



ROCKY MOUNTAIN GROUP

Job No. 160257

November 6, 2017

Clive and Karen Grant  
1315 Walsen Road  
Colorado Springs, CO 80921

Re: Onsite Wastewater Treatment Report  
Grant Subdivision  
1315 Walsen Rd  
SW4NE4 L/MR Sec 5-12-66  
Colorado Springs, Colorado

Ref: Site Plan, Grant Subdivision, prepared by Pinanacle Land Surveying Company, Inc., Job No. 16003200, dated February 8, 2017.

Dear Clive and Karen Grant:

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 that the 41-acre parcel is to be subdivided into one 11-acre parcel and one 30-acre parcel. The 11-acre parcel contains an existing single-family residence with a well and a septic system. The existing well and septic system on the 11-acre parcel are excluded from this report.

The 30-acre parcel is vacant land (currently being used for grazing livestock) without an existing septic system or a well. It is our understanding that this usage is to be continued and that the 30-acre parcel is not anticipated to contain any structures that will require an On-Site Wastewater Treatment System.

As such, our services exclude evaluation of the environmental and/or human, health-related work products or recommendations previously prepared, by others, for this project. This letter is to provide information for the Onsite 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 wastewater letters for this site were available for our review and are listed below:

1. *Grant Subdivision, Geologic and Soils Memo*, dated July 15, 2017
2. *Grant Subdivision Wastewater Disposal Letter, El Paso County, Colorado, JDS Hyrdo Consultants, Inc.*, dated August 10, 2017..

The findings, conclusions and recommendations contained in this reports were considered during the preparation of this report.

## SITE CONDITIONS

Personnel of RMG performed reconnaissance visits on October 10 and 12, 2017. The purpose of the reconnaissance visits was to evaluate the site surface characteristics including landscape position, topography, vegetation, natural and cultural features, and current and historic land uses. Four 8-foot deep test pits were performed during our reconnaissance visits. A Test Pit Location Plan is presented in the attached Figure 1.

The site surface characteristics were observed to consist of low lying grasses and weeds across the entire site. Scrub oak and deciduous trees are scattered throughout the property. Deciduous trees are thicker near the boundaries of Smith Creek.

The following conditions were observed with regard to the 30-acre parcel:

- A well currently **does not** exist on the proposed 30-acre site;
- No runoff or irrigation features anticipated to cause deleterious effects to treatment systems on the site were observed;
- Smith Creek crosses the northern portion of the site. A minimum separation of 50 feet shall be maintained between any proposed treatment area and this creek;
- 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 must also be located a minimum of 50 feet from any spring, lake, water course, irrigation ditch, stream or wetland. Other setbacks include the treatment area to be located 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 site plan, identified the soil conditions anticipated to be encountered during construction of the proposed OWTS, and 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. 08041C0295F, effective March 17, 1997 indicates that the proposed treatment areas are not located within an identified flood plain.

## SOIL EVALUATION

Personnel of RMG performed a detailed soil evaluation to include of four 8-foot deep test pit excavations, on October 12, 2017 (Test Pits TP-1 through TP-4), utilizing the visual and tactile method for the evaluation of the site soils. These test pits were excavated in areas that appeared most likely to be used for residential construction if the site usage were to change.

The soil conditions as indicated by the NRCS data are anticipated to consist of Pring coarse sandy loam and Tomah-Crowfoot complex as described below:

### El Paso County Area, Colorado

#### 71—Pring coarse sandy loam, 3 to 8 percent slopes

##### Map Unit Setting

*National map unit symbol:* 369k  
*Elevation:* 6,800 to 7,600 feet  
*Farmland classification:* Not prime farmland

##### Map Unit Composition

*Pring and similar soils:* 85 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

##### Description of Pring

###### Setting

*Landform:* Hills  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Arkosic alluvium derived from sedimentary rock

###### Typical profile

*A - 0 to 14 inches:* coarse sandy loam  
*C - 14 to 60 inches:* gravelly sandy loam

###### Properties and qualities

*Slope:* 3 to 8 percent  
*Depth to restrictive feature:* More than 80 inches  
*Natural drainage class:* Well drained  
*Runoff class:* Low  
*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 6.0 inches)

###### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 3e  
*Hydrologic Soil Group:* B  
*Ecological site:* Loamy Park (R048AY222 CO)  
*Hydric soil rating:* No

###### Minor Components

###### Pleasant

*Percent of map unit:*  
*Landform:* Depressions  
*Hydric soil rating:* Yes

## II Paso County Area, Colorado

### 93—Tomah-Crowfoot complex, 8 to 15 percent slopes

#### Map Unit Setting

National map unit symbol: 36bb  
Elevation: 7,300 to 7,600 feet  
Farmland classification: Not prime farmland

#### Map Unit Composition

Tomah and similar soils: 50 percent  
Crowfoot and similar soils: 30 percent  
Estimates are based on observations, descriptions, and transects of the map unit.

#### Description of Tomah

##### Setting

Landform: Alluvial fans, hills  
Landform position (three-dimensional): Side slope, crest  
Down-slope shape: Linear  
Across-slope shape: Linear  
Parent material: Alluvium derived from arkose and/or residuum weathered from arkose

##### Typical profile

A - 0 to 10 inches: loamy sand  
E - 10 to 22 inches: coarse sand  
C - 48 to 60 inches: coarse sand

##### Properties and qualities

Slope: 8 to 15 percent  
Depth to restrictive feature: More than 80 inches  
Natural drainage class: Well drained  
Runoff class: Medium  
Capacity of the most limiting layer to transmit water (Ksat):  
Moderately high to high (0.60 to 2.00 in./hr)  
Depth to water table: More than 80 inches  
Frequency of flooding: None  
Frequency of ponding: None  
Available water storage in profile: Very low (about 2.0 inches)

##### Interpretive groups

Land capability classification (irrigated): None specified  
Land capability classification (nonirrigated): 6e  
Hydrologic Soil Group: B  
Ecological site: Sandy Divide (R049BY216CO)  
Hydric soil rating: No

#### Description of Crowfoot

##### Setting

Landform: Alluvial fans, hills

Neither groundwater nor bedrock was encountered in the test pits performed by RMG. However, if an OWTS is proposed for this site in the future, an OWTS Site Evaluation Report shall be 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.



