

Architectural  
Structural  
Geotechnical



Materials Testing  
Forensic  
Civil/Planning

Job No. 194552

October 13, 2023

Andy Alm  
2383 Collegiate Drive  
Colorado Springs, CO 80918

Re: Wastewater Study  
Driftwood Estates, Filing No. 1  
Center Ice View, Schedule No. 7133007024  
El Paso County, Colorado

Ref: *Soils Report, prepared by A Better Soil Solution, Job #23-022, last dated June 22, 2023.*

Ref: *Driftwood Estates, Filing No. 1, prepared by LWA Land Surveying, Inc. Project 23054, dated October 3, 2023.*

Dear Mr. Alm:

As requested, personnel of RMG – Rocky Mountain Group has performed a preliminary investigation and site reconnaissance at the above referenced address. It is our understanding the parcels included in this study are:

- EPC Schedule No. 7133007024, addressed as 3275 Center Ice View, which consists of 10.54 of acres and is zoned RR-5.

It is our understanding the parcel is to be subdivided into two lots. According to the land survey, referenced above, Lot 1 is to consist of 7.71 acres and Lot 2 is to consist of 5.01 acres. The approximate location of the site is shown on the Site Vicinity Map, Figure 1. The proposed Site Plan is presented in Figure 2.

This letter is to provide 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 geotechnical engineering/geologic investigations, other than the one listed above, were not available for our review.

## SITE CONDITIONS

Personnel of RMG performed a reconnaissance visit on September 29, 2023. 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 test pits were performed during our reconnaissance visit. A Test Pit Location Plan is presented in Figure 3.

The site surface characteristics were observed to consist of low lying grasses and weeds across the entire site. Deciduous trees were scattered across the northern portion of the property and denser along the creek banks on the southern portion of the property. The creek was dry at the time of the site visit.

The following conditions were observed with regard to the parcel:

- A well currently **does not** exist on the existing site;
- No runoff or irrigation features anticipated to cause deleterious effects to treatment systems on the site were observed;
- A major waterway exists to the north of the site. The entire site lies outside the designated floodway or floodplain;
- A minor waterway, an unnamed intermittent drainageway, extends through the southern portion of the property. It is our understanding that this drainageway is located within an area to be designated as a "No Build" area.
- Slopes greater than 20 percent **do** exist on the site; and
- Significant man-made cuts **do not** exist on the site.

## Treatment Areas

Treatment areas at a minimum must achieve the following:

- The treatment areas must be 4 feet above groundwater or bedrock as defined by the Definitions 8.3.4 of the Regulations of the El Paso County Board of Health, Chapter 8, *OWTS Regulations*, effective July 7, 2018;
- Prior to construction of an OWTS, an OWTS design prepared per *the Regulations of the El Paso County Board of Health, Chapter 8, OWTS Regulations* will need to be completed. A scaled site plan and engineered design will also be required prior to obtaining a building permit;
- Comply with any physical setback requirements of Table 7-1 of the El Paso County Department of Health and Environment (EPCDHE);
- Treatment areas are to be located a minimum 100 feet from any well (existing or proposed), including those located on adjacent properties per Table 7-2 per the EPCDHE;
- Treatment areas must also be located a minimum 50 feet from any spring, lake, water course, irrigation ditch, stream or wetland, and 25 feet from dry gulches;

- Other setbacks include the treatment area to be located a minimum 10 feet from property lines, cut banks and fill areas (from the crest);
- The new lots shall be laid out to ensure that the proposed OWTS does not fall within any restricted areas, (e.g. utility easements, right of ways). Based on the proposed lot layout and the information obtained from the test pit observations, each lot has a minimum of two locations for the OWTS as currently proposed.

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.

## **DOCUMENT REVIEW**

RMG has reviewed the above referenced site plan. We have identified the soil conditions anticipated to be encountered during construction of the proposed OWTS for each proposed lot. Our review included a review of documented Natural Resource Conservation Service (NRCS) data provided by [websoilsurvey.nrcs.usda.gov](http://websoilsurvey.nrcs.usda.gov). The Soil Survey Descriptions are presented below.

A review of FEMA Map No. 08041C0267G, effective December 7, 2018 indicates that the proposed treatment areas are not located within an identified floodplain.

