WASTEWATER DISPOSAL REPORT

LEATHER CHAPS SUBDIVISION, A REPLAT OF LOT 39 CHAPPARRAL HILLS

PREPARED BY
Douglas Schwenke, PE
Tammy Lake, PE

RESPEC
5540 Tech Center Drive, Suite 100
Colorado Springs, Colorado 80919

PREPARED FOR
Bill Hancock
15220 Leather Chaps Drive
Colorado Springs, CO 80921

JANUARY 2025

Project Number W0665.24001

RESPEC

EXECUTIVE SUMMARY

The site of the proposed Leather Chaps Subdivision has been evaluated for suitability of individual onsite wastewater treatment systems. A system comprised of two distinct absorption fields exists – one within the boundary of each proposed lot – and the combined installation treats wastewater from the existing home on proposed Lot 2. The Owner wishes to improve the existing septic system infrastructure for existing Lot 2 to the extent possible and install the necessary infrastructure for proposed Lot 1 to provide independent systems to serve both lots. Based upon testing and soil types, JDM Consulting, LLC, recommended an engineered, mounded system. The Owner will need to work with a design professional to incorporate these recommendations into any improvement plans.

RESPEC

TABLE OF CONTENTS

1.0 INTRODUCTION

1.3 LOCATION

The subject property, platted as Lot 39 Chaparral Hills, is located in El Paso County, CO at the intersection of Leather Chaps Drive and Struthers Loop, south of Baptist Road and east of I-25 as shown in Figure 1-1-1.

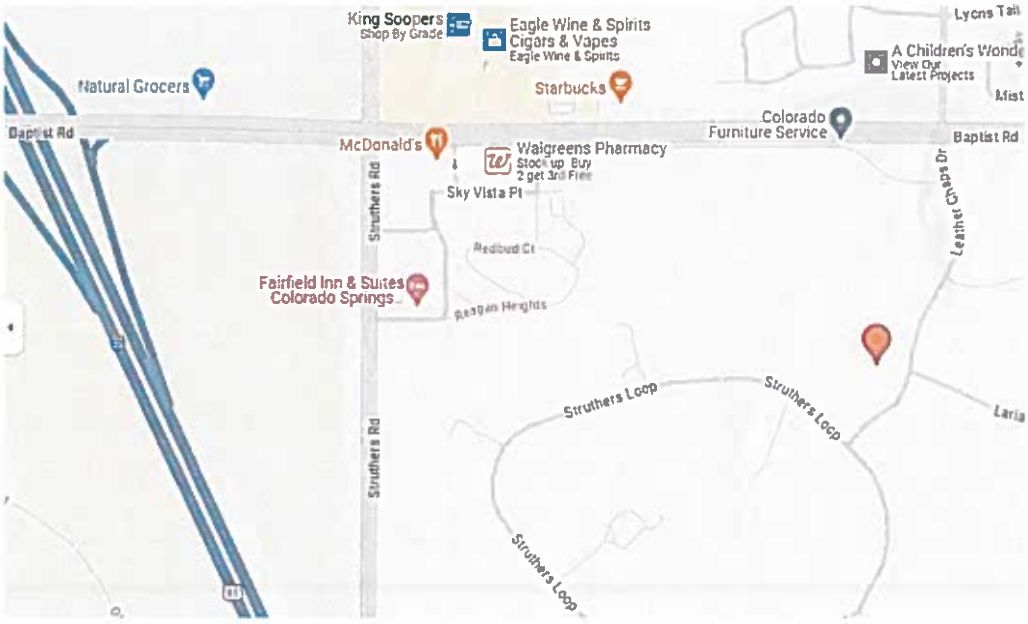

Figure 1-1-1 Subject Property Location

1.2 BACKGROUND

The Owner wishes to subdivide Lot 39 Chaparral Hills (EPC parcel no. 7136002004) into two (2) lots through the El Paso County Land Development and Planning Process. See Figures 1-2-1 and 1-2-2. The Owner of the 5.04-acre parcel lives in an existing home on proposed Lot 2, while proposed Lot 1 will be developed, once subdivided, with an additional single-family home. A commitment has been obtained from the Donala Water and Sanitation District (Donala or District) to provide water service to Lot 1 (Lot 2 will continue to utilize an existing, exempt well). Though an Order of Inclusion ***(Appendix A – Donala Water and Sanitation District Service Commitment and Inclusion Order)*** was filed in July of 2022 which placed the entirety of Lot 39 Chapparral Hills within Donala's service boundary, the Owner is not seeking to obtain sewer service from the District for either proposed lot. The Owner wishes to utilize all or portions of the existing septic treatment equipment on the property, including absorption fields, with necessary improvements, to serve both the existing home on Lot 2 and a proposed single-family residence on Lot 1. Currently, two separate absorption fields are being utilized to treat wastewater from the exiting home; this system consists of an original leach field (constructed in1989) and a second leach field constructed in 1994 as part of repairs permitted through El Paso County.

Figure 1-2-1 El Paso County Parcel Designation

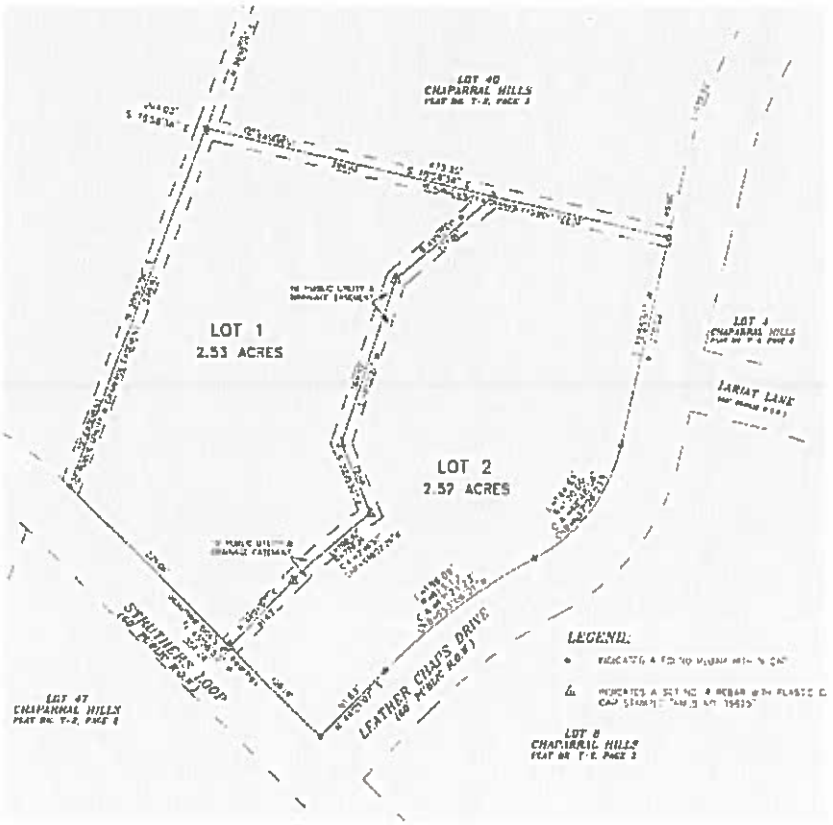

Figure 1-2-2 Proposed Subdivision (not to scale)

Proposed Lot 1 (495 Struthers Loop) is zoned RR-2.5 and will support the construction of one single family home to be served by Donala Water & Sanitation District (Donala or District.) Proposed Lot 2 (15220 Leather Chaps Drive) is the site of an existing single-family home which is served by a well. See Section 4.0 for information on water rights and supply with respect to the well and Section 5.0 for a discussion of the commitment of service from Donala and information on well water quality. In addition,

Figure 1-2-3 shows the location of Lot 1 in relation to the most currently available Donala Water and Sanitation District boundary map (dated 2019 – as obtained from the District's website.)

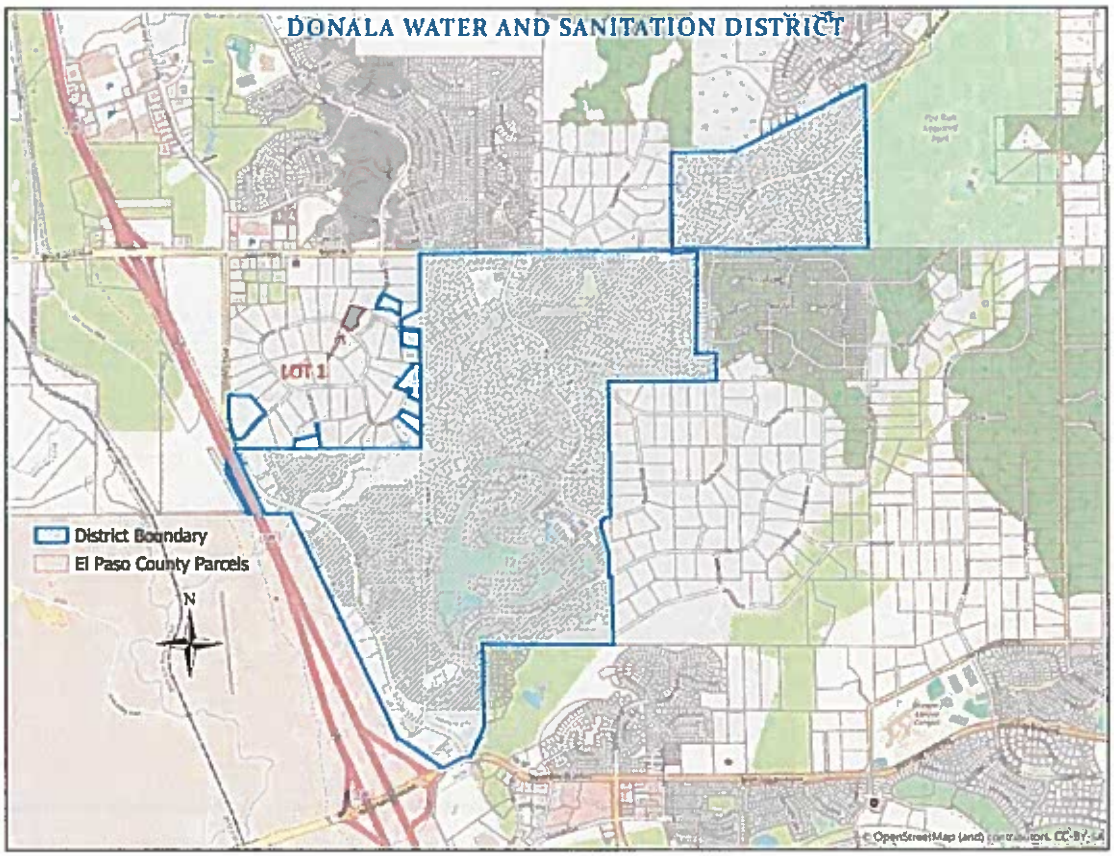

Figure 1-2-3 Proposed Lot 1 In Relation to Donala Water and Sanitation District Boundary (2019) (not to scale)

1.3 FEASIBILITY OF SERVICE BY DONALA WATER AND SANITATION DISTRICT

Figure 1-3-1 (below) was provided by Donala Water and Sanitation District in response to a request for system mapping in the vicinity of the proposed subdivision. While Donala's central sewage system extends to within less than one mile from the subdivision boundary, the westernmost extent of the District's sewer infrastructure (shown as a solid green line in the southeast corner of the map area) is approximately 1,000 feet east of the subdivision boundary. This distance, coupled with the fact that the proposed subdivision is downhill of this sewer main, would make connection of either or both lots to Donala's collection system cost-prohibitive. In addition, portions of the existing septic system infrastructure may be useful – with augmentation or replacement as required by a design professional – in continuing to serve the existing home.

Figure 1-3-1 Donala Water and Sanitation District Map Detail (2024) (not to scale)

2.0 PROPOSED LAND USES

2.1 SUBDIVISION PLANS

The existing 5.04-acre parcel is proposed to be divided into two (2) lots of approximately equal area. A single-family home with well and septic exists on the eastern portion (proposed Lot 2), while the western portion (proposed Lot 1) remains undeveloped except for an absorption field that is currently being utilized by the existing home on Lot 2. The *Water Resources Report (October 2024)* for this subdivision by Respec includes further information on anticipated water demands as well as a discussion on the continued utilization of an exempt well for the existing home on Lot 2 and a tie-in to Donala Water and Sanitation District for water service for the future home on Lot 1. Refer to ***Appendix B– Land Use Exhibit.***

3.0 WASTEWATER LOADS

3.1 PROJECTED WASTEWATER LOADING AND RETURN SEPTIC FLOW

The annual demands of the proposed subdivision are 1.30 AF. This is based upon a minimum of 0.26 AF/yr for in-house domestic uses and other outdoor uses which vary by lot. Water demand for Lot 1 is proposed to be met by Donala. Water demand for Lot 2 will continue to be met by the exempt Denver aquifer well. Estimated water demands and wastewater loads for the subdivision based upon presumptive use values are shown in Table 3-1-1. Since the two lots in this subdivision will each have a

different water supply, aggregate subdivision water demands are not presented. Instead, water demands have been calculated and evaluated versus supply on an individual basis.

Table 3-1-1 Summary of Anticipated Water Demands and Wastewater Loads

Lot	Water Supply	# of SFE's	Annual Indoor Use[a]	Average Daily Indoor Use	Annual Irrigation Use[b]	Annual Domestic Animals Watering Use[c]	Total Annual Use (indoor + outdoor)	Average Daily Wastewater (septic) Flow[d]
			(AF/yr)	(gpd)	(AF/yr)	(AF/yr)	(AF/yr)	(gpd)
1	Donala service	1	0.26	172	0.04	0.00	0.30	154
2	exempt well	1	0.26	172	0.718	0.022	1.00	154

(a) Assuming a minimum of 0.26 AF/yr/SFE per 8.47(B)(7)(d) of the El Paso County Land Development Code - single-family residences

(b) Assuming 0.0566 AF/1000 sf/year per 8.47(B)(7)(d) of the El Paso County Land Development Code with 700 SF of lawn/garden/trees = 0.04 AF/yr max irrigation use (Lot 1-Donala) and with 12,685 SF of lawn/garden/trees = 0.718 AF/yr (Lot 2-well) Note: maximum allowable irrigation use per well permit is 13,000 SF or 0.74 AF/yr per EPC LDC rate.)

(c) Assuming no livestock for Lot 1; assuming 0.011 AF/horse/year, 2 horses for Lot 2 = 0.022 AF/lot.

(d) Assuming 10 percent of average daily indoor is credited as septic return flow (well permit requires min. 4% return flow to septic)

4.0 SITE EVALUATION AND PROPOSED TREATMENT

4.1 ONSITE WASTEWATER TREATMENT SYSTEM (OWTS) AND JURISDICTION

An onsite wastewater treatment system (OWTS) is planned for each lot. Lot 2, on which the existing residence is located, utilizes an existing septic system that was originally constructed in 1989 and for which a permit to repair the system was issued on June 1, 1994 (see ***Appendix C – Existing ISDS Documentation*** obtained from El Paso County Public Health records.) Since each OWTS will have a design capacity of less than 2,000 gpd, *section 8.4.8(B)(1)(b)* of the *El Paso County Land Development Code* (EPC LDC), requires compliance with El Paso County Public Health (EPCPH) regulations.

EPCPH regulation extends to both new onsite wastewater treatment systems as well as modifications and repairs through the provision of fee-based services (application fees.) According to the EPCPH fee schedule, application fees for permits range from $914 for a major repair or modification to $1131 for a new permit and include: initial application review, site evaluation, design revision request, and construction inspection. The fee for a new permit also includes a follow-up site visit or inspection. Installation must be completed by a licensed installer; see the *Tier 2 Licensed System Contractors* list on the EPCPH website for a list of licensed installers. According to the *Homeowner Installation Affidavit*, also on the EPCPH website, while homeowner installation is allowed for conventional (non-

engineered) OWTS systems with associated additional fee and requirements, this option is prohibited for systems which require a design by a registered Colorado Professional Engineer.

