



ROCKY MOUNTAIN GROUP

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## **GEOLOGY AND SOILS REPORT**

**SBR Racing Minor Subdivision  
SW4SE4 W/2 MR SEC 22-12-63  
El Paso County, Colorado**

**PREPARED FOR:**

**Seigel Boys Racing, LLC  
12755 Thiebaud Lane  
Colorado Springs, CO 80908**

**JOB NO. 159855**

**September 21, 2017**

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

A handwritten signature in blue ink that reads "Kelli Zigler".

**Kelli Zigler, P.G.  
Project Geologist**

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# 1.0 GENERAL SITE AND PROJECT DESCRIPTION

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## 1.1 Project Location

The project is generally located east of the intersection of Eureka Road and Spencer Road in El Paso County, Colorado. The proposed subdivision name is SBR Racing Minor Subdivision. The approximate location of the site is shown on the Site Vicinity Map, Figure 1.

## 1.2 Existing Land Use

The site currently consists of one parcel. The total area of the parcel is approximately 40 acres. The parcel included is:

- Schedule No. 3200000325, currently addressed as 2140 Spencer Road, Calhan, Colorado.

The parcel is zoned A-35 "Agricultural".

## 1.3 Project Description

We understand that the project consists of a minor subdivision (SBR Racing Minor Subdivision) comprised of an existing 40-acre parcel being subdivided into one (1) 35-acre parcel and one (1) 5-acre parcel.

# 2.0 STUDY OVERVIEW

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The purpose of this investigation is to characterize the general geologic site conditions and present our opinions of the potential effect of these conditions on the proposed minor subdivision comprised of an existing 40-acre parcel being divided into one (1) 35-acre parcel and one (1) 5-acre parcel. 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.

It is our understanding that the El Paso County is amenable to a "modified" Geology & Soils Report pursuant to Section 8.4.9.C.2.e on page 8-58 of the El Paso County Land Development Code (LDC). El Paso County DSD is amenable to a Geology & Soils Report based only upon review of available published geologic and soils information and this report does not include any subsurface soil borings or test pits.

Revisions to the conclusions presented in this report may be issued based upon submission of the development plan. This report presents the findings of the study performed by RMG relating to the geologic conditions of the above-referenced site.

## 2.1 Site Evaluation Techniques

The information included in this report has been compiled from:

- Field reconnaissance
- Geologic and topographic maps
- Review of selected publicly available, pertinent reports
- Available aerial photographs
- Geologic research and analysis

Geophysical investigations were not considered necessary for characterization of the site geology at this time.

## 3.0 SITE CONDITIONS

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At the time of our site reconnaissance, an existing single family home with an existing septic field and well is present near the southern central portion of the property boundary. The remainder of the subject property currently is a motor sports "race track" without an existing septic field or a well.

### 3.1 Proposed Land Use and Zoning

It is our understanding that the project is a proposed minor subdivision comprised of an existing 40-acre parcel being subdivided into one (1) 35-acre parcel and one (1) 5-acre parcel. The 5-acre parcel is to contain the existing single family home with the existing septic field and well. The 35-acre parcel is to contain the motor sports "race track" as-is without a septic field or a well. A septic field and well is not proposed for the 35-acre parcel.

*Figure 1 presents the general boundaries of our investigation.*

### 3.2 Topography and Vegetation

Based on our site observations, the ground surface generally slopes gently down to the south and southwest across the entire site. Vegetation across the site generally consists of tall native grasses and weeds surrounding the existing residence. The proposed 35-acre parcel consists of low lying grasses and weeds with a paved track near the northwest corner of the property and a "dirt" track near the northeastern portion of the property.

## 4.0 GEOLOGIC AND SUBSURFACE CONDITIONS

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### 4.1 General Geology

The general geology of the area is typically wind-blown sand deposits and alluvium soils overlying the Dawson Formation. One geologic unit was mapped in the vicinity of the site and is identified (Scott and Wobus) as:

- Qes – Eolian Sand – coarse to fine slightly compacted sand, permeability medium to high depending on clay content.