## **SOIL EVALUATION**

Personnel of RMG performed a soil evaluation to include two 8-foot deep test pits, on September 29, 2023 (Test Pit TP-1 and TP-2), utilizing the visual and tactile method for the evaluation of the site soils. The test pits were excavated in areas that appeared most likely to be used for residential construction. The Test Pit Logs are presented in Figure 4.

The soil conditions as indicated by the NRCS data are anticipated to consist of:

- 38 – Jarre-Tecolote complex with 8 to 65 percent slopes. The Jarre-Tecolote complex was mapped by the USDA to encompass the majority of the site. Properties of the Jarre-Tecolote complex include well 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 alluvial fans;
- 65 – Perrypark gravelly sandy loam, 3 to 9 percent slopes. The Perrypark gravelly sandy loam was mapped to encompass a band through the southern end of Lot 1 and the very northern portion of Lot 2. Properties of the Perrypark gravelly sandy loam include well 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 alluvial fans;
- 69 – Peyton-Pring complex, 8 to 15 percent slopes. This soil condition is located outside of the proposed OWTS locations and has been eliminated from this study. A USDA Soil Survey Map is presented in Figures 5.

Neither groundwater nor bedrock were encountered in the test pits performed by RMG.

An OWTS is proposed for each lot and should conform to the recommendations of a future OWTS site evaluation, performed in accordance with the applicable health department codes prior to construction. This report may require additional test pits in the vicinity of the proposed treatment field. A minimum separation of 4 feet shall be maintained from groundwater and bedrock to the infiltrative surface.

Redoximorphic features indicating the fluctuation of groundwater or higher ground water levels were not observed in the test pits. A Septic Suitability Map is presented in Figure 6.

## CONCLUSIONS

In summary, it is our opinion the site is suitable for individual on-site wastewater treatment systems within the cited limitations. It is recommended the areas labeled *ss* – *steep slopes*, indicating slopes greater than 20%, and *sw* – *seasonally wet*, indicating the intermittent drainage, be avoided during the planning and placement of the OWTS. A soil and geology or geologic hazard study was not reviewed in conjunction with the study. It is recommended the areas designated *ss* and *sw* should be considered "No Build" areas. The lots have sufficient acreage to locate each OWTS (and alternate locations) within the EPCDHE physical setback requirements.

There are no foreseeable or stated construction related issues or land use changes proposed at this time.

Soil and groundwater conditions at the site are suitable for individual treatment systems. However, due to the soil having greater than 35% rock, the LTAR of the on-site material is greater than 0.8, which will require the use of an "engineered system". It should be noted that the LTAR values stated above are for the test pit locations performed for this report only. The LTAR values may change throughout the site. If an LTAR value of less than 0.35 (soil types 3A to 5) or greater than 0.80 (soil type 0) is encountered at the time of the site specific OWTS evaluation, an "engineered system" will be required.

Based on the soils encountered in our test pits, soil type R-0, "engineered systems" should be anticipated.

## 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 test pit excavations. Therefore, depth to limiting or restrictive conditions, bedrock, and groundwater may be different from the results reported in this letter.

An OWTS site evaluation will need to be performed in accordance with the applicable health department codes prior to construction.



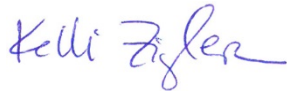
I hope this provides the information you have requested. Should you have questions, please feel free to contact our office.

