06	N/A	N/A	N/A	N/A	N/A	N/A

Note: Usable Sewage Reserve Areas were sized per Mariposa County Health Department Policy: 03-01.

PARCEL DATA

PARCEL A

The proposed Sewage Reserve Area on this **5.06 ± Acre Parcel** has slopes ranging from 5 - 10 % and natural contours which are ideal for leach line configuration, within the area tested for sewage disposal. Native grasses, Manzanita, Oak, and Pine trees are scattered throughout. The soils analysis data collected indicates that a conventional OSTS designed and permitted by the Mariposa County Environmental Health Department will be used to treat and disperse residential type wastewater on this proposed Parcel using an approved Septic Tank and Leach Field. The OSTS should be sized based on the soils analysis data collected, number of bedrooms, and County requirements. The attached soils analysis data collected supports this recommendation.

- **Average Percolation Rate: 77.00 MPI**
- **Minimum Usable Sewage Reserve Area Required: 14,000 Ft²**
- **Recommended Total Trench Depth for a Rock Leach Field: 6.0 Ft**
- **Site Restrictions:** There were no site restrictions noted.

CONCLUSION AND RECOMMENDATIONS

The Soils Analysis conducted indicates the soils found on-site are an excellent medium for Sewage Dispersal from residential type sewage effluent using a standard/conventional County Designed On-Site Sewage Treatment System. OSTS Installers should follow the recommendations noted above.

Septic Tank and Leach Field sizing shall meet current County Requirements. All County drainage, well and boundary setback requirements should be complied with.


Testing was performed per the Mariposa County Rules and Regulations Governing On-Site Sewage Disposal Systems, Land Division Applications and the LAMP.

Limitations:

Recommended Design Criteria is based on field data collected and does not reflect variations, which may occur between weather seasons and areas tested. The extent of variation may not become evident until the property development has been commenced. The client should recognize that exposure of unexpected adverse conditions would require additional costs at the rate of \$125.00 per hour, portal-to-portal. Services performed by O.S.T. System Designs, Inc. have been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions. No other warranty, expressed or implied, is made.

Please contact me at 559-288-8494 if you have any questions regarding this report.

Respectfully Submitted,


ARMANDO G. FLORES
Registered Environmental
Health Specialist #6579



Enclosed:

1. Percolation Test Data
2. Soil Profile Data
3. Land Division Soils Report Plot Plan, indicating Test Sites, Site Restrictions, and a 14,000 Ft² Sewage Reserve Area.

O.S.T. SYSTEM DESIGNS, INC. SOIL PROFILE LOG

PROPERTY OWNER(S): Reza Abrahamzadeh & Susan Zaker

LOCATION: 5565 Meadow Lane, Mariposa CA

APN #: 015-090-006

DATE: November 18, 2019

EQUIPMENT USED: Backhoe

SOIL PROFILE/DESCRIPTION	
DEPTH	SOIL PROFILE # 1 & 2
0_	Brown dry fine grained firm sandy loam with slight plasticity (CL)
2_	
4_	Brown/red dry fine grained very stiff blocky sandy clay loam/clay (CL)
6_	
8_	Light brown/tan/green slightly moist fine grained sandy clay loam, minor clay, slightly sticky when wet (CL)
10_	
12_	Still digging, no evidence of shallow ground water or restrictive soil layers to 12 Ft.
14_	
16_	
16_	
DEPTH	SOIL PROFILE #
0_	
2_	
4_	
6_	
8_	
10_	
12_	
14_	
16_	

O.S.T. System Designs Inc.
 Armando G. Flores, REHS
 PO Box 274
 Biola CA 93606

Percolation Test Data Sheet

PH: 559.288.8494
 OSTPERCS@GMAIL.COM

Property Owner: <u>Reza Abrahamzadeh</u>				Presoak Date/Time: <u>11/18/19 - 11:00 am</u>			
Site: <u>5565 Meadow Lane</u> <u>Land Div</u>				Test Date/Time: <u>11/19/19 - 11:00 am</u>			
<u>Marlaca CA 95738 (-Lot A)</u>				APN#: <u>015-090-006</u>			
Time of Day	Start Ref Point (")	Time Elapsed	Final Ref. Point	Drop in Inches	Refilled Yes/No	MPI	Comments

Perc #: 1 Depth of Perc: 6.0 Ft Perc Hole Diameter: 6"