El Paso County Public Health also requires systems meeting certain requirements (such as pressure distribution, in-tank treatment unit, etc.) to provide an operation and maintenance (O&M) contract with a listed O&M Certified Inspector (see the list of *Certified O&M Specialists* on the EPCPH website.) In addition, all new systems require a maintenance inspection 6 months and 12 months after installation and annually thereafter.

System designs and extent of the improvements/repairs or reconstruction of the existing absorption fields may dictate both the type of OWTS permits required (new, modification, repair, etc.) as well as the status of the systems with respect to O&M requirements. The Owner should discuss any design options and the associated O&M requirements with the OWTS design professional and El Paso County when evaluating possible alternatives.

Regardless of the specifics of the OWTS designs, minimum horizontal distance requirements between the OWTS components and wells, water supply infrastructure, buildings, stormwater infrastructure, property lines, and other features must be maintained. These requirements can be found in *Table 7-1* of the *OWTS Design Tables* document on the EPCPH website and examples of these are listed in Section 4.2.2. All other requirements of EPCPH must be met with the OWTS designs.

4.2 GEOLOGIC EVALUATION AND SYSTEM RECOMMENDATIONS

JDM Consulting, LLC (JDM) evaluated the sites' soil characteristics for suitability for onsite wastewater treatment systems and offered design criteria for a future soil treatment area in accordance with EPCPH OWTS Regulations. See ***Appendix D – Subsurface Investigation and Recommendations*** for the full report.

4.2.1 SUBSURFACE INVESTIGATION

JDM utilized two profile pits, each 8 feet in depth and excavated by the Owner, to evaluate the soils on the site. It should be noted that it appears that both profile pits were located on proposed Lot 1. It appears that percolation tests were not conducted. Both pits presented a similar soils profile and very little distinction can be made between the properties of each, therefore, unless otherwise noted we are summarizing the findings in aggregate below:

- Soil Type 4 (USDA soil texture classification: clay) was found to be the most restrictive soil in the treatment zone of the soil treatment areas evaluated. Profile Pit #1 revealed Soil Type 4 to a depth of 6.0 feet while Profile Pit #2 contained Soil Type 4 to a depth of 2.5 feet. Below these depths the firm encountered Soil Type 2 (USDA classification: sandy loam.)
- The long-term acceptance rate (LTAR) of Soil Type 4 is assumed to be 0.20, Treatment Level 1.
- Redoximorphic features (groundwater and/or seasonally saturated soils) were encountered in both profile pits – at 2.5 feet in depth in Pit #1 and at 1.75 feet in depth in Pit #2.
- The firm did not encounter high rock content or bedrock in either profile pit.

- Published mapping by the Natural Resource Conservation Service (NRCS) indicated soils within the subdivision are designated as 68 (Peyton-Pring complex) and 93 (Tomah-Crowfoot complex), both of which have a "very limited" rating with respect to absorption. The "very limited" rating indicates the soil is unfavorable for the specified use.

4.2.2 RECOMMENDATIONS

An absorption field or STA must be at least 4 feet above groundwater, bedrock, or a confining layer. Conventional systems are only suitable where the above condition can be met. In addition, absorption fields must be located (this list is representative - see *Table 7-1* in the *El Paso County Conventional Design Tables* for the complete list):

- A minimum of 100' from any well, including wells on adjacent properties
- A minimum of 50' from a body of water or drainage, floodplain, wetland, or ponded area
- A minimum of 25' from a dry gulch, potable water supply line, subsurface drain or stormwater structure

JDM put forth the following recommendations for OWTS design criteria in their report:

- Engineered OWTS's are required due to Soil Type 4 and groundwater and/or seasonally saturated soils in the evaluated treatment zones.
- Mounded sand filters meeting the requirements of Section 8.4.8 of the EPC LDC are recommended.

5.0 CONCLUSION

JDM stated that designed systems will be required based upon the results of their testing. Due to the unique nature of this subdivision and the fact that absorption fields currently exist on both proposed lots, the Owner will need to work with a licensed design professional and El Paso County with respect to the design, classification (new, modified, or repaired), and operation and maintenance requirements of each lot's septic system. It appears that engineered onsite wastewater treatment systems designed in accordance with the criteria put forth by JDM and meeting El Paso County Public Health requirements for both installation and operation and maintenance, while under property supervision and inspection, should not cause contamination of surface and subsurface water resources.

RESPEC

6.0 REFERENCES

El Paso County. 2023. *El Paso County Land Development Code.*

El Paso County. 2023. *El Paso County Board of Health OWTS Regulations.*

El Paso County. 2023. *El Paso County OWTS Checklist.*

El Paso County. 2023. *El Paso County Conventional Design Tables.*

El Paso County Public Health. 2024. *Onsite Wastewater Treatment System Fee Based Services.*

El Paso County Public Health. 2024. *Tier 2 Licensed System Contractors.*

El Paso County Public Health. 2024. *Onsite Wastewater Treatment System Homeowner Installation Affidavit.*

JDM Consulting, LLC. 2024. *Subsurface Investigation for Onsite Wastewater Treatment System.*

Respec. 2024. *Leather Chaps Subdivision Water Resources Report.*

APPENDIX A

DONALA WATER AND SANITATION DISTRICT SERVICE COMMITMENT AND INCLUSION ORDER

DONALA

Water & Sanitation District

May 8, 2024

Vickie and Bill Hancock
15220 Leather Chaps Drive
Colorado Springs, CO 80921

Via Email: hancockmph@gmail.com
hancock.vickiebill@yahoo.com
No Hard Copy to Follow

RE: Commitment to Provide Water Supply Services
Portion of Lot 39, Chaparral Hills, aka 495 Struthers Loop

Dear Mr. & Mrs. Hancock:

Per your request, the Donala Water & Sanitation District (District) respectfully provides this letter of commitment to provide water supply services for use on the portion of Lot 39, Chaparral Hills described on the Exhibit A attached to this letter. The parcel of land described in the attached Exhibit A (2.526 acres) is within the service area and the institutional boundaries of the District.

The District will provide water supply and management services for this property in accordance with the District's rules, regulations, policies, agreements and procedures as they exist at the time those services are provided. At the present time the District has sufficient supply, treatment and distribution system capacity to accommodate the proposed single family residential development on this property and will supply the requested maximum annual volume of 0.30 acre-feet of water. This annual volume provides for the median in-house use experienced by existing single-family detached customers in the District and an allowance for irrigation of approximately 2,630 square feet of landscape plantings with 2.5 feet of applied water per year.

This includes the condition of a, "first come, first served," commitment. This commitment to serve shall exist for a period of one (1) year from the above date and supersedes any previous commitments that may have been provided for this property.

Please contact me should you have any questions or desire any additional information regarding this matter.

Sincerely,

Jeffrey W. Hodge, General Manager

ec: Ms. Christina Hawker, Office Manager, Donala Water & Sanitation District
Mr. Roger J Sams, P.E., GMS, Inc., Consulting Engineers

EXHIBIT A

A portion of Lot 39, Chaparral Hills, El Paso County, Colorado, also referred to as 495 Struthers Loop.

A parcel of land being a portion of Lot 39 as platted in Chapparal Hills and recorded at Reception No. 824585 in the records of El Paso County, Colorado, more particularly described as follows:

Beginning at the Southwesterly corner of said Lot 39, being the common front lot corner of Lot 39 and Lot 38 in said Chaparral Hills, thence North 20°48'29" East, (all bearings in this description are relative to this bearing on the common side lot line between said Lots 38 and 39) 379.19 feet to the Northwesterly corner of said Lot 39;

Thence South 77°04'26" East along the Northerly line of said Lot 39, 163.63 feet;

Thence South 05°03'39" West, 273.45 feet;

Thence South 22°41'52" East, 145.13 feet to a nontangent point of curvature;

Thence along a curve to the left, 73.24 feet, said curve having a radius of 672.31 feet, a central angle of 6°14'29" and a long chord bearing S 47°28'22" W, to a point of tangency;

Thence South 44°21'07" West, 91.63 feet, more or less, to a point on the Southwesterly line of said Lot 39, said point lying 59.18 feet from the Southeasterly corner of said Lot 39;

Thence North 45°38'53" West, 290.98 feet, more or less, to the Southwesterly corner of said Lot 39 as platted in said Chaparral Hills and the Point of Beginning of the parcel herein described and containing 2.526 acres, more or less.

Letter provided
1-3

CEGR LAW

July 6, 2022

Ms. Margaret Vigil
Division of Local Government
Room 521
1313 Sherman Street
Denver, Colorado 80203

Re: Donala Water and Sanitation District
Order of Inclusion

Dear Maggie:

Pursuant to Section 32-1-105, C.R.S., enclosed is an Order of Inclusion on behalf of the Donala Water and Sanitation District, which has been recorded with the El Paso County Clerk and Recorder.

Thank you for your assistance in this matter.

Sincerely,

Micki L. Mills
Paralegal

Enclosure
cc: El Paso County Assessor
Ms. Christine Hawker ***(via email)***

222091211 7/6/2022 10:59 AM
PGS 2 $18.00 DF $0.00
Electronically Recorded Official Records El Paso County CO
Chuck Broerman, Clerk and Recorder
TD1000 N

water provider Info
1-2-3

DISTRICT COURT, EL PASO COUNTY, STATE OF COLORADO Court Address: 270 S. Tejon P.O. Box 2980 Colorado Springs, CO 80901 Phone Number: 719-452-5000	DATE FILED: June 22, 2022 11:42 PM
IN RE DONALA WATER AND SANITATION DISTRICT	
Linda M. Glesne Cockrel Ela Glesne Greher & Ruhland 390 Union Blvd., Suite 400 Denver, Colorado 80228-1556 Telephone: 303.218.7200 Facsimile: 303.218.7220 E-mail: lglesne@cegrlaw.com Attorney No. 28332	▲ COURT USE ONLY ▲ Case No.: 1972CV71085 Div.: Ctrm.:

ORDER OF INCLUSION

THIS MATTER coming before the Court upon the filing of an Order of the Board of Directors of Donala Water and Sanitation District granting the inclusion of certain additional real property into the District; and it appears to the Court that the property hereinafter described herein is capable of being served with facilities of the District, and that the fee owners of such property, Bill Hancock and Vicki Hancock, filed with the Board of Directors a proper Petition, a copy of which has been filed with the Clerk of this Court, praying that such property be included within the District; and that the Board of Directors on June 16, 2022, at the hour of 1:30 p.m., at 15850 Holbein Drive, Colorado Springs, Colorado, after duly publishing notice of the filing of such Petition and of the date, place and time of such meeting, and of the names of the Petitioners in the Tri Lakes Tribune, a newspaper of general circulation within the District, which proof of

publication has been filed with the Clerk of this Court, duly granted such Petition as to all the real property therein described, and on such date made and entered an Order to that effect, which Order has been filed with the Clerk of this Court, and the terms and conditions of which are incorporated herein by reference.

IT IS THEREFORE ORDERED that the following described real property be included within the Donala Water and Sanitation District, subject to the terms and conditions of the Agreement for Inclusion of Property filed with this Court :

Lot 39, Chaparral Hills, El Paso County, Colorado; also known as 15220 Leather Chaps Drive, Colorado Springs, Colorado, and Schedule No. 7136002004.

DATED this 22 day of June, 2022.

BY THE COURT:

Diana K May

District Court Judge

Diana K May
District Court Judge

COMBINED COURT, EL PASO COUNTY, COLORADO "1879"

State of Colorado, County of El Paso
Certified to be a true, and correct
copy of the original in my custody

JUN 30 2022

SHERI KING
CLERK OF THE DISTRICT/COUNTY COURT
By _____ Deputy

222091211 7/6/2022 10:59 AM
PGS 2 $18.00 DF $0.00
Electronically Recorded Official Records El Paso County CO
Chuck Broerman, Clerk and Recorder
TD1000 N

water provider INF
1-2-3

DISTRICT COURT, EL PASO COUNTY, STATE OF COLORADO Court Address: 270 S. Tejon P.O. Box 2980 Colorado Springs, CO 80901 Phone Number: 719-452-5000	DATE FILED: June 22, 2022 11:42 PM
IN RE DONALA WATER AND SANITATION DISTRICT	
Linda M. Glesne Cockrel Ela Glesne Greher & Ruhland 390 Union Blvd., Suite 400 Denver, Colorado 80228-1556 Telephone: 303.218.7200 Facsimile: 303.218.7220 E-mail: lglesne@cegrlaw.com Attorney No. 28332	▲ COURT USE ONLY ▲ Case No.: 1972CV71085 Div.: Ctrm.:

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DATED this 22 day of June, 2022.

BY THE COURT:

Diana K May

District Court Judge

Diana K May
District Court Judge

COMBINED COURT, EL PASO COUNTY, COLORADO "1879"

State of Colorado, County of El Paso
Certified to be a true, and correct
copy of the original in my custody

JUN 30 2022

SHERI KING
CLERK OF THE DISTRICT/COUNTY COURT
By _____ Deputy

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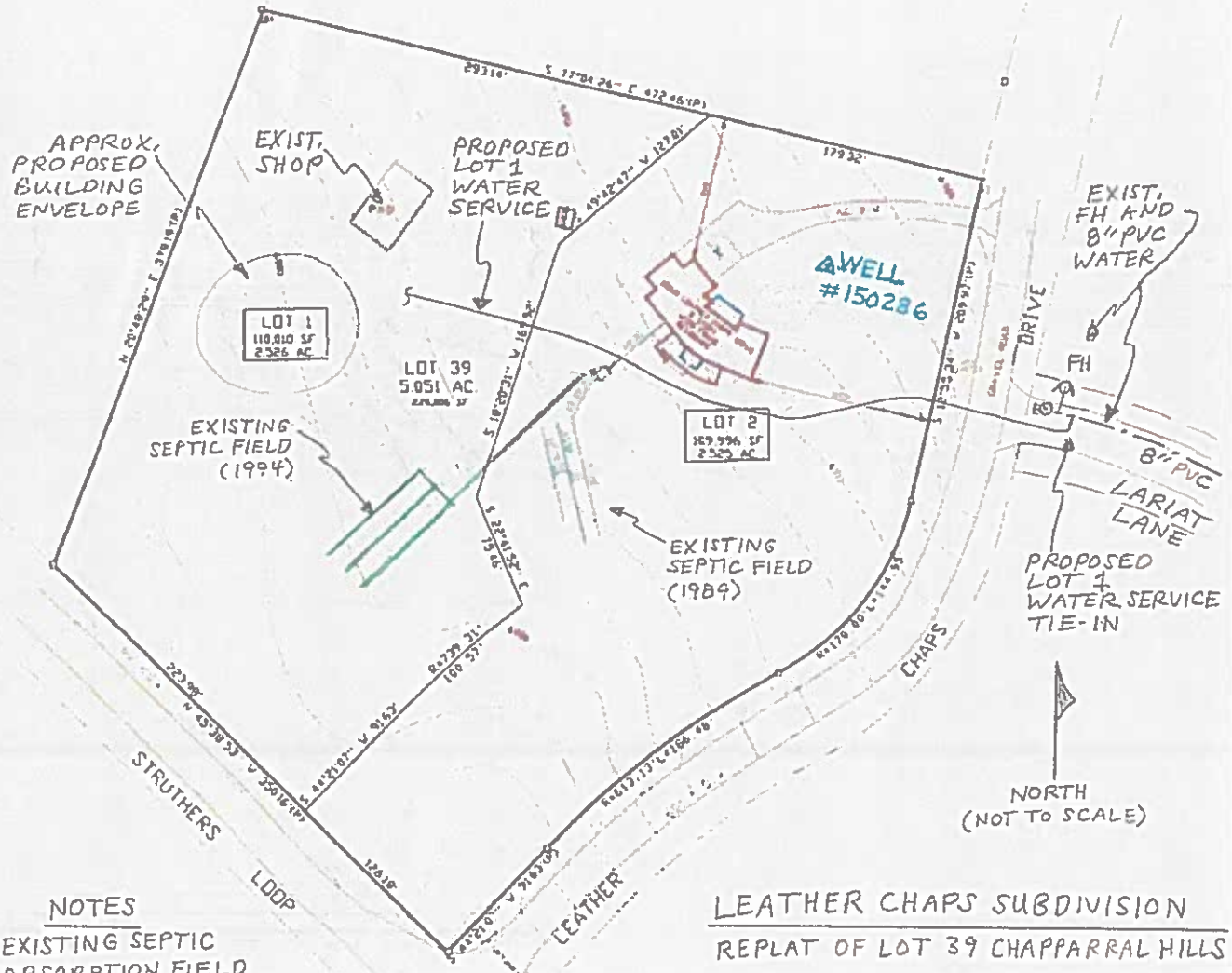


NOTES

1. EXISTING SEPTIC ABSORPTION FIELD (1989 INSTALLATION/ LOT 2) SHOWN PER SURVEY
2. EXISTING SEPTIC ABSORPTION FIELD (1994 INSTALLATION/ LOCATED ON PROPOSED LOT 1) - APPROXIMATE LOCATION SHOWN PER OWNER

LEATHER CHAPS SUBDIVISION

REPLAT OF LOT 39 CHAPPARRAL HILLS

LAND USE EXHIBIT

RESPEC COMPANY, LLC

(SURVEY PROVIDED BY ROCKY MOUNTAIN LAND SERVICES)

10/21/24 T.L.