Cordially,

Reviewed by,

RMG – Rocky Mountain Group

RMG – Rocky Mountain Group



Kelli Zigler  
Project Geologist

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



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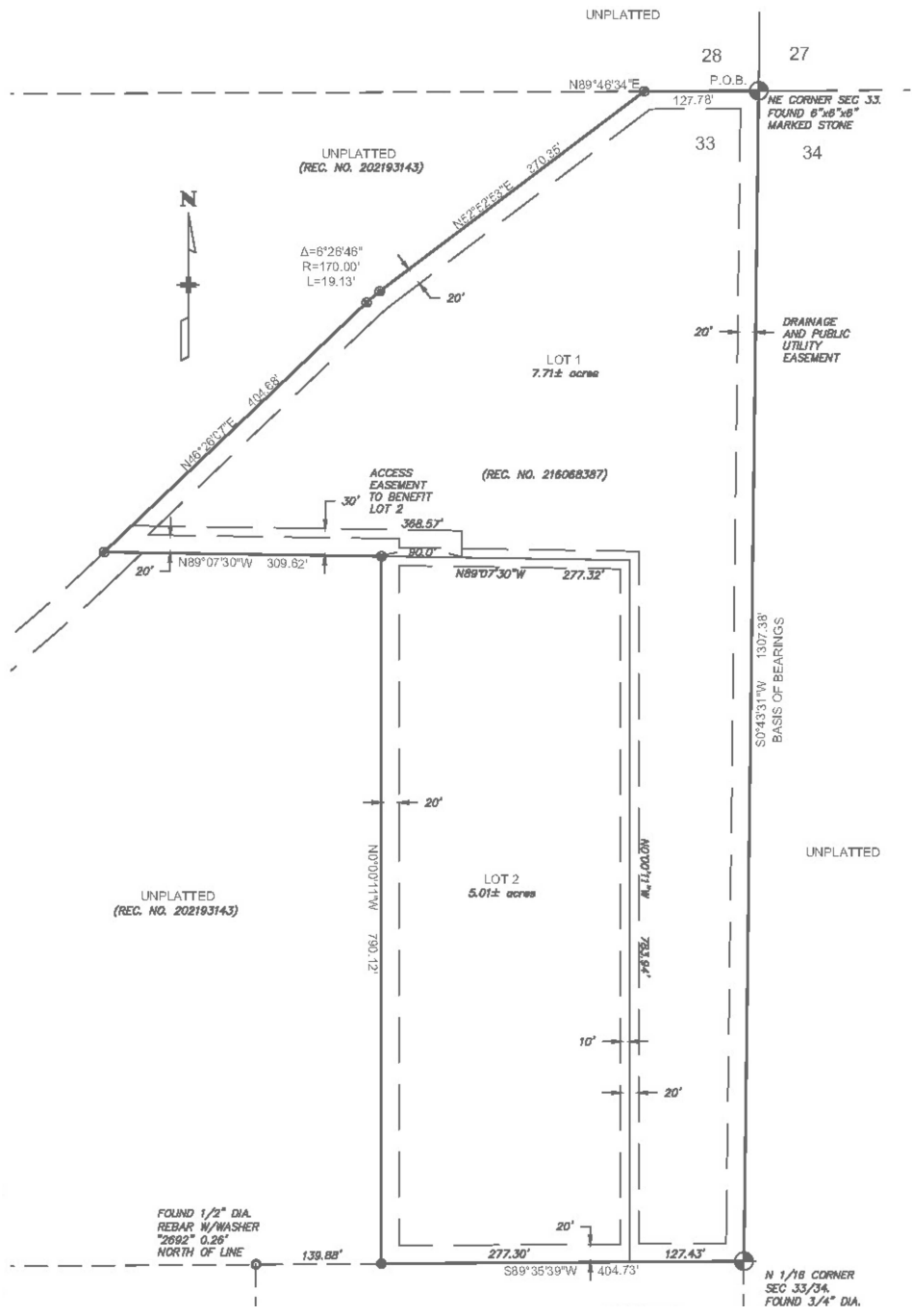
## SITE VICINITY MAP

DRIFTWOOD ESATES, FILING NO. 1  
CENTER ICE VIEW  
EL PASO COUNTY, COLORADO  
ANDY ALM

JOB No. 194552

FIG No. 1

DATE 10-13-2023



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BASE MAP PROVIDED BY LWA LAND SURVEYING