<u>11:00 am</u>	<u>30"</u>	<u>30</u>	<u>31 1/4"</u>	<u>1 1/4"</u>	<u>Yes</u>	<u>26.67</u>	
<u>11:30</u>	<u>30"</u>	<u>30</u>	<u>30 3/4"</u>	<u>3/4"</u>	<u>Yes</u>	<u>40</u>	
<u>12:00</u>	<u>30"</u>	<u>30</u>	<u>30 3/4"</u>	<u>3/4"</u>	<u>Yes</u>	<u>40</u>	<u>48.0 mpi</u>
<u>12:30</u>	<u>30"</u>	<u>30</u>	<u>30 5/8"</u>	<u>5/8"</u>	<u>- Yes</u>	<u>43</u>	
<u>1:00</u>	<u>30"</u>	<u>30</u>	<u>30 5/8"</u>	<u>5/8"</u>	<u>Yes</u>	<u>43</u>	
<u>1:30</u>	<u>30"</u>	<u>30</u>	<u>30 5/8"</u>	<u>5/8"</u>	<u>Yes</u>	<u>48</u>	<u>Finish: 2:00 pm</u>

Perc #: 2 Depth of Perc: 6.0 Ft

<u>Same</u>	<u>100"</u>	<u>30</u>	<u>100 7/8"</u>	<u>7/8"</u>	<u>Yes</u>	<u>34.25</u>	
	<u>100"</u>	<u>30</u>	<u>100 5/8"</u>	<u>5/8"</u>	<u>Yes</u>	<u>49</u>	
	<u>100"</u>	<u>30</u>	<u>100 5/8"</u>	<u>5/8"</u>	<u>Yes</u>	<u>49</u>	<u>60.0 mpi</u>
	<u>100"</u>	<u>30</u>	<u>100 1/2"</u>	<u>1/2"</u>	<u>Yes</u>	<u>60</u>	
	<u>100"</u>	<u>30</u>	<u>100 1/2"</u>	<u>1/2"</u>	<u>Yes</u>	<u>60</u>	
	<u>100"</u>	<u>30</u>	<u>100 1/2"</u>	<u>1/2"</u>	<u>Yes</u>	<u>60</u>	

Perc #: 3 Depth of Perc: 7.0 Ft

<u>Same</u>	<u>55"</u>	<u>30</u>	<u>55 1/2"</u>	<u>1/2"</u>	<u>Yes</u>	<u>60</u>	
	<u>55"</u>	<u>30</u>	<u>55 1/2"</u>	<u>1/2"</u>	<u>Yes</u>	<u>60</u>	
	<u>55"</u>	<u>30</u>	<u>55 3/8"</u>	<u>3/8"</u>	<u>Yes</u>	<u>80</u>	<u>80.0 mpi</u>
	<u>55"</u>	<u>30</u>	<u>55 3/8"</u>	<u>3/8"</u>	<u>Yes</u>	<u>80</u>	
	<u>55"</u>	<u>30</u>	<u>55 3/8"</u>	<u>3/8"</u>	<u>Yes</u>	<u>80</u>	
	<u>55"</u>	<u>30</u>	<u>55 3/8"</u>	<u>3/8"</u>	<u>Yes</u>	<u>80</u>	