## 4.2 U.S. Soil Conservation Service

The U.S. Soil Conservation Service along with United States Department of Agriculture (USDA) has identified the soils on the property as:

### El Paso County Area, Colorado

#### 8—Blakeland loamy sand, 1 to 9 percent slopes

##### Map Unit Setting

*National map unit symbol:* 369v  
*Elevation:* 4,600 to 5,800 feet  
*Mean annual precipitation:* 14 to 16 inches  
*Mean annual air temperature:* 46 to 48 degrees F  
*Frost-free period:* 125 to 145 days  
*Farmland classification:* Not prime farmland

##### Map Unit Composition

*Blakeland and similar soils:* 85 percent

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

##### Description of Blakeland

###### Setting

*Landform:* Flats, hills  
*Landform position (three-dimensional):* Side slope, talf  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Alluvium derived from sedimentary rock and/or eolian deposits derived from sedimentary rock

###### Typical profile

*A - 0 to 11 inches:* loamy sand  
*AC - 11 to 27 inches:* loamy sand  
*C - 27 to 60 inches:* sand

###### Properties and qualities

*Slope:* 1 to 9 percent  
*Depth to restrictive feature:* More than 80 inches  
*Natural drainage class:* Somewhat excessively drained  
*Runoff class:* Low  
*Capacity of the most limiting layer to transmit water (Ksat):* High to very high (5.95 to 19.98 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum in profile:* 5 percent  
*Available water storage in profile:* Low (about 4.5 inches)

## **El Paso County Area, Colorado**

### **83—Stapleton sandy loam, 3 to 8 percent slopes**

#### **Map Unit Setting**

*National map unit symbol: 369z*  
*Elevation: 6,500 to 7,300 feet*  
*Mean annual precipitation: 14 to 16 inches*  
*Mean annual air temperature: 46 to 48 degrees F*  
*Frost-free period: 125 to 145 days*  
*Farmland classification: Not prime farmland*

#### **Map Unit Composition**

*Stapleton and similar soils: 80 percent*

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

#### **Description of Stapleton**

##### **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**

*A - 0 to 11 inches: sandy loam*  
*Bw - 11 to 17 inches: gravelly sandy loam*  
*C - 17 to 60 inches: gravelly loamy sand*

##### **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 4.7 inches)*

##### **Interpretive groups**

*Land capability classification (irrigated): None specified*  
*Land capability classification (nonirrigated): 3e*  
*Hydrologic Soil Group: B*  
*Ecological site: Gravelly Foothill (R049BY214CO)*  
*Hydric soil rating: No*

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*The USDA Soil Map is presented in Figure 2.*

## 5.0 POTENTIAL GEOLOGIC CONDITIONS

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The El Paso County Engineering Criteria Manual (ECM) recognizes and delineates the difference between hazards and constraints. A geologic hazard is one of several types of adverse geologic conditions capable of causing significant damage or loss of property and life. Geologic hazards are defined in Section C.2.2 Sub-section E.1 of the ECM. A geologic constraint is one of several types of adverse geologic conditions capable of limiting or restricting construction on a particular site. The geologic conditions that **do not** exist on the subject property include:

- **Landslides**
- **Rockfall**
- **Debris Flows and Debris Fan**
- **Faults and Seismicity**
- **Unstable or Potentially Unstable Slopes**
- **Ground Subsidence**
- **Hydrocompactive and Potentially Expansive Soils (Moisture Sensitive Soils)**

Of the geologic conditions identified in the ECM, conditions that may exist on the subject property include:

### 5.1 Radon Gas

*"Radon Act 51 passed by Congress set the natural outdoor level of radon gas (0.4 pCi/L) as the target radon level for indoor radon levels. The US EPA has set an action level of 4 pCi/L. At or above this level of radon, the EPA recommends you take [corrective measures](#) to reduce your exposure to radon gas".*

Most of Colorado is generally considered to have the potential of high levels of radon gas, based on the information provided at: [http://county-radon.info/CO/El\\_Paso.html](http://county-radon.info/CO/El_Paso.html). There is not believed to be unusually hazardous levels of radon from naturally occurring sources at this site.