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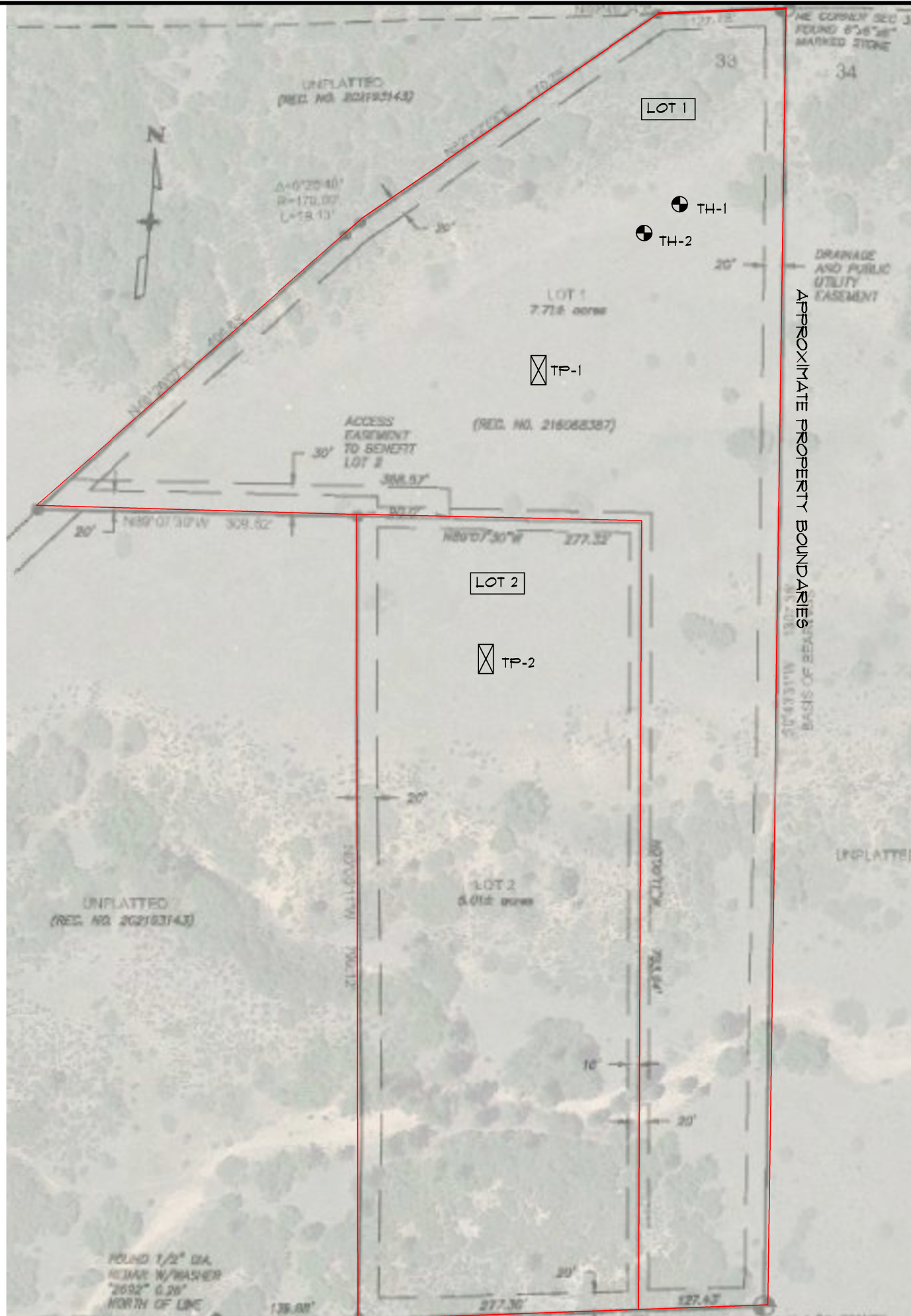
## SITE PLAN

DRIFTWOOD ESATES, FILING NO. 1  
CENTER ICE VIEW  
EL PASO COUNTY, COLORADO  
ANDY ALM

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FIG No. 2

DATE 10-13-2023



⊠ DENOTES LOCATION OF RMG TEST PITS PERFORMED FOR THIS STUDY

⊕ DENOTES APPROXIMATE LOCATION OF TEST HOLES PERFORMED BY OTHERS



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BASE MAP PROVIDED BY: LWA LAND SURVEYING

