

Architecture  
Structural  
Geotechnical



Materials Testing  
Forensic  
Civil/Planning

**ROCKY MOUNTAIN GROUP  
EMPLOYEE OWNED**

Job No. 177644

July 31, 2020  
Revised July 27, 2021

Jerry Lomax  
11750 Green Acres Lane  
Colorado Springs, CO 80908

Re: Wastewater Study  
11750 Green Acres Ln  
EPC 5215000035  
El Paso County, Colorado

Dear Jerry Lomax:

Ref: Land Survey Plat, prepared by Alessi and Associates, Inc., Job No. 191279, dated July 30, 2019

Dear Jerry Lomax:

As requested, personnel of RMG – Rocky Mountain Group has performed a preliminary investigation and site reconnaissance at the above referenced property. It is our understanding the approximately 15-acre parcel is to be subdivided into three smaller parcels. Per the Land Survey Plat, referenced above, each of the three new lots are to consist of 5.06 acres.

The parcel is currently partially developed. An existing single-family residence with well and septic are currently reside on the proposed new Lot 1. It is our understanding that these are to remain. Future construction on proposed new Lots 2 and 3 is anticipated to consist of single-family residences, each with a well and septic. As such, this letter is to provide preliminary information for the on-site wastewater report per the On-Site Wastewater Treatment Systems (OWTS) Regulations of the El Paso County Board of Health pursuant to Chapter 8.

The following are also excluded from the scope of this report including but not limited to foundation recommendations, site grading/surface drainage recommendations, subsurface drainage recommendations, geologic, natural and environmental hazards such as landslides, unstable slopes, seismicity, snow avalanches, water flooding, corrosive soils, erosion, radon, wild fire protection, hazardous waste and natural resources.

## Previous Studies and Field Investigation

Reports of previous investigations for this site were not available for our review. However, it is our understanding that a soils and geology study is to be completed by Groundwater Investigations, LLC.

## SITE CONDITIONS

Personnel of RMG performed a site reconnaissance visit on July 17, 2020. The purpose of the reconnaissance visit was to evaluate the site surface characteristics including landscape position, topography, vegetation, natural and cultural features, and current and historic land uses. Two 8-foot deep profile pits, one each on Lot 2 and Lot 3, were observed. A Profile Pit Location Plan is presented in Figure 1.

The site surface characteristics were observed to consist of dense deciduous trees, low lying grasses and weeds across the entire site.

The following conditions were observed with regard to the 15-acre parcel:

- A well currently **does** exist on Lot 1 of the existing 15-acre site, near the existing single-family residence. It is our understanding that the well is to remain;
- No runoff or irrigation features anticipated to cause deleterious effects to treatment systems on the site were observed. However, a pond with a man-made dam is located more than 200 feet north and east of the southeast property corner of Lot 3. A low lying area (seasonal drainageway) appears to extend from the pond at an angle across the southern portion of Lot 3.
- Black Squirrel Creek is located approximately 0.33 miles to the north of the northern property line. The entire site lies outside the designated floodway or floodplain;
- Slopes greater than 20 percent **do not** exist; and
- Significant man-made cuts **do not** exist.

Treatment areas are to be located a minimum distance of 100 feet from any well location. Treatment areas are also to be located a minimum of 50 feet from any spring, lake, water course, irrigation ditch, stream or wetland. Other setbacks for the treatment area include, but are not limited to, a minimum 10 feet from property lines, dry gulches, cut banks and fill areas (from the crest).

## DOCUMENT REVIEW

RMG has reviewed the above referenced Land Survey Plat, identified the soil conditions anticipated to be encountered during construction of the proposed OWTS for Lots 2 and 3, and included a review of documented Natural Resource Conservation Service - NRCS data downloaded electronically from [websoilsurvey.nrcs.usda.gov](http://websoilsurvey.nrcs.usda.gov). The Soil Survey Descriptions are presented below. A review of FEMA Map No. 08041C0320G, effective December 7, 2018 indicates that the proposed treatment areas are not located within an identified flood plain.

## SOIL EVALUATION

Personnel of RMG performed a soil evaluation to include two 8-foot deep profile pits, one each on Lot 2 and Lot 3, on July 17, 2020 (Profile Pit PP-1 and PP-2), utilizing the visual and tactile method for the evaluation of the site soils. The profile pits were excavated in area that appeared most likely to be used for residential wastewater treatment areas. The Profile Pit Logs are presented in Figure 2.