### 5.2 Flooding and Surface Drainage

Based on our review of the Federal Emergency Management Agency (FEMA) Community Panel No. 081041C0600F and the online ArcGIS El Paso County Risk Map, the site does not lie within the 500-year floodplain of Brackett Creek. Various intermittent low-lying areas are located around the site and one unnamed intermittent drainage runs through the northeastern quadrant of the parcel.

The presence of a flood-prone area was not observed on the subject site.

### 5.3 Erosion and Corrosion

The upper sands at the site are susceptible to erosion by wind and flowing water. Corrosion is generally not associated with sands.

## 6.0 CONCLUSIONS

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Based upon our evaluation of the geologic conditions, it is our opinion that the proposed minor subdivision is feasible. Except for the potential of radon gas and erosion the geologic constraints identified are not considered unusual for the Front Range region of Colorado. Mitigation of geologic constraints is most effectively accomplished by avoidance. However, where avoidance is not a practical or acceptable alternative, geologic constraints should be mitigated by implementing appropriate planning, engineering, and local construction practices.

## 7.0 CLOSING

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This report has been prepared for the exclusive purpose of providing geologic hazards information for the proposed subdivision as described in this report.

This report has been prepared for the exclusive use by **Seigel Boys Racing, LLC** for application as an aid in the proposed development in accordance with generally accepted LDC for minor subdivisions. The conclusions in this report are based in part upon data obtained from site observations and the information presented in referenced reports. If variations then become evident, RMG should be retained to review the conclusions presented in this report considering the varied condition, and either verify or modify them in writing.

Our professional services were performed using that degree of care and skill ordinarily exercised, under similar circumstances, by geotechnical engineers practicing in this or similar localities. RMG does not warrant the work of regulatory agencies or other third parties supplying information which may have been used during the preparation of this report. No warranty, express or implied is made by the preparation of this report. Third parties reviewing this report should draw their own conclusions regarding site conditions and specific construction techniques to be used on this project.

The scope of services for this project does not include, either specifically or by implication, environmental assessment of the site or identification of contaminated or hazardous materials or conditions. Development of recommendations for the mitigation of environmentally related conditions, including but not limited to biological or toxicological issues, are beyond the scope of this report. If the Client desires investigation into the potential for such contamination or conditions, other studies should be undertaken.