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CENTER ICE VIEW  
EL PASO COUNTY, COLORADO  
ANDY ALM

ENGINEER: TM  
DRAWN BY: KZ  
CHECKED BY: TM  
ISSUED: 10-13-2023

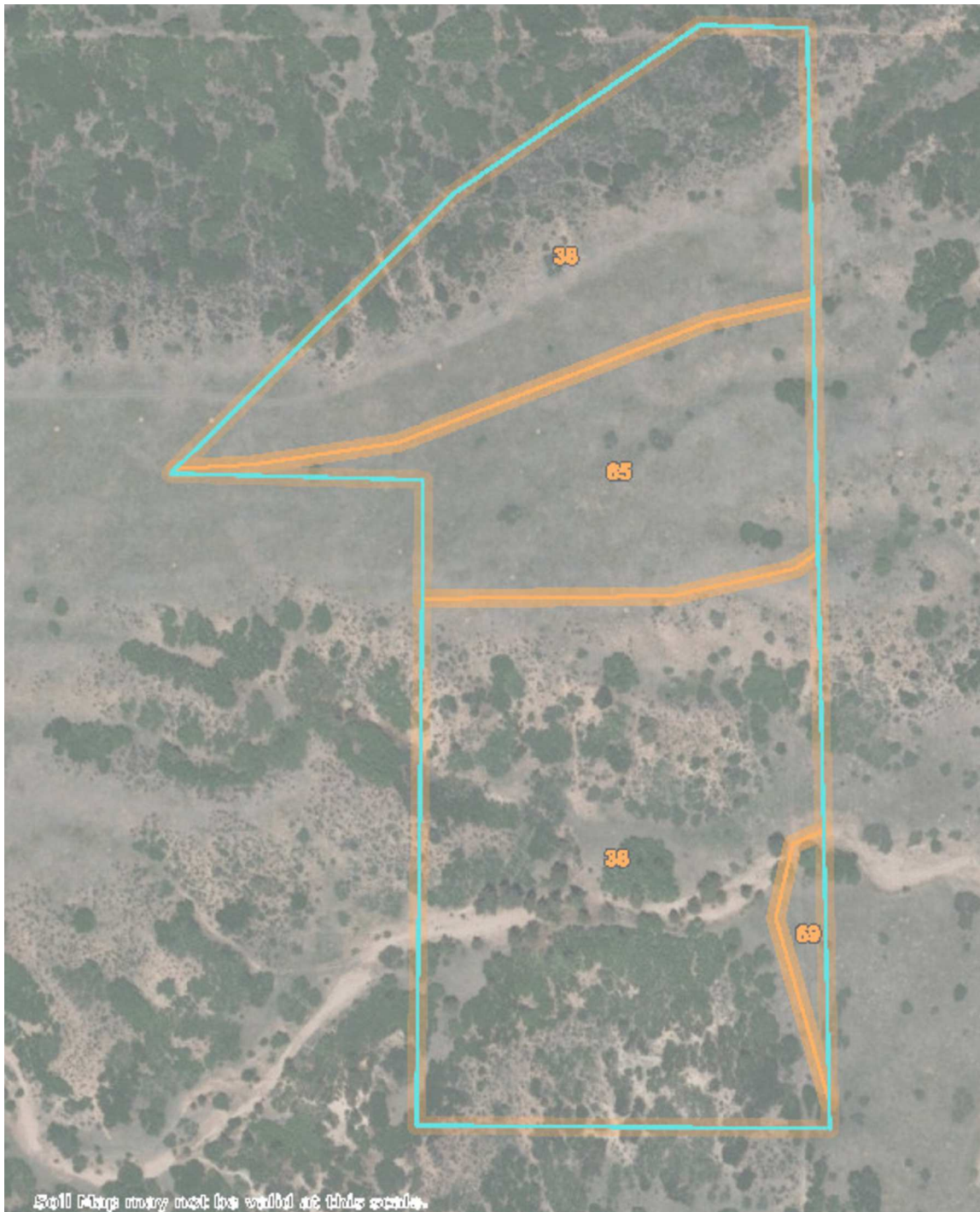
TEST PIT  
LOCATION PLAN

SHEET No.

FIG-3







- 38 - Jarre - Tecolote complex with 8 to 65 percent slopes
- 65 - Perrypark gravelly sandy loam, 3 to 9 percent slopes
- 69 - Peyton - Pring complex, 8 to 15 percent slopes