APPENDIX C

EXISTING ISDS DOCUMENTATION

EL PASO COUNTY HEALTH DEPARTMENT
INDIVIDUAL SEWAGE DISPOSAL INSPECTION FORM

Permit # 05408
Date 8/4/89

APPROVED YES ✓ NO ____ ENVIRONMENTALIST Krueger

Address 15220 Leather Chaps Dr. Owner CRUISE

Legal Description LOT 39 CHAPPARAL HILLS

Residence ✓ Comerical ____ # of Bedrooms 3 System Installer SUN CONST

SEPTIC TANK

Commercial ✓ Noncommercial ____ Measurements: L ____ W ____ WD ____

Construction Material CONCRETE Liq. Cap. 1250

DISPOSAL FIELD

Exc. Depth 18" Width ____ Total Length 241' Sq. Ft. 723

Rock ____ Depth ____ Under ____ Over ____

Rockless System: Diameter of Pipe 10"

Seepage Pits: Number of rings ____ Lining Material ____ Sq. Ft. ____

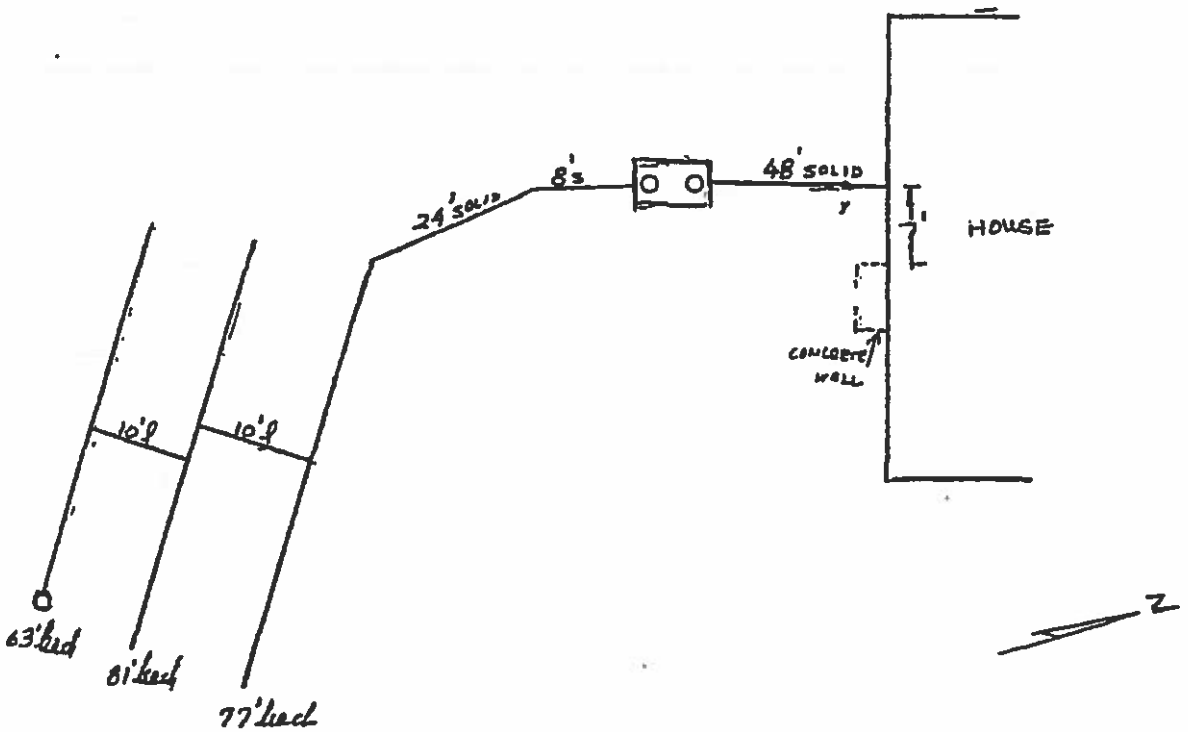
Working Depth ____ Width ____

Engineer Design Yes ____ Type ____ Engineer Approval Letter Yes ____

Well 50 feet from Tank ____ 100 feet from leach field ____

Well Installed at Time of Septic System Inspection Yes ____ No ✓ Public Water ____

WELL NOT DRILLED AT INSPECTION



Acres 5

Water Supply well

EL PASO COUNTY • COUNTY HEALTH DEPARTMENT

501 North Foote Avenue • Colorado Springs, Colorado • 578-3125

Permit No. 05408

Receipt No. 2274

PERMIT

TO CONSTRUCT, ALTER, REPAIR or MODIFY ANY INDIVIDUAL SEWAGE DISPOSAL SYSTEM

Issued To BENEDICT & CLARA CRUISE Date 6-30-89

Address of Property 15220 LEATHER CHAPS DRIVE, LOT 39, CHAPPARAL HILLS Phone 633-3852

(Permit valid at this address only)

Sewage-Disposal System work to be performed by SUN CONSTRUCTION Phone _____

This Permit is issued in accordance with 25-10-106 Colorado Revised Statutes 1973, as amended. PERMIT EXPIRES upon completion-installation of sewage-disposal system or at the end of twelve (12) months from date of issue—whichever occurs first—(unless work is in progress). This permit is revokable if all stated requirements are not met:

—THIS PERMIT DOES NOT DENOTE APPROVAL OF ZONING AND ACREAGE REQUIREMENTS—

$150.00
PERMIT FEE (NOT REFUNDABLE)

John Bunk, MD
DIRECTOR, COUNTY HEALTH DEPARTMENT

6-30-90
DATE OF EXPIRATION

Dale Brockhaus
ENVIRONMENTALIST

NOTE: LEAVE ENTIRE SEWAGE-DISPOSAL SYSTEM UNCOVERED FOR FINAL INSPECTION. 48 HOUR ADVANCE NOTICE REQUIRED.

SEPTIC TANK:	TRENCH SYSTEM:	BED SYSTEM:	SEEPAGE PIT SYSTEM:
	total square feet 714		total square feet _____
	357 ft. of trench 24 inches wide		
1250 gallons	238 ft. of trench 36 inches wide	total square feet _____	_____ rings or _____ diam. x _____ w/d

NOTES: BEDROCK AT 5 1/2 FEET. BOTTOM OF LEACH FIELD MUST BE AT LEAST 4 FEET ABOVE BEDROCK. MAXIMUM 1 1/2 FEET DEPTH OF TRENCH. MINIMUM DISTANCE MUST BE MET.

The Health Office shall assume no responsibility in case of failure or inadequacy of a sewage-disposal system, beyond consulting in good faith with the property owner or representative. Free access to the property shall be authorized at reasonable times for the purpose of making such inspections as are necessary to determine compliance with requirements of this law.

El Paso County Health Department
501 North Foote Avenue
Colorado Springs, CO 80909-4598
(303) 578-3125

APPLICATION FOR A PERMIT TO CONSTRUCT, REMODEL, OR INSTALL A SEWAGE DISPOSAL SYSTEM

NAME OF OWNER BENEDICT AND CLARA CRUISE HOME PHONE 528-5136 WORK PHONE 633-3852

ADDRESS OF PROPERTY 15220 LEATHER CHAPS DR. DATE 6/27/89

LEGAL DESCRIPTION OF PROPERTY LOT 39 CHAPPARAL HILLS SUBDIVISION

TAX SCHEDULE NUMBER 71360-02-004 SYSTEM CONTRACTOR Ben Comet. PHONE

OWNER'S ADDRESS IF DIFFERENT 840 VINDICATOR DR. #106 COS. 80919

TYPE OF HOUSE CONSTRUCTION SINGLE FAMILY SOURCE AND TYPE OF WATER SUPPLY WELL

SIZE OF LOT 5 ACRES MAXIMUM POTENTIAL NUMBER OF BEDROOMS 3 BASEMENT (yes or no) YES

PERCOLATION TEST RESULTS ATTACHED (yes or no) YES

A plot plan and accompanying information are essential; it may be drawn on the back of this application or be attached. Please include by measured distance the location of wells including neighbors' wells, springs, water supply lines, cisterns, buildings, proposed structures, property lines, property dimensions, subsoil drains, lakes, ponds, water courses, streams, and dry gulches. Please show the location of the proposed septic system by directions and distances from actual and/or proposed dwellings, structures, or fixed reference objects. Give complete directions to the property from major highways. (ANSWER QUESTIONS ON BACK OF FORM).

Applicant acknowledges that the completeness of the application is conditional upon such further mandatory and additional tests and reports as may be required by the department to be made and furnished by the applicant for purposes of evaluation of the application; and issuance of the permit is subject to such terms and conditions as deemed necessary to ensure compliance with rules and regulations adopted under Article 10, Title 25, C.R.S. 1973 as amended. The undersigned hereby certifies that all statements made, information and reports submitted by the applicant are or will be represented to be true and correct to the best of my knowlege and belief and are designed to be relied on by the El Paso County Health Dept. in evaluating the same for purposes of issuing the permit applied for herein. I further understand that any falsification or misrepresentation may result in the denial of the application or revocation of any permit granted based upon said application and in legal action for perjury as provided by law.

357'@24"
238'@36"

SIGNATURE Benedict M. Cruise

HEALTH DEPARTMENT USE ONLY

PERMIT NUMBER 05408 RECEIPT NUMBER 2274 DATE TO LAND USE DEPARTMENT Attached

ABSORPTION AREA 714 TANK CAPACITY 1250 DATE OF SITE INSPECTION

REMARKS:

Bedrock at 5½ ft. bottom of leach field must be at least 4 ft above bedrock. mound 1½ ft. depth of trench Minimum distance must be met

APPLICATION IS APPROVED (X) DENIED ( ) DATE 6-30-89 ENVIRONMENTALIST Dale Blackburn

ANSWER THE FOLLOWING ITEMS AND/OR INCLUDE ON PLOT PLAN.

PROPERTY LINES PP
PROPERTY DIMENSIONS PP
LOCATION OF PROPOSED SEPTIC SYSTEM PP
LOCATION OF WELL PP
LOCATION OF ADJACENT WELLS Approx. 250'
BUILDINGS PP
PROPOSED BUILDINGS PP
WATER SUPPLY LINE N/A
CISTERNS N/A
SPRINGS N/A
LAKES N/A
PONDS N/A
WATER COURSES N/A
STREAMS N/A
DRY GULCHES N/A
SUBSOIL DRAINS N/A

DIRECTIONS TO PROPERTY FROM MAIN HIGHWAYS:

North - I - 25 to Baptist Rd.
Baptist Rd. east to leather Chaps Dr.
Leather Chaps Dr. South to Lot (Right Side of Road)

GEOTECHNICAL SERVICES, INC.
2300 POWERS BUSINESS PLAZA
591-7713

2474 Waynoka Road
Colorado Springs, CO 80915

Name: Wyndtree Homes, Inc. Address: P. O. Box 1560

City: Monument State: Colorado Zip: 80132 Phone # 481-2258

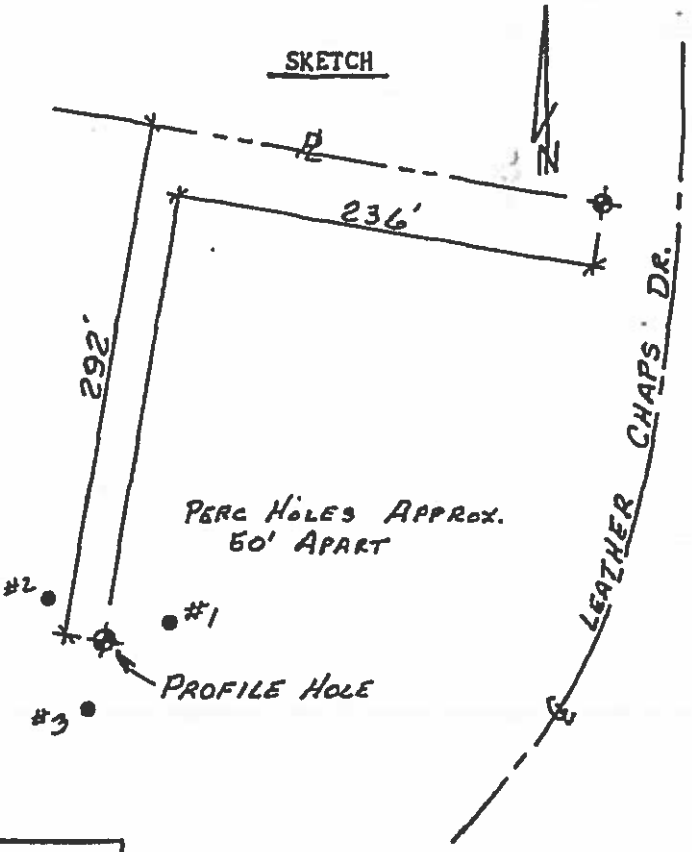
Location of Test: Lot 39, Chaparral Hills County: El Paso

Diameter of Holes 4 inches Date of Test: May 26, 1989

Job No. 817DCS17

TIME	HOLE #1 Depth: 32½		HOLE #2 Depth: 33½		HOLE #3 Depth: 32	
	IN	DROP	IN	DROP	IN	DROP
11:50	20		21		20	
12:00		5/8		2 7/16		3 9/16
12:10		1/2		1 7/8		1 5/8
12:20		7/16		1 1/4		1 1/8
12:30		3/8		1 1/16		15/16
12:40		3/8		15/16		13/16
12:50		1/4		7/8		3/4
1:00		1/4		13/16		3/4
1:10		1/4		13/16		11/16
	Min/in 40		Min/in 12		Min/in 15	

SKETCH



AVERAGE: Min/In = 22**

PROFILE HOLE

Depth	Soil Description
0-2½'	Top soil (sandy)
2½-5½'	Sand, fine-med. grn., clayey, moist, lt.
	brn.-rust
5½-7½'	Sandstone, med. grn., slightly clayey to
	clayey, med. hard, moist, grey-rust
7½-10'	Claystone bedrock, silty & sandy, med.
	hard, moist, grey

Groundwater None

Bedrock Sandstone @ 5½'

GARY L. HAMACHER REGISTERED 16710 PROFESSIONAL ENGINEER STATE OF COLORADO

Gary L. Hamacher, P.E.

