

Architecture  
Structural  
Geotechnical



Materials Testing  
Forensic  
Civil/Planning

**ROCKY MOUNTAIN GROUP**  
**EMPLOYEE OWNED**

Job No. 180317

February 4, 2021

Paul and Amy Kinch  
10805 Milam Rd.  
Colorado Springs, CO 80908

Re: Wastewater Study  
10805 Milam Rd  
EPC Schedule No. 6224000011  
El Paso County, Colorado

Ref: Proposed Lot Layout, received from Amy Kinch via electronic email on December 9, 2020.

Dear Mr. and Mrs. Kinch:

As requested, personnel of RMG – Rocky Mountain Group performed a preliminary investigation and site reconnaissance at the above referenced subdivision. It is our understanding the 29.1-acre parcel is to be subdivided into four lots. Lot 1 will be approximately 6.1-acres, Lot 2 and Lot 3 will be approximately 5.0-acres, and Lot 4 will be approximately 12.6-acres. An existing single-family residence with septic and well will remain on Lot 1. Lots 2, 3, and 4 allow for one single-family residence with well and On-site Wastewater Treatment System (OWTS). The attached Proposed Lot Layout, Figure 1, presents the general boundaries of our investigation.

This letter provides information for the on-site wastewater report in accordance with the On-Site Wastewater Treatment Systems (OWTS) Regulations of the El Paso County Board of Health, Chapter 8.

The following are 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 reviewed in conjunction with this site were available for our review and are listed below:

1. *Soils and Geology Study, Jeanette Mose Subdivision, 0 Halleluiah Trail, EPC Schedule No. 4208000013, El Paso County, Colorado*, prepared by RMG – Rocky Mountain Group, Job No. 177316, last dated July 24, 2020.
2. *Soils Report, Lot #1, 10805 Milam Road, El Paso County, Colorado*, prepared by Geoquest, LLC, Job #17-0144, dated November 24, 2020. (Refers to now Lot 2)
3. *Soils Report, Lot #2, 10805 Milam Road, El Paso County, Colorado*, prepared by Geoquest, LLC, Job #20-0216, dated December 1, 2020. (Refers to now Lot 4)
4. *Soils Report, Future Lot #3, 10805 Milam Road, El Paso County, Colorado*, prepared by Geoquest, LLC, Job #20-1218, dated November 18, 2020. (No Change)

For clarification, the Lot numbers referenced in the Geoquest Reports have changed per the Proposed Lot Layout as follows:

- Lot 1 is for Lot 2
- Lot 2 is for Lot 4
- Lot 3 remains for Lot 3

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

## SITE CONDITIONS

Personnel of RMG performed a reconnaissance visit on December 9, 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. One 5-foot deep test pit was excavated on each of the proposed Lots 2, 3 and 4. Test pits were terminated at 5-feet depth due to a limiting layer of sandstone bedrock. A Test Pit Location Plan is presented in Figure 2.

The following general conditions were observed with regard to the entire 29.1-acre site:

- The ground surface is characterized by native grasses, weeds, dense copses of scrub oak, and stands of pine trees
- A single-family residence and well currently **do** exist in the location of proposed Lot 1
- No runoff or irrigation features anticipated to cause deleterious effects to treatment systems were observed
- The entire site lies outside of any mapped floodway or floodplain
- Slopes greater than 20 percent **do** exist on the site
- Man-made cuts **do not** exist on the site

Treatment areas are to be located a minimum distance of 100-feet from any existing or proposed well location. Treatment areas must also be located a minimum of 50-feet from any spring, lake, watercourse, 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 from the crest of fill areas. An OWTS Suitability Map is presented in Figure 3.

## **DOCUMENT REVIEW**

RMG has reviewed the above referenced site plan, identified the soil conditions anticipated to be encountered during construction of proposed OWTSs on Lots 2, 3, and 4, and reviewed documented Natural Resource Conservation Service (NRCS) soil data provided by [websoilsurvey.nrcs.usda.gov](http://websoilsurvey.nrcs.usda.gov). Soil Survey Descriptions are presented below. A review of FEMA Map No. 08041C0526G, effective December 7, 2018, indicates that proposed treatment areas will not be located within identified floodplains.

## **SOIL EVALUATION**

Personnel of RMG performed a soil evaluation on December 9, 2020 that included one 5-foot deep test pit on each of Lots 2, 3, and 4, utilizing the visual and tactile method for evaluation of the site soils. The test pits were excavated in areas on each Lot that appeared most likely to be used for residential construction.

The soil conditions as indicated by the USDA data are anticipated to consist of Kettle Gravelly Sandy Loam with 8 to 40 percent slopes. The Kettle Gravelly Sandy Loam was mapped by the USDA across the entire property. Properties of Kettle Gravelly Sandy Loam 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. A USDA Soil Survey Map with a full pap unit description is presented in Figure 4.

Groundwater was not encountered in the test pits. Redoximorphic features indicating fluctuations of groundwater or higher ground water levels were not observed in the test pits. Site-specific OWTS evaluations in accordance with applicable Health Department Regulations will be required for any proposed OWTSs on Lots 2, 3 and 4. Limiting layers, due to shallow sandstone were encountered at 5-feet depth below the ground surface. A minimum separation of 4-feet shall be maintained from the OWTS infiltrative surface to any groundwater or bedrock. Test Pit Logs are presented in Figures 5 and 6.