The soil conditions as indicated by the NRCS data are anticipated to consist of Kettle gravelly loamy sand with 8 to 40 percent slopes. The Kettle gravelly loamy sand was mapped by the USDA to encompass the majority of the property. Properties of the loamy sand include, somewhat excessively drained soils, depth of the water table is anticipated to be greater than 80 inches, runoff is anticipated to be medium, frequency of flooding and/or ponding is none, and landforms include hills. The USDA Soil Map and full Map Unit Descriptions are presented in Figures 3 and 4, respectively.

Groundwater, seasonal and/or saturated conditions or bedrock were not encountered in the profile pits performed by RMG.

Redoximorphic features indicating the fluctuation of groundwater or higher ground water levels were not observed in the profile pits.

## **CONCLUSIONS**

In summary, it is our opinion that there are no foreseeable or stated construction related issues or land use changes proposed at this time. Lots 2 and 3 each are suitable for an individual OWTS. Contamination of surface and subsurface water resources should not occur if the treatment areas are evaluated and installed according to El Paso County Health Department and State Guidelines in conjunction with proper maintenance.

## **LIMITATIONS**

The information provided in this report is based upon the subsurface conditions observed in the profile pit excavations and accepted engineering procedures. The subsurface conditions encountered in the excavation for the treatment area may vary from those encountered in the profile pit excavations. Therefore, depth to limiting or restrictive conditions, bedrock, and groundwater may be different from the results reported in this letter.

Individual wastewater treatment systems are proposed for Lots 2 and 3. Additional OWTS site evaluations for each lot will need to be performed in accordance with the applicable health department codes prior to construction. This report may require additional profile pits in the vicinity of the proposed treatment field. A minimum separation of 4 feet (or 3 feet, if an unlined sand filter is used) shall be maintained from groundwater and bedrock to the infiltrative surface.

I hope this provides the information you have requested. Should you have questions, please feel free to contact our office.

**Respectfully Submitted,  
RMG – Rocky Mountain Group**



**Kelli Zigler  
Project Geologist**

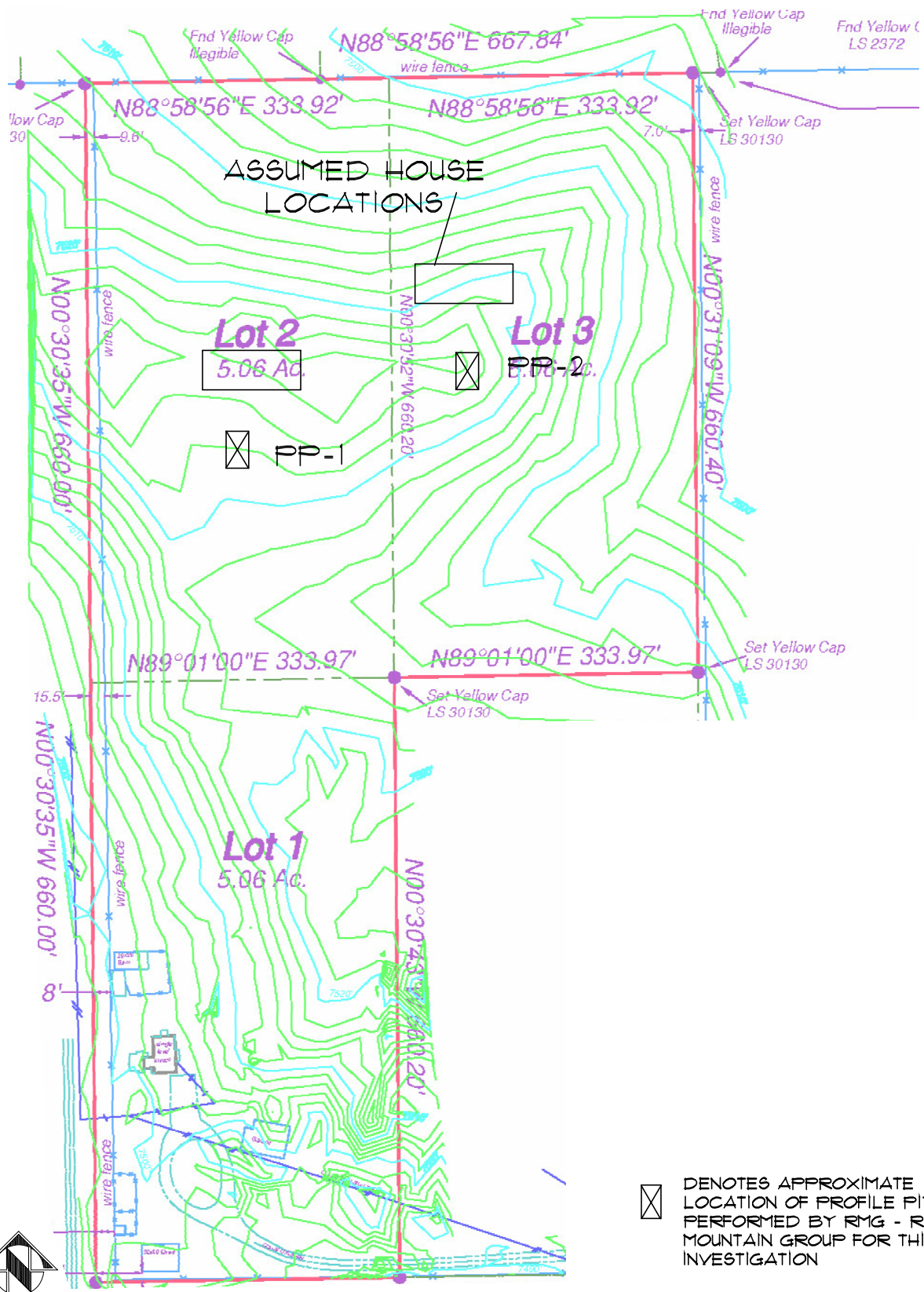
**Reviewed by,  
RMG – Rocky Mountain Group**