*NOTE: LEACH FIELD MUST BE A MINIMUM OF 100' FROM ANY WELL!

** Per El Paso County regulations, if a difference of greater than 20 exists between the holes, a weighted average should be used. Normally, this is the average of the larger two values. Therefore, a percolation rate of 28 min./in. should be used for the sizing of the leach field.

#5408

EL PASO COUNTY DEPARTMENT OF HEALTH AND ENVIRONMENT
INDIVIDUAL SEWAGE DISPOSAL SYSTEM INSPECTION FORM

Permit # 8134
Date 6/9/94

APPROVED: YES — NO #7136002004 ENVIRONMENTALIST KRUEGER

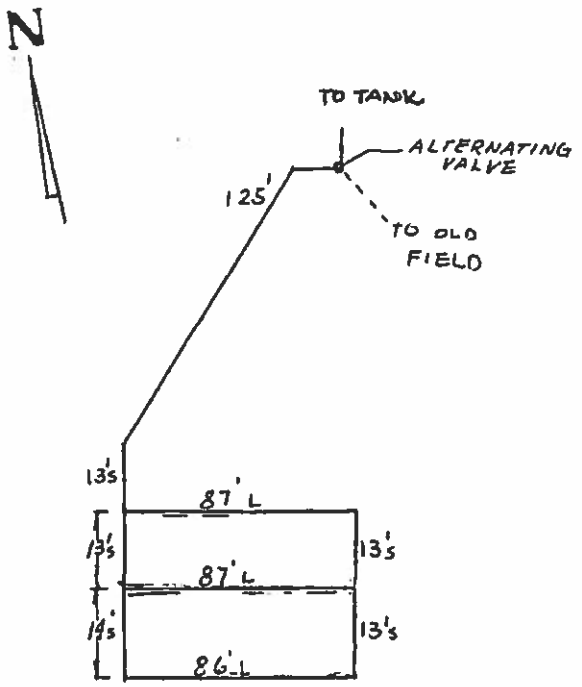
Address 15220 LEATHER CHAPS Owner CRUISE

Legal Description LOT 39 CHAPPARAL HILLS
Residence —, # of bedrooms 3; Commercial ____; System Installer SUN CONST.

SEPTIC TANK: EXISTING
Commercial ____; Noncommercial ____, L ____, W ____, WD ____
Construction Material ____, capacity 1250 gallons.

DISPOSAL FIELD:
Rock Systems:
Trench: depth 24"-36", width 36", total length 260', sq. feet 780
Bed: depth ____, length ____, width ____, sq. feet ____
Rock type RED QUARRY, depth 12", under PVC 6", over PVC 2"
Seepage Pits: # of pits ____, total # of rings ____, working depth(s) ____
size of pit(s) L X W ____, lining material ____, total sq. feet ____
Rockless Systems:
Chamber: Type ____, number of chambers ____, bed ____, trench ____
sq. ft./section ____, reduction allowed ____%, sq. ft required ____
total sq. ft. installed ____, depth of installation ____
Engineer Design Y or (N), Designing Engineer ____,
Approval letter provided? Y or N
Well 50 feet from tank (Y) or N 100 feet from leach field (Y) or N
Well installed at time of septic system inspection (Y) or N Public Water ____
*Approval will be revoked if in the future the well is found to be within 50 feet of the septic tank and/or 100 feet of the disposal field.

NOTES:



Acres 5 **EL PASO COUNTY • DEPARTMENT OF HEALTH AND ENVIRONMENT** Permit 8134

301 South Union Blvd. • Colorado Springs, Colorado • 578-3125

Water Supply well Receipt No. NO FEE

REPAIR

PERMIT

TO CONSTRUCT, ALTER, REPAIR OR MODIFY ANY INDIVIDUAL SEWAGE DISPOSAL SYSTEM

Issued to BEN GRUISE Date 6-1-94

Address of Property 15220 LEATHER CHAP DRIVE, LOT 39, CHAPPARAL HILLS Phone

(Permit valid at this address only)

Sewage-Disposal System work to be performed by SUN CONSTRUCTION Phone 520-9994

This Permit is issued in accordance with 25-10-106 Colorado Revised Statutes 1973, as amended. PERMIT EXPIRES upon completion-installation of sewage-disposal system or at the end of twelve (12) months from date of issue--whichever occurs first-(unless work is in progress). This permit is revokable if all stated requirements are not met.

-THIS PERMIT DOES NOT DENOTE APPROVAL OF ZONING AND ACREAGE REQUIREMENTS-

NO FEE - REPAIR
PERMIT FEE (NOT REFUNDABLE)

John Bunker, M.D.
DIRECTOR, DEPARTMENT OF HEALTH AND ENVIRONMENT

6-1-95
DATE OF EXPIRATION

D. Wydlowski for D. Krueger
ENVIRONMENTALIST

NOTE: LEAVE ENTIRE SEWAGE-DISPOSAL SYSTEM UNCOVERED FOR FINAL INSPECTION. 48 HOUR ADVANCE NOTICE REQUIRED.

SEPTIC TANK:	TRENCH SYSTEM:	BED SYSTEM:	SEEPAGE PIT SYSTEM:
EXISTING	total square feet *764		total square feet
gallons	ft. of trench inches wide	total square feet	rings or diam.x w/d
	ft. of trench inches wide		

NOTES: UTILIZE EXISTING LEACH AS BACKUP IF POSSIBLE. MEET DISTANCE REQUIREMENTS. STAY IN PERC TEST LOCATION. *RECOMMEND ADDITIONAL 60 PER CENT.

The Health Office shall assume no responsibility in case of failure or inadequacy of a sewage-disposal system, beyond consulting in good faith with the property owner or representative. Free access to the property shall be authorized at reasonable time for the purpose of making such inspections as are necessary to determine compliance with requirements of this law.

Repair

EL PASO COUNTY DEPARTMENT OF HEALTH AND ENVIRONMENT
301 South Union Boulevard
Colorado Springs, CO 80910-3123

APPLICATION FOR A PERMIT TO CONSTRUCT, REMODEL, OR INSTALL A SEWAGE DISPOSAL SYSTEM

Name of Owner Ben Cruise Daytime Phone _____

Address of Property 15220 Leather Chap Drive Date 10/12/94

Legal Descripion of Property Lot 39 Chapparal Hills

Tax Schedule Number _____ Septic Contractor/Phone Sun Const. Inc 520-9994

Type of House Construction Frame Source of Water Well

Size of Lot 5 Acre Basement (Y or N) Percolation Test Attached (Y or N)

MAXIMUM POTENTIAL NUMBER OF BEDROOMS three

I have supplied a plot plan as described on the back of this form. I acknowledge the completeness of the application is conditional upon such further mandatory & additional tests & reports as may be required by the Department to be made & furnished by the applicant for purposes of evaluating the application, & issuance of the permit is subject to such terms & conditions as deemed necessary to ensure compliance with rules & regulations adopted pursuant to C.R.S. 1973, 10-25-101 et. seq. I hereby certify all statements made, information and reports submitted by me are or will be represented to be true & correct to the best of my knowledge & belief, & are designed to be relied on by the El Paso County Department of Health in evaluating the same for purposes of issuing the permit applied for herein. I further understand any falsification or misrepresentation may result in the denial of the application or revocation of any permit granted based upon said application & in legal action for perjury as provided by law.

OWNER'S SIGNATURE Ben Cruise

****

DEPARTMENT OF HEALTH USE ONLY

Absorption Area *764* Tank Capacity EXISTING Date/Site Inspection ✓

Remarks: UTILIZE EXISTING LEACH AS BACKUP IF POSSIBLE
MEET DISTANCE REQUIREMENTS, STAY IN PERC TEST LOCATION
* RECOMMEND ADDITIONAL 60% (REPAIR)

Application is (+ approved ( ) denied

Environmentalist Kruegel Date 5/25/94

****

Permit # 8134 Receipt # None Date to Planning Dept N/A

EHS-10/93

PROPERTY AND PERC HOLES MUST BE CLEARLY MARKED/POSTED

The following information must be on your plot plan.
Please check ( ) the items that apply.

( ) Property Lines
( ) Property Dimensions
( ) Proposed Septic System Site
( ) Well(s)
( ) Adjacent Well(s)
( ) Building(s)
( ) Proposed Building(s)
( ) Water Line
( ) Cistern
( ) Subsoil Drain(s)

Are any of these within 100 feet of your proposed septic system (including adjoining property)? Also draw on the plot plan.

Spring(s) N/A
Lake(s) N/A
Pond(s) N/A
Stream(s) N/A
Dry Gulch(s) N/A
Natural Drainage Course(s) _____

Give complete directions to the property from a main highway.

I-25 To Baptist Rd East → South to Leather Chap Drive

EXCAVATION & SEPTIC SERVICES, INC.
3220 N. Nevada Ave.
Colorado Springs, CO 80907
719-475-2252

15220 Leather Chaps
#7136002004
E
6-9-94

SOIL PERCOLATION DATA SHEET

DATE: May 19, 1994

Client Name: Mr. Ben Cruise
Client Address: 15220 Leather Chap, Colorado Springs, CO 80921 — Telephone: 719-481-2537
County: ElPaso — Location Of Test: SAME

No. Acres: 5 — Water Supply: Well

PERCOLATION RATE MEASUREMENT RESULTS

ITEM NO.	Hole Depth	TIME: 6:10	DEPTH TIME: 6:25	TO TIME: 6:40	WATER TIME: 6:55	Last Drop	Min Per Inch:
#1	36"	20 1/4	20 11/16	21 1/8	21 9/16	9/16	34.28
#2	36"	21 1/2	21 15/16	22 3/8	22 13/16	7/16	34.28
#3	36"	22 5/8	23 3/16	23 3/4	24 5/16	9/16	26.66

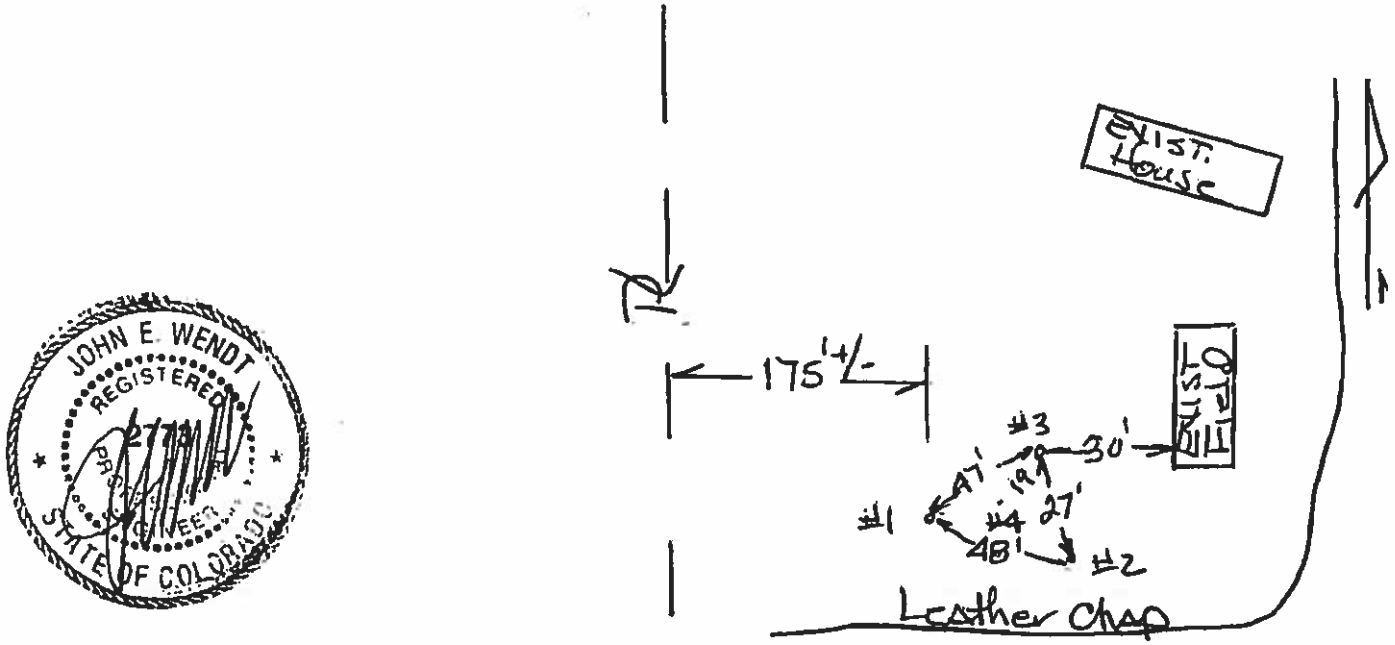
AVERAGE:31.74

PROFILE:

#4 DEPTH	SOIL DESCRIPTION	Ground Water: No
0" to 13"	Topsoil	Bedrock: None
13" to 27"	Fine Course Sand w/Some Clay	Grade of Site: 3% DN to S
27" to 58"	Lite Brown Fine Sand w/Trace Clay	
58" to 102"	Fine Silty Sand w/Moderate Clay - Damp Hard Pack	

REMARKS:

N.T.S. DIAGRAM:



APPENDIX D

SUBSURFACE INVESTIGATION AND RECOMMENDATIONS

wastewater Info 1 - 15

JDM CONSULTING, LLC

P.O. Box 26137, Colorado Springs, CO 80936
p. 719.251.5291 267.261.1825
e. daniel@jdmengineers.com jared@jdmengineers.com

Property Address:	15220 Leather Chaps Drive	Date:	November 4, 2022
	Colorado Springs, CO 80921	Job #:	22-244
Endorsement:	Daniel J. Mizicko, P.E.		

COLORADO LICENSED DANIEL J. MIZICKO 52484 11/04/2022 PROFESSIONAL ENGINEER

Purpose of Investigation: To determine the subsurface suitably for an Onsite Wastewater Treatment System (OWTS) as well as outline design criteria for a future Soil Treatment Area (STA) through both visual and tactile evaluations of the onsite subsurface soil. The onsite evaluation and associated soil testing were conducted in compliance with the El Paso County Board of Health OWTS Regulations

Profile Pit Summary	
Profile Pit #1	
Lat:	39° 3'10.62"N
Long:	104°50'9.33"W
0 - 0'-3"	Topsoil
0'-3" - 2'-6"	Soil Type 4
2'-6" - 6'-0"	Soil Type 4
6'-0" - 8'-0"	Soil Type 2
-	-
Profile Pit #2	
Lat:	39° 3'10.75"N
Long:	104°50'10.14"W
0 - 0'-3"	Topsoil
0'-3" - 1'-9"	Soil Type 4
1'-9" - 2'-6"	Soil Type 4
2'-6" - 8'-0"	Soil Type 2
-	-
Existing Well (If applicable)	
Lat:	39° 3'11.59"N
Long:	104°50'4.86"W

Profile Pit #1		Profile Pit #2	
	Topsoil		Topsoil
1'-0"		1'-0"	
2'-0"		2'-0"	
3'-0"		3'-0"	
4'-0"		4'-0"	
5'-0"		5'-0"	
6'-0"		6'-0"	
7'-0"		7'-0"	
8'-0"		8'-0"	
9'-0"		9'-0"	

Recommendations:

An Engineered On-Site Wastewater Treatment System (OWTS) will be required for this site due to: (a) Soil Type 4 identified in the treatment zone of Profile Pit #1 & Profile Pit #2. (b) Redoximorphic features (groundwater and/or seasonally saturated soils) identified in Profile Pit #1 & Profile Pit #2. A mounded sand filter meeting the requirements in Chapter 8 of the El Paso County Board of Health On-Site Wastewater Treatment Systems (OWTS) Regulations is recommended. Soil Type 4 (LTAR = 0.20, Treatment Level 1) will be the most restrictive soil in the treatment zone of the soil treatment area.