Perc #: 4 Depth of Perc: 4.0 Ft

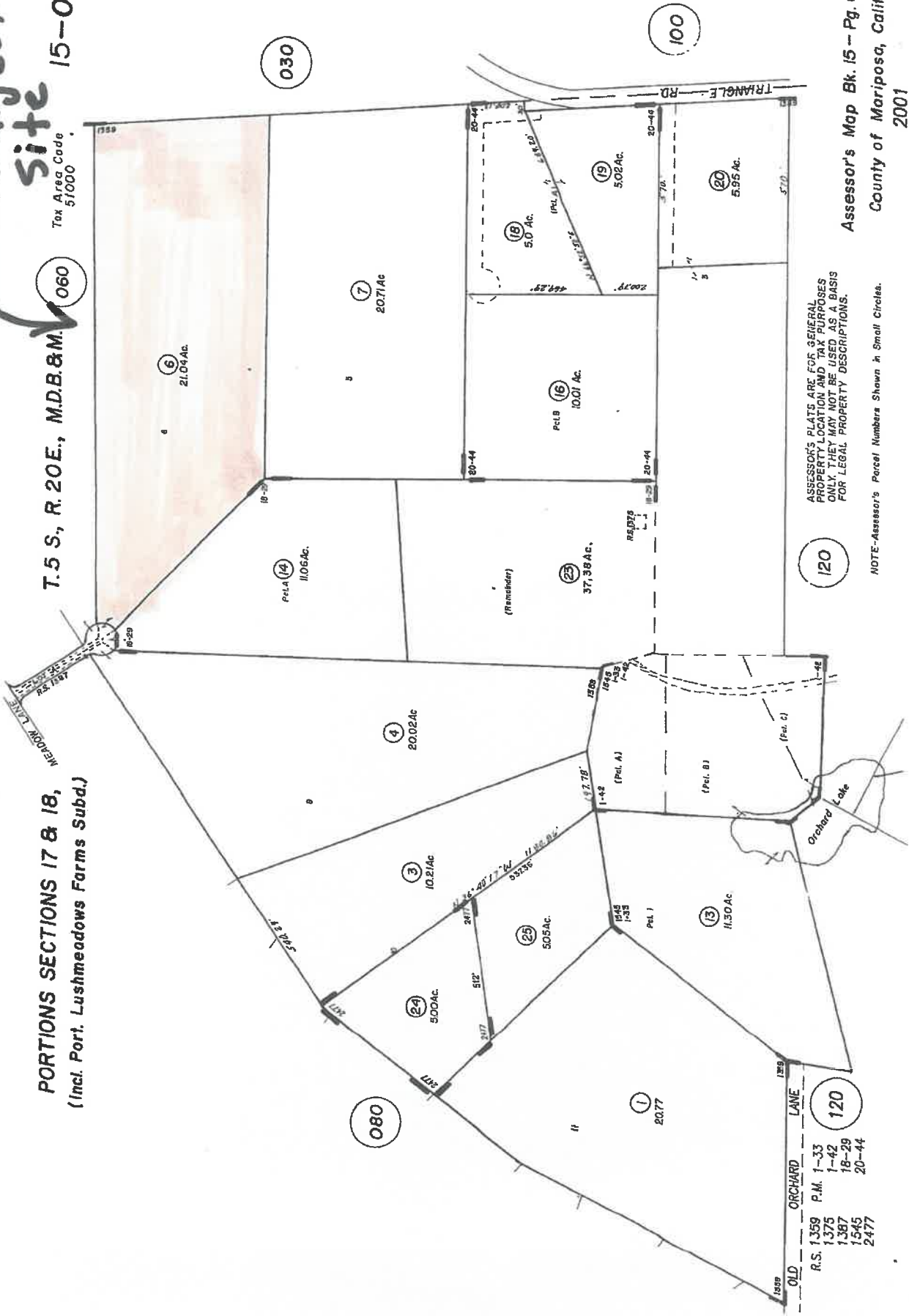
	<u>129"</u>	<u>30</u>	<u>129 5/8"</u>	<u>5/8"</u>	<u>Yes</u>	<u>40</u>	
	<u>129"</u>	<u>30</u>	<u>129 3/4"</u>	<u>3/4"</u>	<u>Yes</u>	<u>80</u>	
	<u>129"</u>	<u>30</u>	<u>129 1/4"</u>	<u>1/4"</u>	<u>Yes</u>	<u>120</u>	<u>120.0 mpi</u>
	<u>129"</u>	<u>30</u>	<u>129 1/4"</u>	<u>1/4"</u>	<u>Yes</u>	<u>120</u>	
	<u>129"</u>	<u>30</u>	<u>129 1/4"</u>	<u>1/4"</u>	<u>Yes</u>	<u>120</u>	
	<u>129"</u>	<u>30</u>	<u>129 1/4"</u>	<u>1/4"</u>	<u>Yes</u>	<u>120</u>	

Average Percolation Rate: 77.00 MPI

Subject Site

T.5 S., R.20E., M.D.B.&M. 060
Tax Area Code 51000

PORTIONS SECTIONS 17 & 18,
(Incl. Port. Lushmeadows Farms Subd.)



OLD	ORCHARD LANE
R.S. 1359	P.M. 1-33
1375	1-42
1387	18-29
1545	20-44
2477	

ASSESSOR'S PLATS ARE FOR GENERAL PROPERTY LOCATION AND TAX PURPOSES ONLY. THEY MAY NOT BE USED AS A BASIS FOR LEGAL PROPERTY DESCRIPTIONS.

NOTE-Assessor's Parcel Numbers Shown in Small Circles.