**Tony Munger, P.E.  
Geotechnical Project Manager**

## APPENDIX A

### Profile Pit Location Plan



✕ DENOTES APPROXIMATE LOCATION OF PROFILE PITS PERFORMED BY RMG - ROCKY MOUNTAIN GROUP FOR THIS INVESTIGATION

NOT TO SCALE






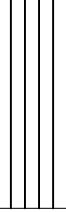
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**PROFILE PIT  
LOCATION PLAN**  
GREEN ACRES LANE  
EPC SHCEDULE NO. 5215000035  
EL PASO COUNTY, CO  
JERRY LOMAX

JOB No. 177644

FIG No. 1

DATE 7-24-2020

TEST PIT TP-1			
DATE OBSERVED: 07/17/20			
SOIL DESCRIPTION	DEPTH (FT)	SYMBOL	SOIL TYPE
0 - 1.0 FT SAND			1
1 - 4.0 FT SAND (51% > 35%)	2ft		R-0
4.0 FT - 5.0 FT SANDY CLAY	4ft		4A
5.0 FT - 8.0 FT SANDY CLAY LOAM (50% > 35%)	6ft		1
	8ft		

TEST PIT TP-2			
DATE OBSERVED: 07/17/20			
SOIL DESCRIPTION	DEPTH (FT)	SYMBOL	SOIL TYPE
0 - 2.0 FT SAND			1
2.0 FT - 8.0 FT SANDY CLAY	2ft		4A
	4ft		
	6ft		
	8ft		

### SOIL DESCRIPTIONS



SAND



SAND (51% > 35%)



SANDY CLAY



SANDY CLAY  
LOAM



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## PROFILE PIT LOGS

11750 GREEN ACRES LANE  
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FIGURE No. 2

DATE 07/24/2020

## APPENDIX C

### USDA Soil Map and Map Unit Descriptions





- 41 - Kettle gravelly loamy sand



NOT TO SCALE  
BASE MAP PROVIDED BY: USDA



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## USDA SOIL MAP

GREEN ACRES LANE  
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EL PASO COUNTY, CO  
JERRY LOMAX

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FIG No. 3

DATE 7-24-2020

## 41—Kettle gravelly loamy sand, 8 to 40 percent slopes

### Map Unit Setting

*National map unit symbol:* 368h

*Elevation:* 7,000 to 7,700 feet

*Farmland classification:* Not prime farmland

### Map Unit Composition

*Kettle and similar soils:* 85 percent

*Estimates are based on observations, descriptions, and transects of the map unit.*

### Description of Kettle

#### Setting

*Landform:* Hills

*Landform position (three-dimensional):* Side slope

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Parent material:* Sandy alluvium derived from arkose

#### Typical profile

*E - 0 to 16 inches:* gravelly loamy sand

*Bt - 16 to 40 inches:* gravelly sandy loam

*C - 40 to 60 inches:* extremely gravelly loamy sand

#### Properties and qualities

*Slope:* 8 to 40 percent

*Depth to restrictive feature:* More than 80 inches

*Natural drainage class:* Somewhat excessively drained

*Runoff class:* Medium

*Capacity of the most limiting layer to transmit water (Ksat):* High  
(2.00 to 6.00 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Available water storage in profile:* Low (about 3.4 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 7e