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P.O. Box 26137, Colorado Springs, CO 80936
p. 719.251.5291 267.261.1825
e. daniel@jdmengineers.com jared@jdmengineers.com

Site Map:

JDM CONSULTING, LLC

P.O. Box 26137, Colorado Springs, CO 80936
p. 719.251.5291 267.261.1825
e. daniel@jdmengineers.com jared@jdmengineers.com

Job Number:	22-241	Test Pit#	Pit #1
Date of Evaluation:	October 31, 2022	Total Depth:	8'-0"
Evaluator:	J.Dumke	STA Slope and Direction:	S 60° W @ +/-4%
Excavator:	Homeowner	Latitude:	39° 3'10.62"N
Equipment:	Mini Excavator	Longitude:	104°50'9.33"W

15220 Leather Chaps Drive, 80921

Depth Below Grade	Sample Depth	USDA Soil texture	USDA Soil Structure - Type	USDA Soil Structure Grade	Soil Type	Redoximorphic Features Present (Y/N)
0 - 0'-3"	Topsoil					
0'-3" - 2'-6"	2'-0"	Clay	Blocky	Strong	Soil Type 4	No
2'-6" - 6'-0"	-	Clay	Blocky	Strong	Soil Type 4	Yes*
6'-0" - 8'-0"	7'-0"	Sandy Loam	Granular	Moderate	Soil Type 2	Yes*
-	-	-	-	-	-	-

Total Depth =	8'-0"			Comments:
Groundwater Evidence?	Yes	If yes, what depth?	2'-6"	*Redoximorphic features (groundwater and/or seasonally saturated soils) identified in Profile Pit #1. Profile Pits were excavated prior to our visit on site.
Bedrock Encountered?	No	If yes, what depth?	-	
Is Dawson Arkose (DA) or Cemented Sands (CS) Present?			No	
Is the material fractured and/or Jointed			No	
If Yes, what is the cementation class?			-	
Is the Dawson Arkose or Cemented Sand a limiting layer?			-	
Type "R" Soils (High Rock Content) Encountered?			No	

JDM CONSULTING, LLC

P.O. Box 26137, Colorado Springs, CO 80936
p. 719.251.5291 267.261.1825
e. daniel@jdmengineers.com jared@jdmengineers.com

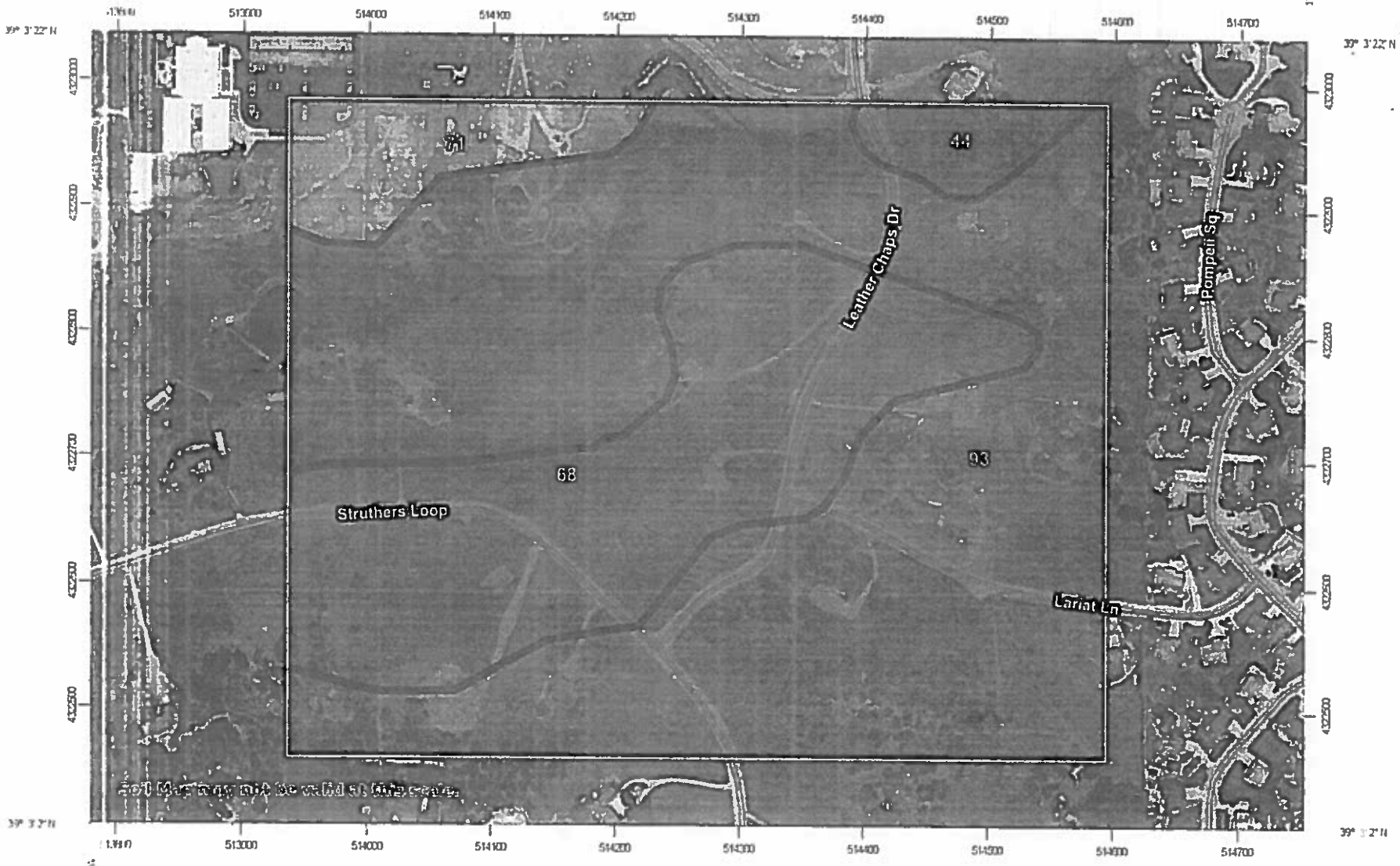
Job Number:	22-241	Test Pit#	Pit #2
Date of Evaluation:	October 31, 2022	Total Depth:	8'-0"
Evaluator:	J.Dumke	STA Slope and Direction:	S 60° W @ +/-4%
Excavator:	Homeowner	Latitude:	39° 3'10.75"N
Equipment:	Mini Excavator	Longitude:	104°50'10.14"W

15220 Leather Chaps Drive, 80921

Depth Below Grade	Sample Depth	USDA Soil texture	USDA Soil Structure - Type	USDA Soil Structure Grade	Soil Type	Redoximorphic Features Present (Y/N)
0 - 0'-3"	Topsoil					
0'-3" - 1'-9"	-	Clay	Blocky	Strong	Soil Type 4	No
1'-9" - 2'-6"	-	Clay	Blocky	Strong	Soil Type 4	Yes*
2'-6" - 8'-0"	-	Sandy Loam	Granular	Moderate	Soil Type 2	Yes*
-	-	-	-	-	-	-

Total Depth =	8'-0"		
Groundwater Evidence?	Yes	If yes, what depth?	1'-9"
Bedrock Encountered?	No	If yes, what depth?	-
Is Dawson Arkose (DA) or Cemented Sands (CS) Present?	No		
Is the material fractured and/or Jointed	No		
If Yes, what is the cementation class?	-		
Is the Dawson Arkose or Cemented Sand a limiting layer?	-		
Type "R" Soils (High Rock Content) Encountered?	No		

Comments:
*Redoximorphic features (groundwater and/or seasonally saturated soils) identified in Profile Pit #2.
Profile Pits were excavated prior to our visit on site.


513000
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514700
39° 3'22" N
4323000
4322500
4322000
4321500
4321000
4320500
4320000
44
68
93
Leather Chaps Dr
Pompeii Sq
Struthers Loop
Lariat Ln
Soil Map may not be to scale.
Map Scale: 1:4,450 if printed on A landscape (11" x 8.5") sheet.
Meters
0 50 100 200 300
Feet
0 200 400 800 1200
N
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Very limited
- Somewhat limited
- Not limited
- Not rated or not available

Soil Rating Lines
- Very limited
- Somewhat limited
- Not limited
- Not rated or not available

Soil Rating Points
- Very limited
- Somewhat limited
- Not limited
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 20, Sep 2, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 9, 2021—Jun 12, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Septic Tank Absorption Fields

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
44	Kutch clay loam, 3 to 5 percent slopes	Very limited	Kutch (98%)	Slow water movement (1.00)	2.4	2.8%
				Depth to bedrock (1.00)		
68	Peyton-Pring complex, 3 to 8 percent slopes	Very limited	Peyton (40%)	Slow water movement (1.00)	23.5	27.4%
71	Pring coarse sandy loam, 3 to 8 percent slopes	Not limited	Pring (85%)		5.1	6.0%
93	Tomah-Crowfoot complex, 8 to 15 percent slopes	Very limited	Tomah (50%)	Seepage, bottom layer (1.00)	54.7	63.8%
				Slope (0.63)		
				Slow water movement (0.50)		
			Crowfoot (30%)	Seepage, bottom layer (1.00)		
				Slope (0.63)		
				Slow water movement (0.50)		
Totals for Area of Interest					85.7	100.0%

Rating	Acres in AOI	Percent of AOI
Very limited	80.6	94.0%
Not limited	5.1	6.0%
Totals for Area of Interest	85.7	100.0%

Description

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Saturated hydraulic conductivity (Ksat), depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Engineering Properties

This table gives the engineering classifications and the range of engineering properties for the layers of each soil in the survey area.

Hydrologic soil group is a group of soils having similar runoff potential under similar storm and cover conditions. The criteria for determining Hydrologic soil group is found in the National Engineering Handbook, Chapter 7 issued May 2007(http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba). Listing HSGs by soil map unit component and not by soil series is a new concept for the engineers. Past engineering references contained lists of HSGs by soil series. Soil series are continually being defined and redefined, and the list of soil series names changes so frequently as to make the task of maintaining a single national list virtually impossible. Therefore, the criteria is now used to calculate the HSG using the component soil properties and no such national series lists will be maintained. All such references are obsolete and their use should be discontinued. Soil properties that influence runoff potential are those that influence the minimum rate of infiltration for a bare soil after prolonged wetting and when not frozen. These properties are depth to a seasonal high water table, saturated hydraulic conductivity after prolonged wetting, and depth to a layer with a very slow water transmission rate. Changes in soil properties caused by land management or climate changes also cause the hydrologic soil group to change. The influence of ground cover is treated independently. There are four hydrologic soil groups, A, B, C, and D, and three dual groups, A/D, B/D, and C/D. In the dual groups, the first letter is for drained areas and the second letter is for undrained areas.

The four hydrologic soil groups are described in the following paragraphs:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly."

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Percentage of rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

References:

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

Engineering Properties–El Paso County Area, Colorado														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
93—Tomah-Crowfoot complex, 8 to 15 percent slopes														
Tomah	50	B	0-10	Loamy sand	SM	A-2-4	0-0-0	0-0-0	100-100-100	100-100-100	50-60-70	15-23-30	20-23-25	NP-3-5
			10-22	Coarse sand	SW-SM, SP-SM	A-1, A-2, A-3	0-0-0	0-0-0	100-100-100	100-100-100	45-55-65	5-8-10	—	NP
			22-48	Stratified coarse sand to sandy clay loam	SC-SM, SP-SM, SC, SM	A-1, A-2-4, A-4	0-0-0	0-0-0	85-93-100	80-90-100	35-63-90	5-28-50	20-25-30	NP-5-10
			48-60	Coarse sand, loamy coarse sand	SC-SM, SP-SM, SM	A-1, A-2-4, A-3	0-0-0	0-0-0	85-93-100	80-90-100	35-53-70	5-15-25	20-23-25	NP-3-5
Crowfoot	30	B	0-12	Loamy sand	SM	A-1, A-2-4	0-0-0	0-5-10	85-93-100	80-90-100	40-58-75	15-23-30	20-23-25	NP-3-5
			12-23	Sand	SP-SM, SM	A-1, A-2, A-3	0-0-0	0-5-10	85-93-100	80-90-100	40-55-70	5-10-15	—	NP
			23-36	Sandy clay loam	SC-SM, CL-ML, SC	A-2-4, A-4, A-6	0-0-0	0-5-10	85-93-100	80-90-100	65-78-90	30-43-55	25-30-35	5-10-15
			36-60	Coarse sand, loamy coarse sand	SP-SM, SM	A-1, A-2	0-0-0	0-5-10	85-93-100	80-90-100	35-53-70	5-15-25	—	NP

Data Source Information

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 20, Sep 2, 2022

Engineering Properties--El Paso County Area, Colorado														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
68—Peyton-Pring complex, 3 to 8 percent slopes														
Peyton	40	B	0-12	Sandy loam	SC-SM, SC	A-2-4, A-4	0-0-0	0-0-0	85-93-100	80-90-100	50-60-70	25-33-40	25-28-30	5-8-10
			12-25	Sandy clay loam	SC-SM, CL-ML, CL, SC	A-2, A-4, A-6	0-0-0	0-0-0	85-93-100	80-90-100	65-78-90	30-43-55	25-30-35	5-10-15
			25-35	Sandy clay loam, sandy loam	SC-SM, CL-ML, SC	A-2, A-4	0-0-0	0-0-0	85-93-100	80-90-100	50-70-90	25-40-55	25-28-30	5-8-10
			35-60	Sandy loam	SM	A-2-4, A-4	0-0-0	0-0-0	85-93-100	80-90-100	50-60-70	25-33-40	20-23-25	NP-3-5
Pring	30	B	0-14	Coarse sandy loam	SC-SM, SC	A-1, A-2-4	0-0-0	0-5-10	85-93-100	80-90-100	45-55-65	20-25-30	25-28-30	5-8-10
			14-60	Gravelly sandy loam	GC-GM, SC-SM, SM	A-1-b, A-2	0-0-0	0-5-10	60-80-100	55-78-100	35-43-50	20-25-30	20-23-25	NP-3-5
71—Pring coarse sandy loam, 3 to 8 percent slopes														
Pring	85	B	0-14	Coarse sandy loam	SC-SM, SC	A-1, A-2-4	0-0-0	0-5-10	85-93-100	80-90-100	45-55-65	20-25-30	25-28-30	5-8-10
			14-60	Gravelly sandy loam	GC-GM, SC-SM, SM	A-1-b, A-2	0-0-0	0-5-10	60-80-100	55-78-100	35-43-50	20-25-30	20-23-25	NP-3-5

Report—Engineering Properties

Absence of an entry indicates that the data were not estimated. The asterisk "*" denotes the representative texture; other possible textures follow the dash. The criteria for determining the hydrologic soil group for individual soil components is found in the National Engineering Handbook, Chapter 7 issued May 2007(http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba). Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Engineering Properties–El Paso County Area, Colorado

Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
44—Kutch clay loam, 3 to 5 percent slopes														
Kutch	98	C	0-10	Clay loam	CL	A-6	0-0-0	0-5-10	85-93-100	80-90-100	75-88-100	60-70-80	30-33-35	10-13-15
			10-17	Clay, clay loam	CL	A-6, A-7-6	0-0-0	0-8-15	85-93-100	80-90-100	75-88-100	60-78-95	35-43-50	15-20-25
			17-28	Clay loam, clay	CL	A-6, A-7-6	0-0-0	0-8-15	85-93-100	80-90-100	75-88-100	60-78-95	35-43-50	15-20-25
			28-36	Extremely gravelly clay loam	CL	A-6	0-0-0	0-3-5	85-93-100	80-90-100	75-88-100	60-70-80	30-35-40	10-15-20
			36-40	Weathered bedrock	—	—	—	—	—	—	—	—	—	—

(No Subject)

From: Shawna (shawnamph@aol.com)

To: shawnamph@aol.com

Date: Monday, March 6, 2023 at 03:18 PM MST

Patrick and Aiza Laugerude
15330 LEATHER CHAPS DR COLORADO SPRINGS CO, 80921-2419

Sarah Atwood
701 AIRMAN LANE COLORADO SPRINGS CO, 80921
[515 Struthers Loop]

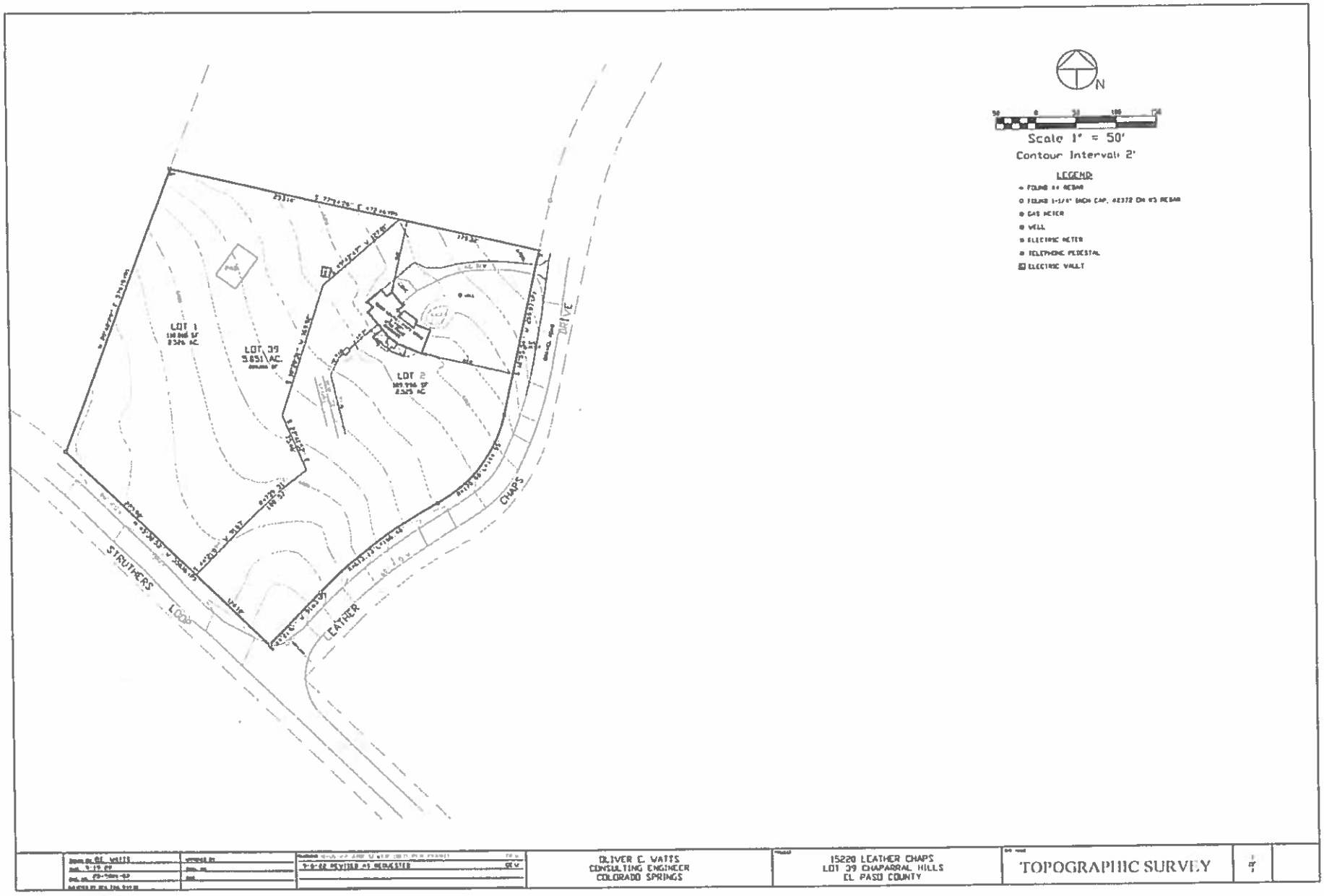
Philip and Valerie Sexton
490 STRUTHERS LOOP COLORADO SPRINGS CO, 80921-2410

Eugene and Janet Rose
345 LARIAT LN COLORADO SPRINGS CO, 80921-2421

Clarence and Jennifer Welch
340 LARIAT LN COLORADO SPRINGS CO, 80921-2421

Thank you,

Shawna Swierc
Mesa Plumbing & Heating, Inc
719.640.1417



			OLIVER E. WATTS CONSULTING ENGINEER COLORADO SPRINGS	15220 LEATHER CHAPS LOT 39 CHAPARRAL HILLS EL PASO COUNTY	TOPOGRAPHIC SURVEY

wastewater Info 1 - 15

JDM CONSULTING, LLC

P.O. Box 26137, Colorado Springs, CO 80936
p. 719.251.5291 267.261.1825
e. daniel@jdmengineers.com jared@jdmengineers.com

Property Address:	15220 Leather Chaps Drive Colorado Springs, CO 80921	Date:	November 4, 2022
		Job #:	22-244
Endorsement:	Daniel J. Mizicko, P.E.		

Purpose of Investigation: To determine the subsurface suitably for an Onsite Wastewater Treatment System (OWTS) as well as outline design criteria for a future Soil Treatment Area (STA) through both visual and tactile evaluations of the onsite subsurface soil. The onsite evaluation and associated soil testing were conducted in compliance with the El Paso County Board of Health OWTS Regulations

Profile Pit Summary	
Profile Pit #1	
Lat:	39° 3'10.62"N
Long:	104°50'9.33"W
0 - 0'-3"	Topsoil
0'-3" - 2'-6"	Soil Type 4
2'-6" - 6'-0"	Soil Type 4
6'-0" - 8'-0"	Soil Type 2
-	-
Profile Pit #2	
Lat:	39° 3'10.75"N
Long:	104°50'10.14"W
0 - 0'-3"	Topsoil
0'-3" - 1'-9"	Soil Type 4
1'-9" - 2'-6"	Soil Type 4
2'-6" - 8'-0"	Soil Type 2
-	-
Existing Well (if applicable)	
Lat:	39° 3'11.59"N
Long:	104°50'4.86"W

Profile Pit #1		Profile Pit #2	
	Topsoil		Topsoil
1'-0"		1'-0"	
2'-0"		2'-0"	
3'-0"		3'-0"	
4'-0"		4'-0"	
5'-0"		5'-0"	
6'-0"		6'-0"	
7'-0"		7'-0"	
8'-0"		8'-0"	
9'-0"		9'-0"	

Recommendations:

An Engineered On-Site Wastewater Treatment System (OWTS) will be required for this site due to: (a) Soil Type 4 identified in the treatment zone of Profile Pit #1 & Profile Pit #2. (b) Redoximorphic features (groundwater and/or seasonally saturated soils) identified in Profile Pit #1 & Profile Pit #2. A mounded sand filter meeting the requirements in Chapter 8 of the El Paso County Board of Health On-Site Wastewater Treatment Systems (OWTS) Regulations is recommended. Soil Type 4 (LTAR = 0.20, Treatment Level 1) will be the most restrictive soil in the treatment zone of the soil treatment area.

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Site Map:

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e. daniel@jdmengineers.com jared@jdmengineers.com

Job Number:	22-241	Test Pit#	Pit #1
Date of Evaluation:	October 31, 2022	Total Depth:	8'-0"
Evaluator:	J.Dumke	STA Slope and Direction:	S 60° W @ +/-4%
Excavator:	Homeowner	Latitude:	39° 3'10.62"N
Equipment:	Mini Excavator	Longitude:	104°50'9.33"W

15220 Leather Chaps Drive, 80921

Depth Below Grade	Sample Depth	USDA Soil texture	USDA Soil Structure - Type	USDA Soil Structure Grade	Soil Type	Redoximorphic Features Present (Y/N)
0 - 0'-3"	Topsoil					
0'-3" - 2'-6"	2'-0"	Clay	Blocky	Strong	Soil Type 4	No
2'-6" - 6'-0"	-	Clay	Blocky	Strong	Soil Type 4	Yes*
6'-0" - 8'-0"	7'-0"	Sandy Loam	Granular	Moderate	Soil Type 2	Yes*
-	-	-	-	-	-	-

Total Depth =	8'-0"			Comments:
Groundwater Evidence?	Yes	If yes, what depth?	2'-6"	*Redoximorphic features (groundwater and/or seasonally saturated soils) identified in Profile Pit #1. Profile Pits were excavated prior to our visit on site.
Bedrock Encountered?	No	If yes, what depth?	-	
Is Dawson Arkose (DA) or Cemented Sands (CS) Present?	No			
Is the material fractured and/or Jointed	No			
If Yes, what is the cementation class?	-			
Is the Dawson Arkose or Cemented Sand a limiting layer?	-			
Type "R" Soils (High Rock Content) Encountered?	No			

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Job Number:	22-241	Test Pit#	Pit #2
Date of Evaluation:	October 31, 2022	Total Depth:	8'-0"
Evaluator:	J.Dumke	STA Slope and Direction:	S 60° W @ +/-4%
Excavator:	Homeowner	Latitude:	39° 3'10.75"N
Equipment:	Mini Excavator	Longitude:	104°50'10.14"W

15220 Leather Chaps Drive, 80921

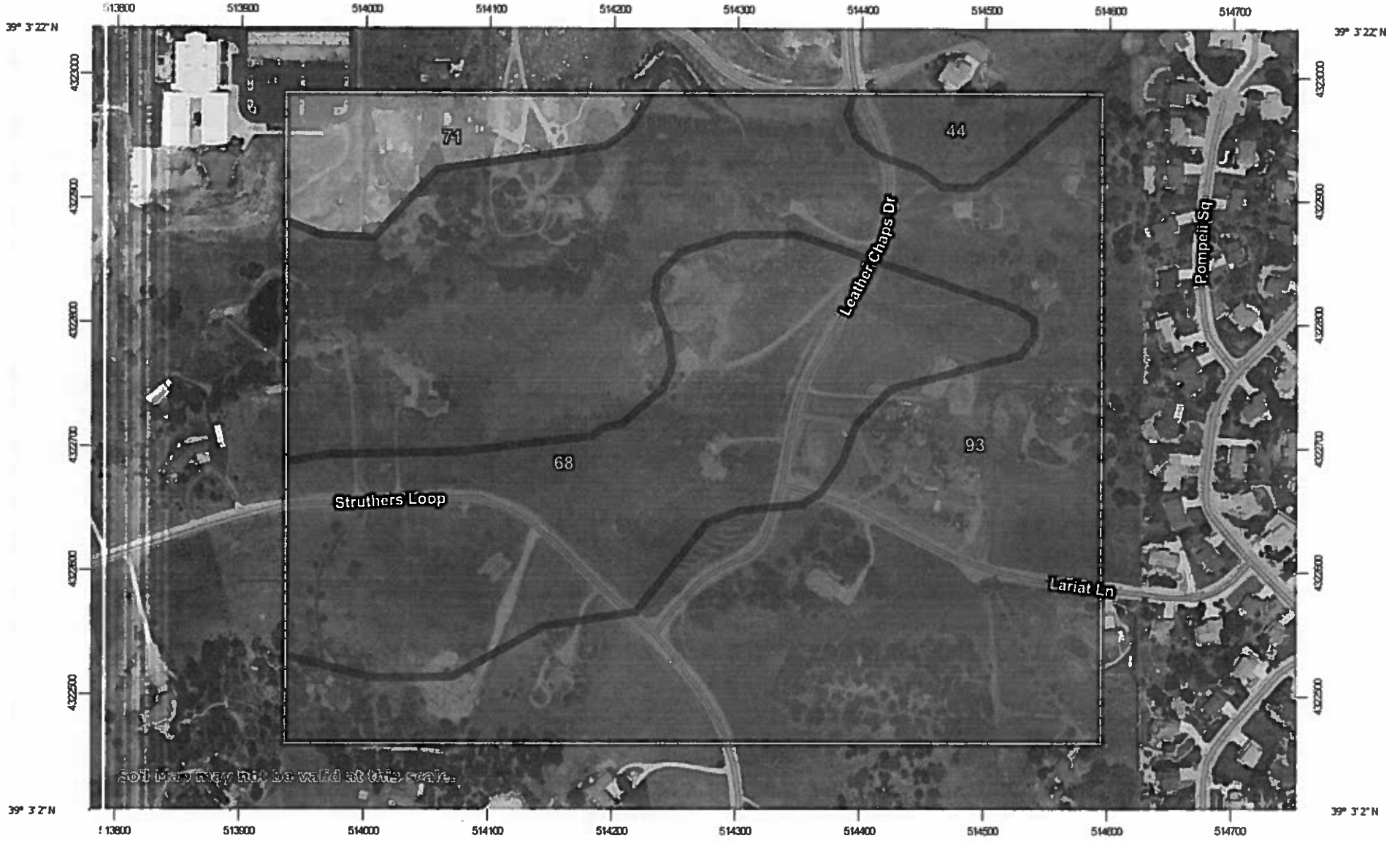
Depth Below Grade	Sample Depth	USDA Soil texture	USDA Soil Structure - Type	USDA Soil Structure Grade	Soil Type	Redoximorphic Features Present (Y/N)
0 - 0'-3"	Topsoil					
0'-3" - 1'-9"	-	Clay	Blocky	Strong	Soil Type 4	No
1'-9" - 2'-6"	-	Clay	Blocky	Strong	Soil Type 4	Yes*
2'-6" - 8'-0"	-	Sandy Loam	Granular	Moderate	Soil Type 2	Yes*
-	-	-	-	-	-	-

Total Depth =	8'-0"		
Groundwater Evidence?	Yes	If yes, what depth?	1'-9"
Bedrock Encountered?	No	If yes, what depth?	-
Is Dawson Arkose (DA) or Cemented Sands (CS) Present?	No		
Is the material fractured and/or Jointed	No		
If Yes, what is the cementation class?	-		
Is the Dawson Arkose or Cemented Sand a limiting layer?	-		
Type "R" Soils (High Rock Content) Encountered?	No		

Comments:

*Redoximorphic features (groundwater and/or seasonally saturated soils) identified in Profile Pit #2.

Profile Pits were excavated prior to our visit on site.