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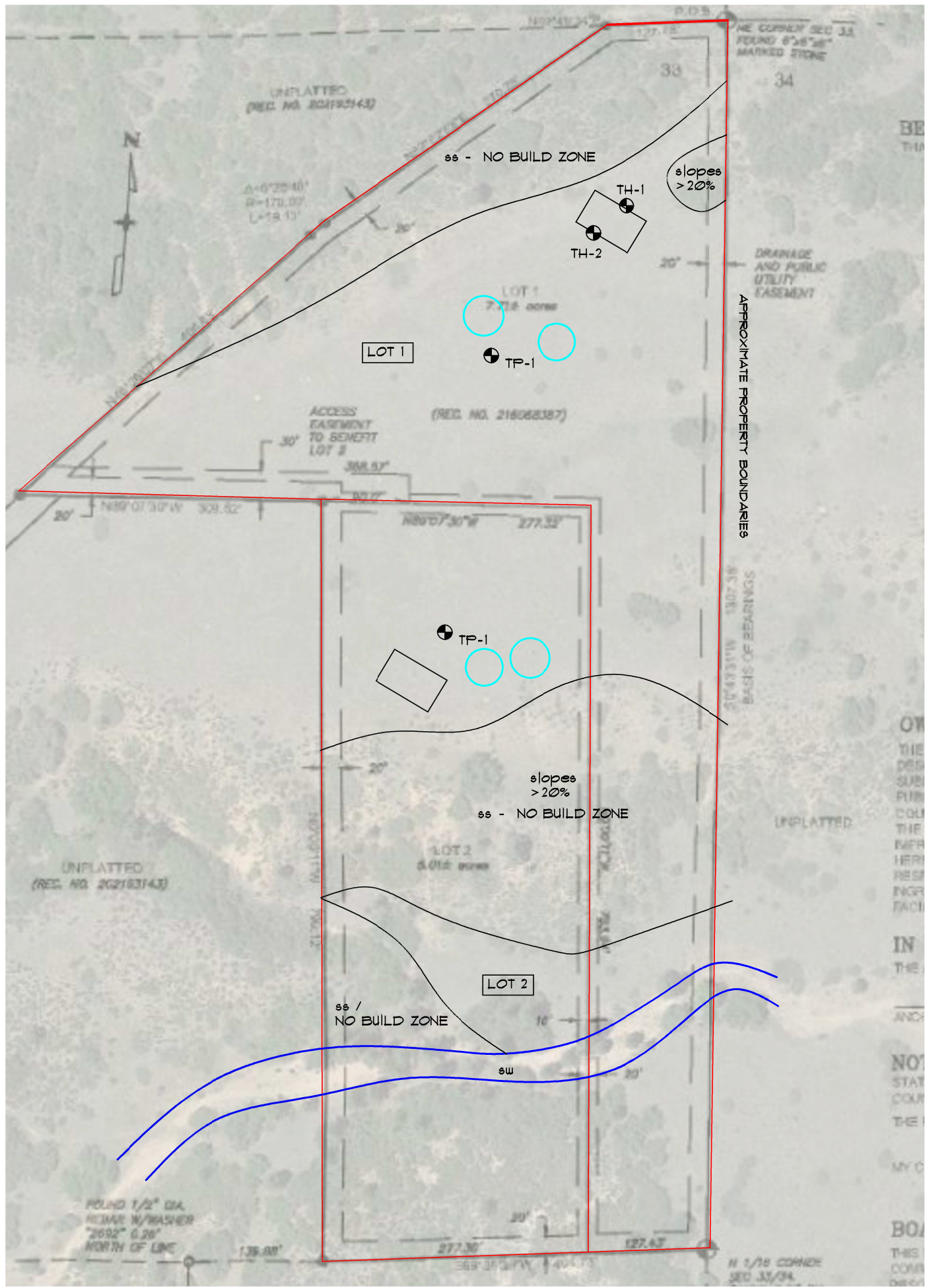
## USDA SOIL SURVEY MAP

DRIFTWOOD ESATES, FILING NO. 1  
CENTER ICE VIEW  
EL PASO COUNTY, COLORADO  
ANDY ALM

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FIG No. 5

DATE 10-13-2023



ss - steep slopes - slopes greater than 20%

sw - seasonally wet, indicates the intermittent drainage

 APPROXIMATE LOCATION OF HOUSE

 APPROXIMATE LOCATION OF OWTS

NOTE: THE CHOSEN ON-SITE WASTEWATER TREATMENT SYSTEM LOCATIONS ARE FOR ILLUSTRATION ONLY. IF THE EL PASO COUNTY HEALTH DEPARTMENT PHYSICAL SETBACK REQUIREMENTS ARE MET FOR EACH LOT, STEEP SLOPES, AND DRAINAGEWAY ARE AVOIDED THERE ARE NO RESTRICTIONS ON THE OWTS PLACEMENT



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BASE MAP PROVIDED BY: LWA LAND SURVEYING AND GOOGLE EARTH

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SEPTIC SUITABILITY  
MAP