Assessor's Map Bk. 15 - Pg. 090
County of Mariposa, Calif.
2001

November 25, 2018

Land Division Soils Report Plot Plan

For:

Reza Abrahamzadeh
& Susan Zaker
5565 Meadow Lane
Mariposa CA 95338

Parcel Map #: _____

Total Subdivided Area: 21.04 +/- Acres

Parcel A: 5.06 +/- Acres (Subject Parcel)

Parcel B: 10.92 +/- Acres

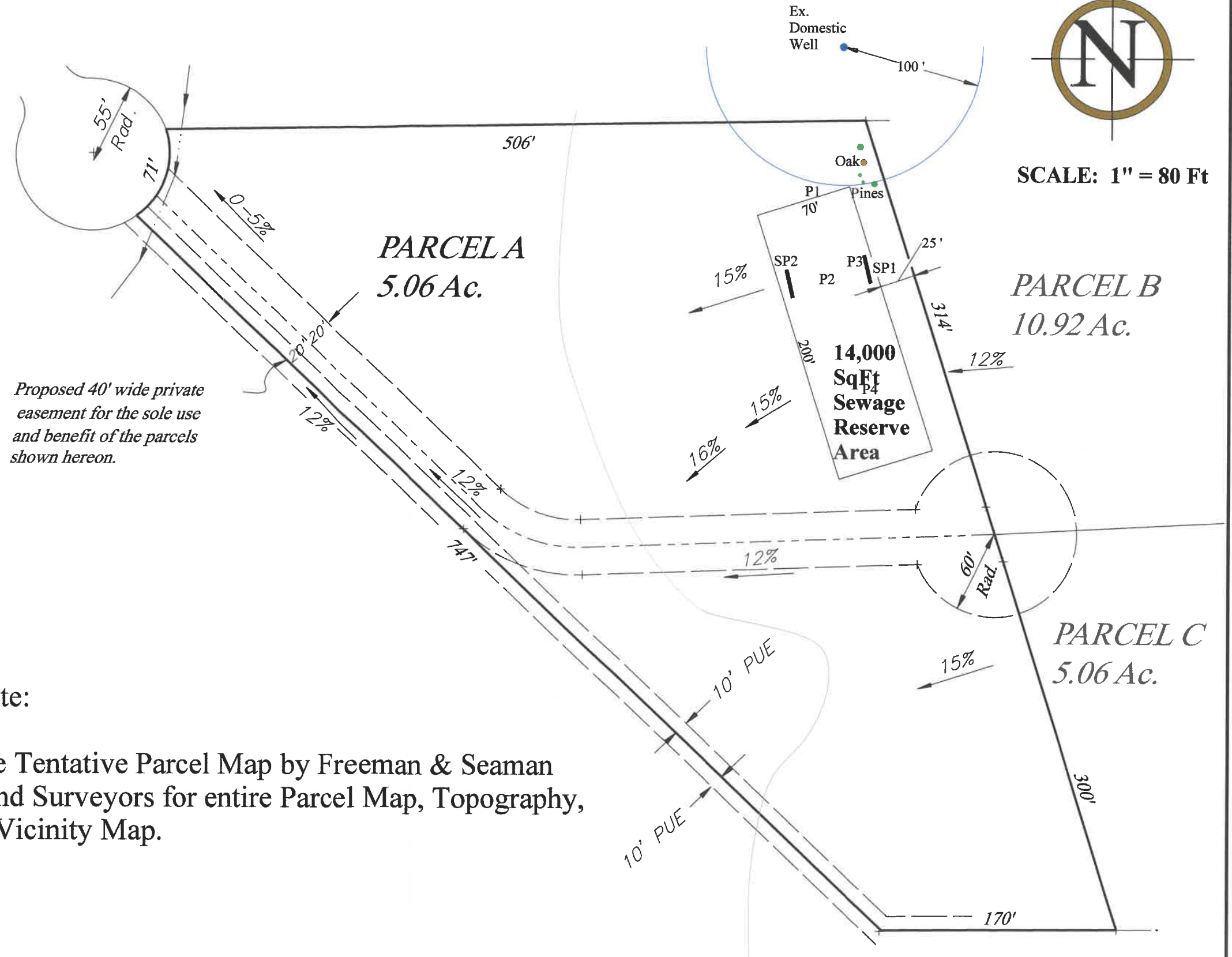
Parcel C: 5.06 +/- Acres

By:

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SCALE: 1" = 80 Ft



Proposed 40' wide private easement for the sole use and benefit of the parcels shown hereon.

LEGEND

SP = Soil Profile Location
P = Percolation Test Location

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Note:

See Tentative Parcel Map by Freeman & Seaman
Land Surveyors for entire Parcel Map, Topography,
& Vicinity Map.