104° 50' 26" W
104° 49' 46" W
513800
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39° 3' 22" N
39° 3' 2" N
4322900
4322800
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71
44
68
93
Leather Chaps Dr
Pompeii Sq
Struthers Loop
Lariat Ln
Soil Map may not be valid at this scale.
Map Scale: 1:4,450 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0 50 100 200 300
Feet
0 200 400 800 1200
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Very limited
- Somewhat limited
- Not limited
- Not rated or not available

Soil Rating Lines
- Very limited
- Somewhat limited
- Not limited
- Not rated or not available

Soil Rating Points
- Very limited
- Somewhat limited
- Not limited
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 20, Sep 2, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 9, 2021—Jun 12, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Septic Tank Absorption Fields

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
44	Kutch clay loam, 3 to 5 percent slopes	Very limited	Kutch (98%)	Slow water movement (1.00)	2.4	2.8%
				Depth to bedrock (1.00)		
68	Peyton-Pring complex, 3 to 8 percent slopes	Very limited	Peyton (40%)	Slow water movement (1.00)	23.5	27.4%
71	Pring coarse sandy loam, 3 to 8 percent slopes	Not limited	Pring (85%)		5.1	6.0%
93	Tomah-Crowfoot complex, 8 to 15 percent slopes	Very limited	Tomah (50%)	Seepage, bottom layer (1.00)	54.7	63.8%
				Slope (0.63)		
				Slow water movement (0.50)		
			Crowfoot (30%)	Seepage, bottom layer (1.00)		
				Slope (0.63)		
				Slow water movement (0.50)		
Totals for Area of Interest					**85.7**	**100.0%**

Rating	Acres in AOI	Percent of AOI
Very limited	80.6	94.0%
Not limited	5.1	6.0%
Totals for Area of Interest	**85.7**	**100.0%**

Description

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Saturated hydraulic conductivity (Ksat), depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Engineering Properties

This table gives the engineering classifications and the range of engineering properties for the layers of each soil in the survey area.

Hydrologic soil group is a group of soils having similar runoff potential under similar storm and cover conditions. The criteria for determining Hydrologic soil group is found in the National Engineering Handbook, Chapter 7 issued May 2007(http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba). Listing HSGs by soil map unit component and not by soil series is a new concept for the engineers. Past engineering references contained lists of HSGs by soil series. Soil series are continually being defined and redefined, and the list of soil series names changes so frequently as to make the task of maintaining a single national list virtually impossible. Therefore, the criteria is now used to calculate the HSG using the component soil properties and no such national series lists will be maintained. All such references are obsolete and their use should be discontinued. Soil properties that influence runoff potential are those that influence the minimum rate of infiltration for a bare soil after prolonged wetting and when not frozen. These properties are depth to a seasonal high water table, saturated hydraulic conductivity after prolonged wetting, and depth to a layer with a very slow water transmission rate. Changes in soil properties caused by land management or climate changes also cause the hydrologic soil group to change. The influence of ground cover is treated independently. There are four hydrologic soil groups, A, B, C, and D, and three dual groups, A/D, B/D, and C/D. In the dual groups, the first letter is for drained areas and the second letter is for undrained areas.

The four hydrologic soil groups are described in the following paragraphs:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly."

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Percentage of rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

References:

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

Engineering Properties–El Paso County Area, Colorado														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
93—Tomah-Crowfoot complex, 8 to 15 percent slopes														
Tomah	50	B	0-10	Loamy sand	SM	A-2-4	0- 0- 0	0- 0- 0	100-100 -100	100-100 -100	50-60- 70	15-23- 30	20-23 -25	NP-3 -5
			10-22	Coarse sand	SW-SM, SP-SM	A-1, A-2, A-3	0- 0- 0	0- 0- 0	100-100 -100	100-100 -100	45-55- 65	5- 8- 10	—	NP
			22-48	Stratified coarse sand to sandy clay loam	SC-SM, SP-SM, SC, SM	A-1, A-2-4, A-4	0- 0- 0	0- 0- 0	85-93-100	80-90-100	35-63- 90	5-28- 50	20-25 -30	NP-5 -10
			48-60	Coarse sand, loamy coarse sand	SC-SM, SP-SM, SM	A-1, A-2-4, A-3	0- 0- 0	0- 0- 0	85-93-100	80-90-100	35-53- 70	5-15- 25	20-23 -25	NP-3 -5
Crowfoot	30	B	0-12	Loamy sand	SM	A-1, A-2-4	0- 0- 0	0- 5- 10	85-93-100	80-90-100	40-58- 75	15-23- 30	20-23 -25	NP-3 -5
			12-23	Sand	SP-SM, SM	A-1, A-2, A-3	0- 0- 0	0- 5- 10	85-93-100	80-90-100	40-55- 70	5-10- 15	—	NP
			23-36	Sandy clay loam	SC-SM, CL-ML, SC	A-2-4, A-4, A-6	0- 0- 0	0- 5- 10	85-93-100	80-90-100	65-78- 90	30-43- 55	25-30 -35	5-10-15
			36-60	Coarse sand, loamy coarse sand	SP-SM, SM	A-1, A-2	0- 0- 0	0- 5- 10	85-93-100	80-90-100	35-53- 70	5-15- 25	—	NP

Data Source Information

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 20, Sep 2, 2022

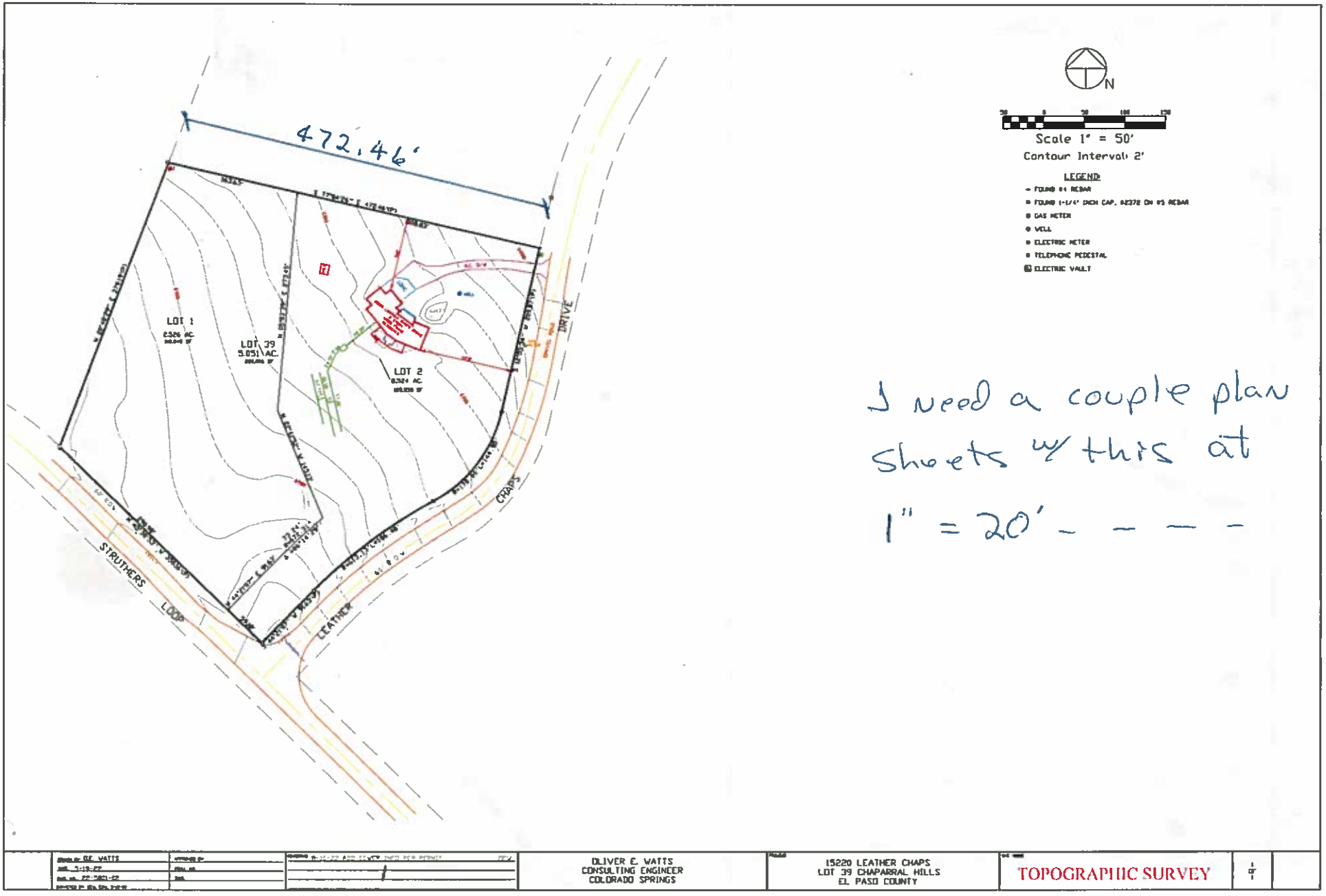
Engineering Properties–El Paso County Area, Colorado														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
68—Peyton-Pring complex, 3 to 8 percent slopes														
Peyton	40	B	0-12	Sandy loam	SC-SM, SC	A-2-4, A-4	0- 0- 0	0- 0- 0	85-93-100	80-90-100	50-60-70	25-33-40	25-28-30	5-8 -10
			12-25	Sandy clay loam	SC-SM, CL-ML, CL, SC	A-2, A-4, A-6	0- 0- 0	0- 0- 0	85-93-100	80-90-100	65-78-90	30-43-55	25-30-35	5-10-15
			25-35	Sandy clay loam, sandy loam	SC-SM, CL-ML, SC	A-2, A-4	0- 0- 0	0- 0- 0	85-93-100	80-90-100	50-70-90	25-40-55	25-28-30	5-8 -10
			35-60	Sandy loam	SM	A-2-4, A-4	0- 0- 0	0- 0- 0	85-93-100	80-90-100	50-60-70	25-33-40	20-23-25	NP-3 -5
Pring	30	B	0-14	Coarse sandy loam	SC-SM, SC	A-1, A-2-4	0- 0- 0	0- 5- 10	85-93-100	80-90-100	45-55-65	20-25-30	25-28-30	5-8 -10
			14-60	Gravelly sandy loam	GC-GM, SC-SM, SM	A-1-b, A-2	0- 0- 0	0- 5- 10	60-80-100	55-78-100	35-43-50	20-25-30	20-23-25	NP-3 -5
71—Pring coarse sandy loam, 3 to 8 percent slopes														
Pring	85	B	0-14	Coarse sandy loam	SC-SM, SC	A-1, A-2-4	0- 0- 0	0- 5- 10	85-93-100	80-90-100	45-55-65	20-25-30	25-28-30	5-8 -10
			14-60	Gravelly sandy loam	GC-GM, SC-SM, SM	A-1-b, A-2	0- 0- 0	0- 5- 10	60-80-100	55-78-100	35-43-50	20-25-30	20-23-25	NP-3 -5

Report—Engineering Properties

Absence of an entry indicates that the data were not estimated. The asterisk '*' denotes the representative texture; other possible textures follow the dash. The criteria for determining the hydrologic soil group for individual soil components is found in the National Engineering Handbook, Chapter 7 issued May 2007(http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba). Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Engineering Properties–El Paso County Area, Colorado

Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
44—Kutch clay loam, 3 to 5 percent slopes														
Kutch	98	C	0-10	Clay loam	CL	A-6	0- 0- 0	0- 5- 10	85-93-100	80-90-100	75-88-100	60-70-80	30-33-35	10-13-15
			10-17	Clay, clay loam	CL	A-6, A-7-6	0- 0- 0	0- 8- 15	85-93-100	80-90-100	75-88-100	60-78-95	35-43-50	15-20-25
			17-28	Clay loam, clay	CL	A-6, A-7-6	0- 0- 0	0- 8- 15	85-93-100	80-90-100	75-88-100	60-78-95	35-43-50	15-20-25
			28-36	Extremely gravelly clay loam	CL	A-6	0- 0- 0	0- 3- 5	85-93-100	80-90-100	75-88-100	60-70-80	30-35-40	10-15-20
			36-40	Weathered bedrock	—	—	—	—	—	—	—	—	—	—



I need a couple plan sheets w/ this at 1" = 20' - - - -

			OLIVER E. WATTS CONSULTING ENGINEER COLORADO SPRINGS	15220 LEATHER CHAPS LOT 39 CHAPARRAL HILLS EL PASO COUNTY	TOPOGRAPHIC SURVEY

EL PASO COUNTY HEALTH DEPARTMENT
INDIVIDUAL SEWAGE DISPOSAL INSPECTION FORM

Permit # 05408
Date 8/4/89

APPROVED YES ✓ NO ____ ENVIRONMENTALIST Krueger

Address 15220 Leather Chaps Dr. Owner CRUISE

Legal Description LOT 39 CHAPPARAL HILLS

Residence ✓ Commerical ____ # of Bedrooms 3 System Installer SUN CONST

SEPTIC TANK

Commercial ✓ Noncommercial ____ Measurements: L ____ W ____ WD ____

Construction Material CONCRETE Liq. Cap. 1250

DISPOSAL FIELD

Exc. Depth 18" Width ____ Total Length 241' Sq. Ft. 723

Rock ____ Depth ____ Under ____ Over ____

Rockless System: Diameter of Pipe 10"

Seepage Pits: Number of rings ____ Lining Material ____ Sq. Ft. ____

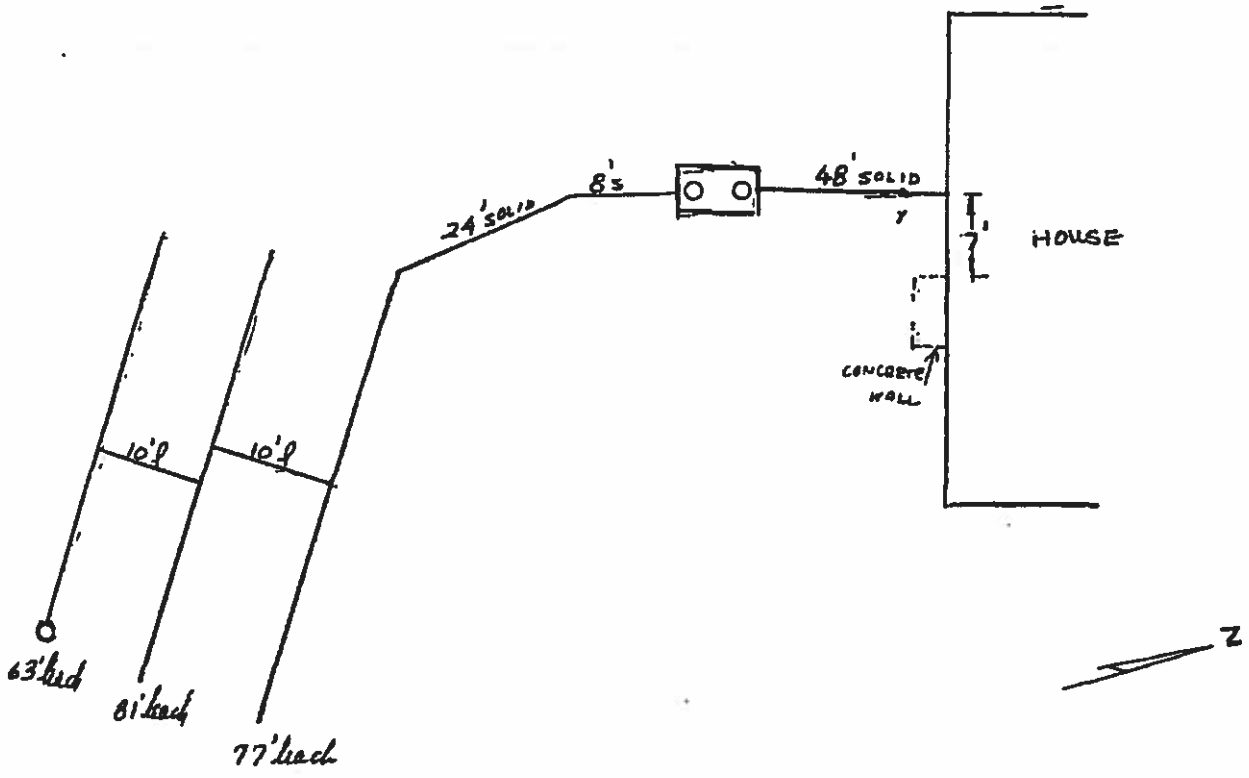
Working Depth ____ Width ____

Engineer Design Yes ____ Type ____ Engineer Approval Letter Yes ____

Well 50 feet from Tank ____ 100 feet from leach field ____

Well Installed at Time of Septic System Inspection Yes ____ No ✓ Public Water ____

WELL NOT DRILLED AT INSPECTION



Acres 5

Water Supply well

EL PASO COUNTY • COUNTY HEALTH DEPARTMENT
501 North Foote Avenue • Colorado Springs, Colorado • 578-3125

Permit No. 05408

Receipt No. 2274

PERMIT

TO CONSTRUCT, ALTER, REPAIR or MODIFY ANY INDIVIDUAL SEWAGE DISPOSAL SYSTEM

Issued To BENEDICT & CLARA CRUISE Date 6-30-89

Address of Property 15220 LEATHER CHAPS DRIVE, LOT 39, CHAPPARAL HILLS Phone 633-3852

(Permit valid at this address only)

Sewage-Disposal System work to be performed by SUN CONSTRUCTION Phone _____

This Permit is issued in accordance with 25-10-106 Colorado Revised Statutes 1973, as amended. PERMIT EXPIRES upon completion-installation of sewage-disposal system or at the end of twelve (12) months from date of issue—whichever occurs first—(unless work is in progress). This permit is revokable if all stated requirements are not met:

—THIS PERMIT DOES NOT DENOTE APPROVAL OF ZONING AND ACREAGE REQUIREMENTS—

$150.00
PERMIT FEE (NOT REFUNDABLE)

John B. Rumble, M.D.
DIRECTOR, COUNTY HEALTH DEPARTMENT

6-30-90
DATE OF EXPIRATION

Dell Brockhouse
ENVIRONMENTALIST

NOTE: LEAVE ENTIRE SEWAGE-DISPOSAL SYSTEM UNCOVERED FOR FINAL INSPECTION. 48 HOUR ADVANCE NOTICE REQUIRED.