## 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. However, if a treatment area was to be proposed for Lot 2, the site is suitable for an individual OWTS and 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 test 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. Additional test pits will be required if the location of the treatment area is not located in the assumed locations for the purpose of this report.

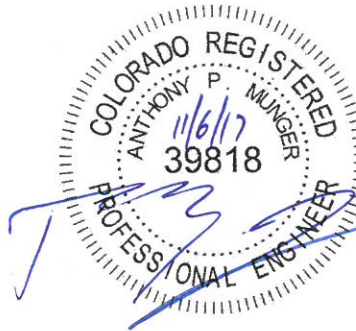
Should you have questions or require additional information, please do not hesitate to call.

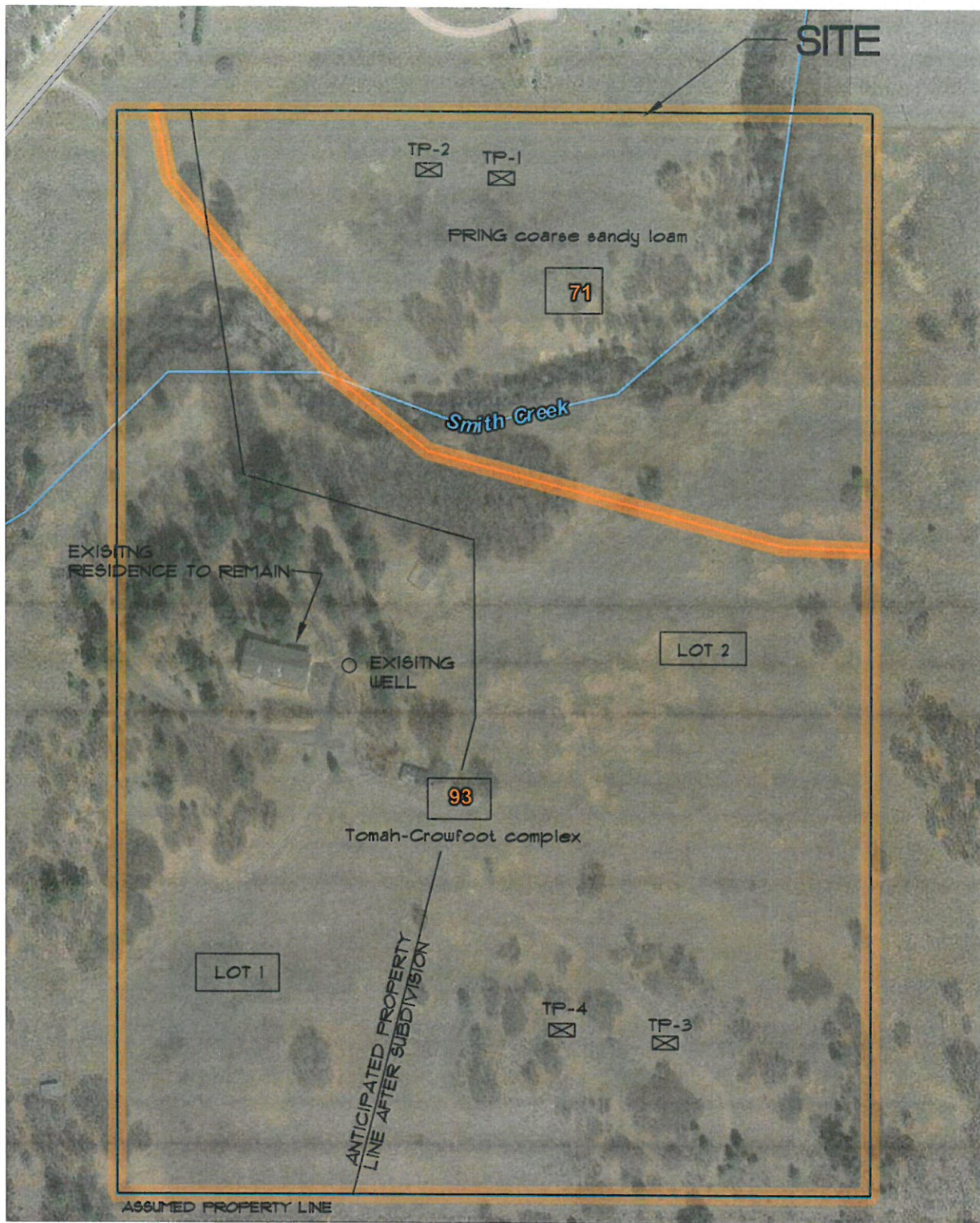
Cordially,

RMG – Rocky Mountain Group

Kelli Zigler  
Project Geologist

Tony Munger, P.E.  
Geotechnical Project Manager





NOT TO SCALE



ROCKY MOUNTAIN GROUP

Southern Office  
Colorado Springs, CO  
80918  
(719) 548-0600  
Central Office:  
Englewood, CO 80112  
(303) 688-9475  
Northern Office:  
Greeley / Evans, CO 80620  
(970) 330-1071

## TEST PIT LOCATION PLAN

1315 WALSEN ROAD  
SW4NE4 L/MR SEC 5-12-66  
COLORADO SPRINGS, CO

JOB No. 160257

FIG No. 1

DATE 11-6-2017