*Hydrologic Soil Group:* B

*Hydric soil rating:* No

#### Minor Components

##### Pleasant

*Percent of map unit:*

*Landform:* Depressions

*Hydric soil rating:* Yes



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## USDA MAP UNIT DESCRIPTIONS

GREEN ACRES LANE  
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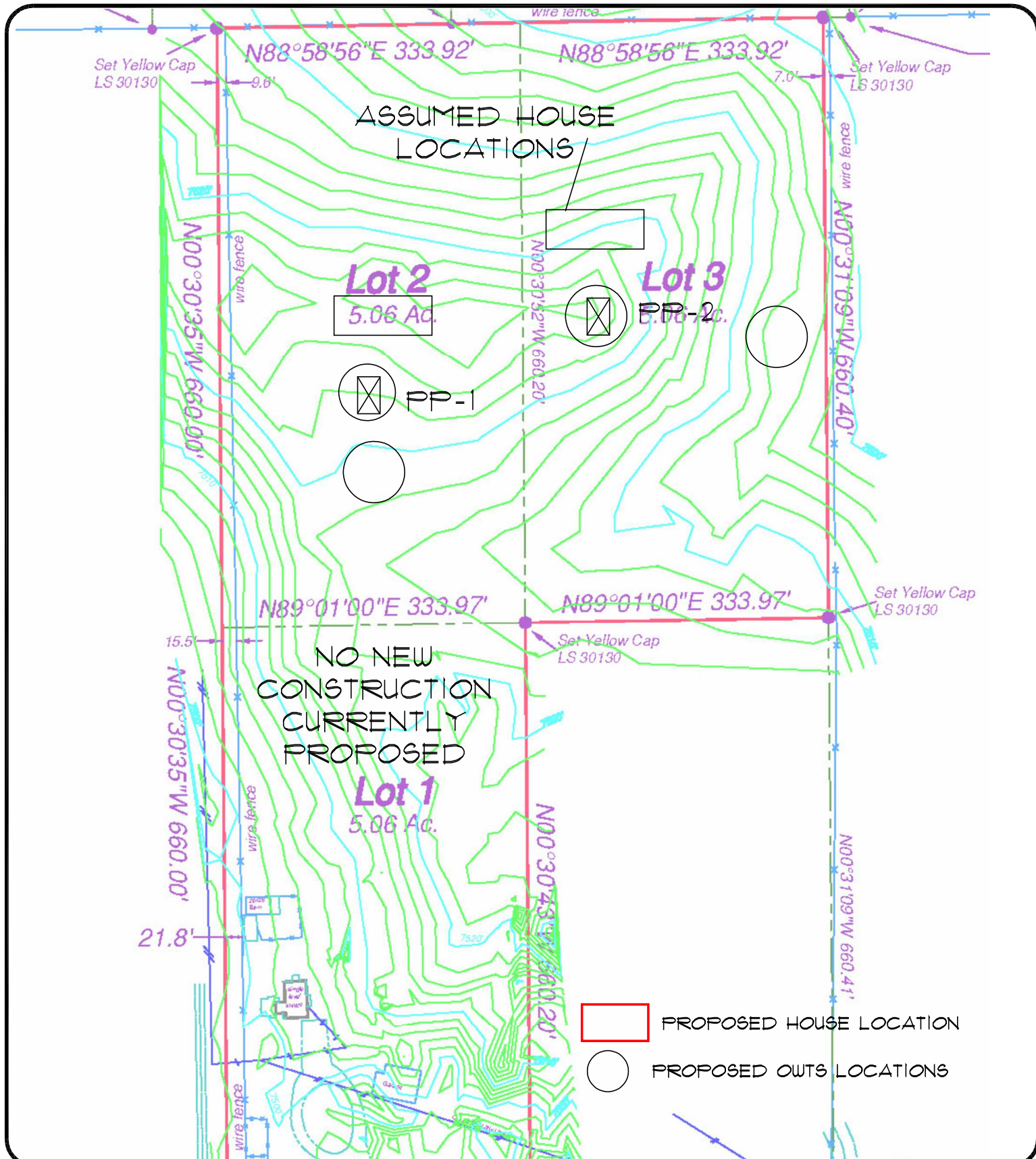
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FIG No. 4

DATE 7-24-2020

## APPENDIX D

### Septic Suitability Map



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## SEPTIC SUITABILITY MAP

GREEN ACRES LANE  
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FIG No. 5

DATE 7-27-2020