## **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 that would preclude the installation of OWTSs on Lots 2, 3, and 4. The three Lots are each suitable for an individual OWTS. Contamination of surface and subsurface water resources should not occur if the OWTSs are evaluated, designed, 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 treatment areas may vary from those encountered in the test pit excavations. Therefore, depth to limiting layers or restrictive conditions, bedrock, and groundwater may be different from the results reported in this letter.

Additional test pits will be required if the treatment areas are not located in the locations assumed for the purpose of this report. Future OWTSS proposed for Lots 2, 3, and 4 will require an additional site evaluation to be performed in accordance with the applicable Health Department Regulations prior to construction.

We trust this provides information that will allow you to make informed decisions. Should you have questions, please feel free to contact our office.

Cordially,

RMG – Rocky Mountain Group

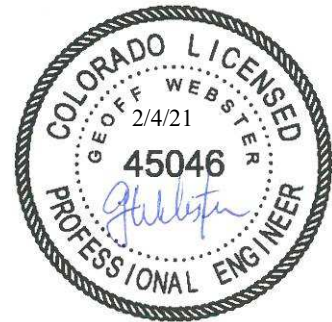


Kelli Zigler  
Project Geologist

Reviewed by,

RMG – Rocky Mountain Group

Geoff Webster, P.E.  
Sr. Geotechnical Project Engineer







NOT TO SCALE

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FG No. 2

DATE 2-5-2021

# TEST PIT LOCATION

## PLAN

10805 MILAM ROAD  
EPC SCHEDULE NO. 6224000011  
EL PASO COUNTY, CO  
PAUL AND AMY KINCH

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Colorado Springs, CO  
80918

**Central Office:**  
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**Northern Office:**  
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PROPERTY BOUNDARIES

TO MILAM

LOT 1

Existing House

LOT 2

TP-1

LOT 3

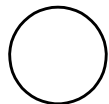
TP-2

10805 Milam Rd

LOT 4

TP-3

Old Ranch Rd



The chosen Onsite Wastewater Treatment (OWTS) locations are for preliminary purposes only. If the El Paso County Health Department regulations are met for each lot, there are no restrictions on the placement of the individual OWTS.



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FIG No. 3

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## OWTS SUITABILITY MAP

10805 MILAM ROAD  
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EL PASO COUNTY, CO  
PAUL AND AMY KINCH

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ASSUMED PROPERTY BOUNDARIES

## El Paso County Area, Colorado

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

#### Map Unit Setting

National map unit symbol: 388h  
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 mapunit.

#### 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  
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 capacity: 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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FIG No. 4

DATE 2-5-2021

## USDA SOILS SURVEY

### MAP

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EL PASO COUNTY, CO  
PAUL AND AMY KINCH

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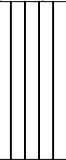
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TEST PIT TP-1			
DATE OBSERVED: 12/09/20			
SOIL DESCRIPTION	DEPTH (FT)	SYMBOL	SOIL TYPE
0 - 2.5 FT SAND (SINGLE GRAIN, STRUCTURELESS)	2ft		1
2.5 FT - 5.0 FT SAND (MASSIVE) 47% PASSING >2mm	4ft		2
TEST PIT TERMINATED AT 5 FEET DUE TO LIMITING LAYER (SANDSTONE)	6ft 8ft		

TEST PIT TP-2			
DATE OBSERVED: 12/09/20			
SOIL DESCRIPTION	DEPTH (FT)	SYMBOL	SOIL TYPE
0 - 5.0 FT SAND (SINGLE GRAIN, STRUCTURELESS)	2ft		1
5.0 FT SANDSTONE (MASSIVE) LIMITING LAYER  TEST PIT TERMINATED AT 5 FEET DUE TO LIMITING LAYER	6ft 8ft		

### SOIL DESCRIPTIONS



SAND (SINGLE-  
GRAIN)



SAND (MASSIVE)



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## PROFILE PIT LOGS

MILAM ROAD  
EPC SHCEDULE NO. 6224000011  
EL PASO COUNTY, CO

JOB No. 180317

FIG NO 5

DATE 2-5-2021

TEST PIT TP-3			
DATE OBSERVED: 12/09/20			
SOIL DESCRIPTION	DEPTH (FT)	SYMBOL	SOIL TYPE
0 - 1.0 FT SANDY LOAM (GRANULAR, STRONG)			3
1.0 - 5.0 FT SAND (46% PASSING > 2mm)	2ft 4ft		3
5.0 FT SANDSTONE (MASSIVE) LIMITING LAYER  TEST PIT TERMINATED AT 5 FEET DUE TO LIMITING LAYER	6ft 8ft		

### SOIL DESCRIPTIONS



LOAMY SAND



SAND (SINGLE-  
GRAIN)

## PROFILE PIT LOGS

MILAM ROAD  
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JOB No. 180317

FIG NO 6

DATE 2-5-2021



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