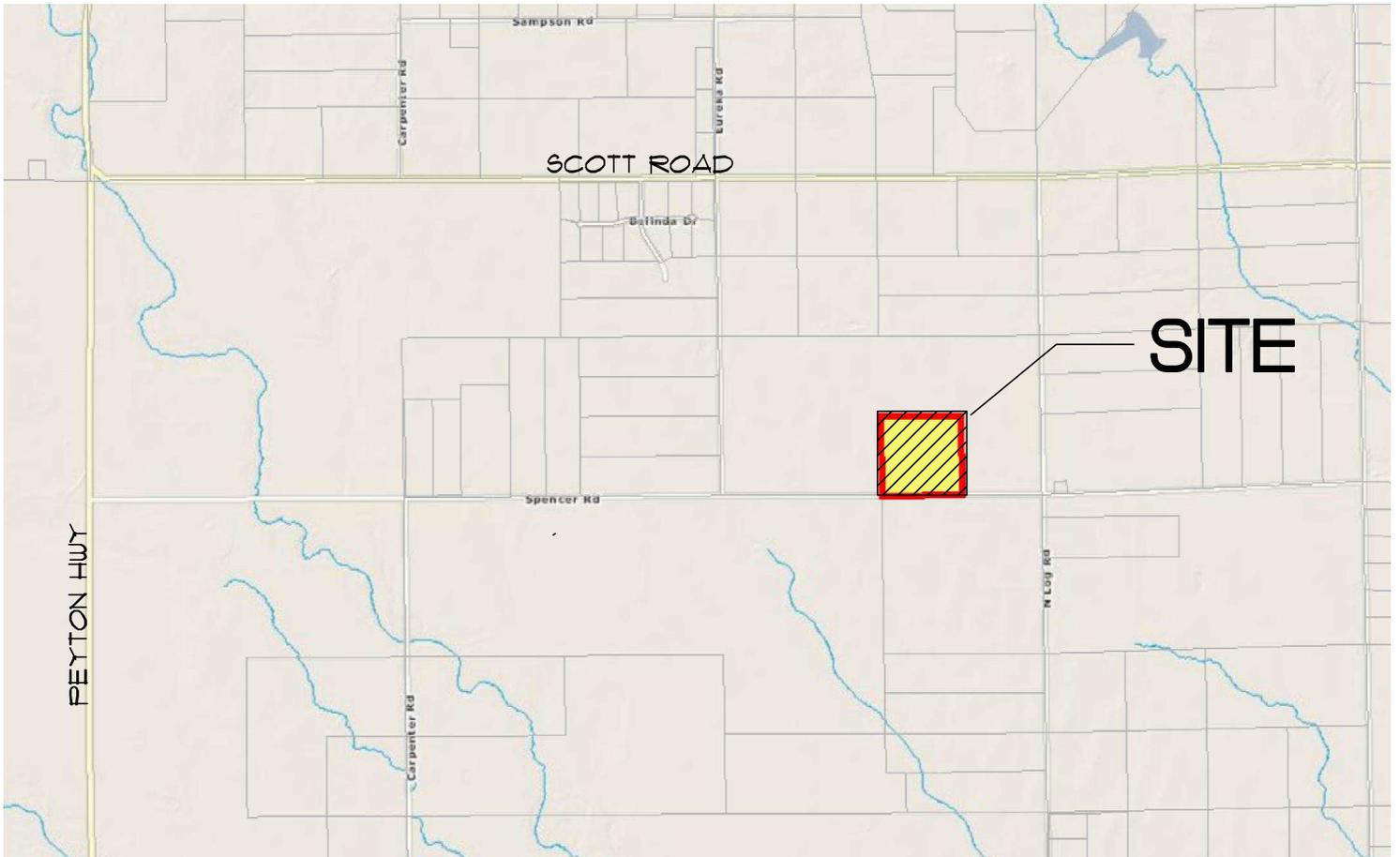
If we can be of further assistance in discussing the contents of this report or analysis of the proposed development, from a geotechnical engineering point-of-view, please feel free to contact us.

## 8.0 REFERENCES

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1. El Paso County, updated thru January 1, 2015, Section 8.4.9, *El Paso County Land Development Code*.
2. El Paso County, January 1, 2015, *Appendix C, Soils Investigation Reports and Mitigation, Engineering Criteria Manual*.
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5. El Paso County, February 8, 1996, *Master Plan for Mineral Extraction, Map 1*.
6. Kirkham, R.M. and Rogers, W.P., 1981, *Earthquake Potential in Colorado, A Preliminary Evaluation*, Colorado Geological Survey, Bulletin 43.
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8. Federal Emergency Management Agency (FEMA), dated March 17, 1997, *Flood Insurance Rate Map, El Paso County, Colorado and Unincorporated Areas, Community Panel No. 08041C0600F*.
9. United States Department of Agriculture Soils Conservation Service, 1980, *Soil Survey of El Paso County Area, Colorado*.  
<http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>
10. On-site Wastewater Treatment Systems (OWTS) Regulations, El Paso County, Colorado, Chapter 8, effective April 10, 2014.
11. Colorado Geologic Survey, Colorado Landslide Inventory:  
<https://cologeosurvey.maps.arcgis.com/apps/webappviewer/index.html?id=9dd73db7fbc34139abe51599396e2648>
12. Charles S. Robinson and Associates, Inc. 1977, El Paso County, Colorado, *Potential Geologic Hazards and Surficial Deposits, Environmental and Engineering Geologic Maps and Tales for Land Use*.

# FIGURES



REFERENCE  
NOT TO SCALE



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## SITE VICINITY MAP

SBR RACING MINOR SUBDIVISION  
EL PASO COUNTY, CO  
SIEGEL BOYS RACING, LLC

JOB No. 159855

FIG No. 1

DATE 9-21-2017



8 - Blakeland loamy sand

83 - Stapleton sandy loam



REFERENCE  
NOT TO SCALE

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FIG No. 2

DATE 9-21-2017

**USDA WEB SOIL  
SURVEY**

**SBR RACING MINOR SUBDIVISION  
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