SEPTIC TANK:	TRENCH SYSTEM:	BED SYSTEM:	SEEPAGE PIT SYSTEM:
	total square feet 714		total square feet _____
	357 ft. of trench 24 inches wide		
1250 gallons	238 ft. of trench 36 inches wide	total square feet _____	_____ rings or _____ diam. x _____ w/d

NOTES: BEDROCK AT 5 1/2 FEET. BOTTOM OF LEACH FIELD MUST BE AT LEAST 4 FEET ABOVE BEDROCK. MAXIMUM 1 1/2 FEET DEPTH OF TRENCH. MINIMUM DISTANCE MUST BE MET.

The Health Office shall assume no responsibility in case of failure or inadequacy of a sewage-disposal system, beyond consulting in good faith with the property owner or representative. Free access to the property shall be authorized at reasonable times for the purpose of making such inspections as are necessary to determine compliance with requirements of this law.

El Paso County Health Department
501 North Foote Avenue
Colorado Springs, CO 80909-4598
(303) 578-3125

APPLICATION FOR A PERMIT TO CONSTRUCT, REMODEL, OR INSTALL A SEWAGE DISPOSAL SYSTEM

NAME OF OWNER BENEDICT AND CLARA CRUISE HOME PHONE 528-5136 WORK PHONE 633-3852

ADDRESS OF PROPERTY 15220 LEATHER CHAPS DR. DATE 6/27/89

LEGAL DESCRIPTION OF PROPERTY LOT 39 CHAPPARAL HILLS SUBDIVISION

TAX SCHEDULE NUMBER 7136O-02-004 SYSTEM CONTRACTOR Sun Coast. PHONE

OWNER'S ADDRESS IF DIFFERENT 840 VINDICATOR DR. #106 COS 80919

TYPE OF HOUSE CONSTRUCTION SINGLE FAMILY SOURCE AND TYPE OF WATER SUPPLY WELL

SIZE OF LOT 5 ACRES MAXIMUM POTENTIAL NUMBER OF BEDROOMS 3 BASEMENT (yes or no) YES

PERCOLATION TEST RESULTS ATTACHED (yes or no) YES

A plot plan and accompanying information are essential; it may be drawn on the back of this application or be attached. Please include by measured distance the location of wells including neighbors' wells, springs, water supply lines, cisterns, buildings, proposed structures, property lines, property dimensions, subsoil drains, lakes, ponds, water courses, streams, and dry gulches. Please show the location of the proposed septic system by directions and distances from actual and/or proposed dwellings, structures, or fixed reference objects. Give complete directions to the property from major highways. (ANSWER QUESTIONS ON BACK OF FORM).

Applicant acknowledges that the completeness of the application is conditional upon such further mandatory and additional tests and reports as may be required by the department to be made and furnished by the applicant for purposes of evaluation of the application; and issuance of the permit is subject to such terms and conditions as deemed necessary to ensure compliance with rules and regulations adopted under Article 10, Title 25, C.R.S. 1973 as amended. The undersigned hereby certifies that all statements made, information and reports submitted by the applicant are or will be represented to be true and correct to the best of my knowlege and belief and are designed to be relied on by the El Paso County Health Dept. in evaluating the same for purposes of issuing the permit applied for herein. I further understand that any falsification or misrepresentation may result in the denial of the application or revocation of any permit granted based upon said application and in legal action for perjury as provided by law.

357' @ 24"
238' @ 36"

SIGNATURE Harold M. Z...

HEALTH DEPARTMENT USE ONLY

PERMIT NUMBER 05408 RECEIPT NUMBER 2274 DATE TO LAND USE DEPARTMENT Attached

ABSORPTION AREA 714 TANK CAPACITY 1250 DATE OF SITE INSPECTION

REMARKS:

Bedrock at 5½ ft. bottom of leach field must be at least 4 ft above bedrock. mound 1½ ft. depth of trench minimum distance must be met

APPLICATION IS APPROVED (X) DENIED ( ) DATE 6-30-89 ENVIRONMENTALIST Dale Blackhurst

ANSWER THE FOLLOWING ITEMS AND/OR INCLUDE ON PLOT PLAN.

PROPERTY LINES PP
PROPERTY DIMENSIONS PP
LOCATION OF PROPOSED SEPTIC SYSTEM PP
LOCATION OF WELL PP
LOCATION OF ADJACENT WELLS APPROX. 250'
BUILDINGS PP
PROPOSED BUILDINGS PP
WATER SUPPLY LINE N/A
CISTERNS N/A
SPRINGS N/A
LAKES N/A
PONDS N/A
WATER COURSES N/A
STREAMS N/A
DRY GULCHES N/A
SUBSOIL DRAINS N/A

DIRECTIONS TO PROPERTY FROM MAIN HIGHWAYS:

North - I - 25 to Baptist Rd.
Baptist Rd. east to leather Chaps Dr.
Leather Chaps Dr. South to Lot (Right Side of Road)

GEOTECHNICAL SERVICES, INC.
2300 POWERS BUSINESS PLAZA
591-7713

2474 Waynoka Road
Colorado Springs, CO 80915

Name: Wyndtree Homes, Inc. Address: P. O. Box 1560

City: Monument State: Colorado Zip: 80132 Phone # 481-2258

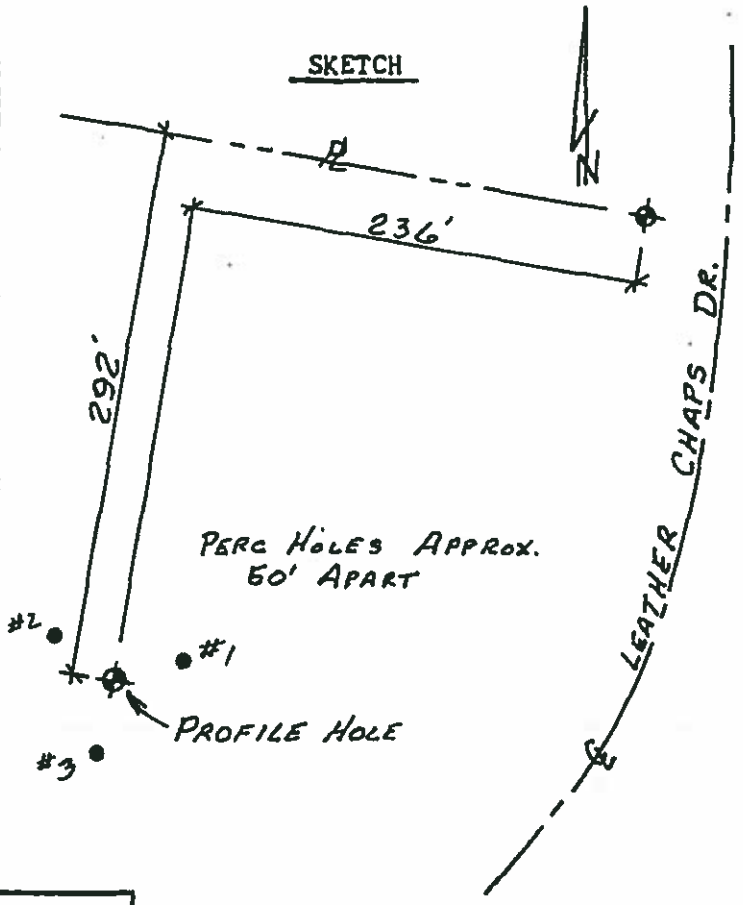
Location of Test: Lot 39, Chaparral Hills County: El Paso

Diameter of Holes 4 inches Date of Test: May 26, 1989

Job No. 817DCS17

TIME	HOLE #1 Depth: 32½		HOLE #2 Depth: 33½		HOLE #3 Depth: 32	
	IN	DROP	IN	DROP	IN	DROP
11:50	20		21		20	
12:00		5/8		2 7/16		3 9/16
12:10		1/2		1 7/8		1 5/8
12:20		7/16		1 1/4		1 1/8
12:30		3/8		1 1/16		15/16
12:40		3/8		15/16		13/16
12:50		1/4		7/8		3/4
1:00		1/4		13/16		3/4
1:10		1/4		13/16		11/16
	Min/in 40		Min/in 12		Min/in 15	

SKETCH



AVERAGE: Min/In = 22**

PROFILE HOLE

Depth	Soil Description
0-2½'	Top soil (sandy)
2½-5½'	Sand, fine-med. grn., clayey, moist, lt.
	brn.-rust
5½-7½'	Sandstone, med. grn., slightly clayey to
	clayey, med. hard, moist, grey-rust
7½-10'	Claystone bedrock, silty & sandy, med.
	hard, moist, grey

Groundwater None

Bedrock Sandstone @ 5½'

GARY L. HAMACHER REGISTERED 16710 PROFESSIONAL ENGINEER STATE OF COLORADO

Gary L. Hamacher, P.E.

*NOTE: LEACH FIELD MUST BE A MINIMUM OF 100' FROM ANY WELL!

** Per El Paso County regulations, if a difference of greater than 20 exists between the holes, a weighted average should be used. Normally, this is the average of the larger two values. Therefore, a percolation rate of 28 min./in. should be used for the sizing of the leach field.

EL PASO COUNTY DEPARTMENT OF HEALTH AND ENVIRONMENT
INDIVIDUAL SEWAGE DISPOSAL SYSTEM INSPECTION FORM

Permit # 8134
Date 6/9/94

APPROVED: YES __ NO #7136002004 ENVIRONMENTALIST KRUEGER

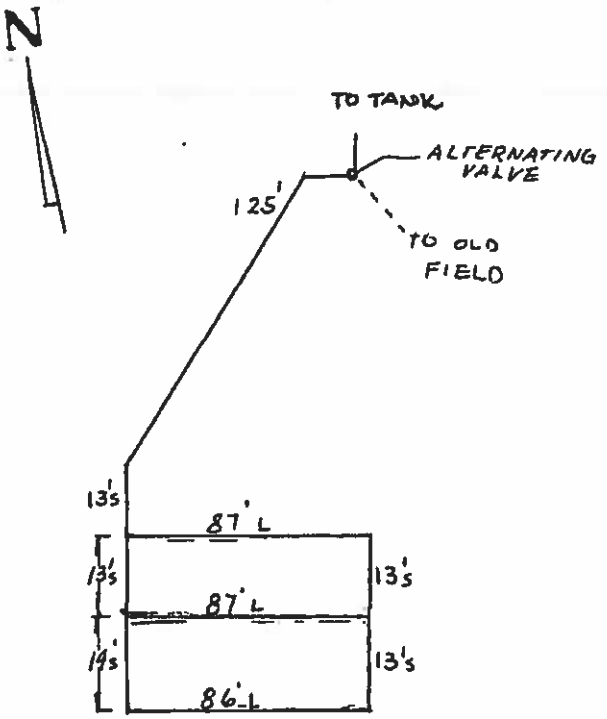
Address 15220 LEATHER CHAPS Owner CRUISE

Legal Description LOT 39 CHAPPARAL HILLS
Residence __, # of bedrooms 3 ; Commercial ____; System Installer SUN CO

SEPTIC TANK: EXISTING
Commercial ____; Noncommercial ____, L ____, W ____, WD ____
Construction Material _____, capacity 1250 gallons.

DISPOSAL FIELD:
Rock Systems:
Trench: depth 24"-36", width 36", total length 260', sq. feet 780
Bed: depth ____, length ____, width ____, sq. feet ____
Rock type RED QUARRY, depth 12", under PVC 6", over PVC 2"
Seepage Pits: # of pits ____, total # of rings ____, working depth(s) ___
size of pit(s) L X W ____, lining material ____, total sq. feet ___
Rockless Systems:
Chamber: Type ____, number of chambers ____, bed ____, trench __
sq. ft./section ____, reduction allowed ____%, sq. ft required ____
total sq. ft. installed ____, depth of installation ____
Engineer Design Y or (N), Designing Engineer _____,
Approval letter provided? Y or N
Well 50 feet from tank (Y) or N 100 feet from leach field (Y) or N
Well installed at time of septic system inspection (Y) or N Public Water __
*Approval will be revoked if in the future the well is found to be within 50 feet of the septic tank and/or 100 feet of the disposal field.

NOTES:



Acres 5 **EL PASO COUNTY • DEPARTMENT OF HEALTH AND ENVIRONMENT** Permit 8134

301 South Union Blvd. • Colorado Springs, Colorado • 578-3125

Water Supply well Receipt No. NO FEE

REPAIR

PERMIT

TO CONSTRUCT, ALTER, REPAIR OR MODIFY ANY INDIVIDUAL SEWAGE DISPOSAL SYSTEM

Issued to BEN GRUISE Date 6-1-94

Address of Property 15220 LEATHER CHAP DRIVE, LOT 39, CHAPPARAL HILLS Phone

(Permit valid at this address only)

Sewage-Disposal System work to be performed by SUN CONSTRUCTION Phone 520-9994

This Permit is issued in accordance with 25-10-106 Colorado Revised Statutes 1973, as amended. PERMIT EXPIRES upon completion-installation of sewage-disposal system or at the end of twelve (12) months from date of issue–whichever occurs first-(unless work is in progress). This permit is revokable if all stated requirements are not met.

–THIS PERMIT DOES NOT DENOTE APPROVAL OF ZONING AND ACREAGE REQUIREMENTS–

NO FEE - REPAIR
PERMIT FEE (NOT REFUNDABLE)

6-1-95
DATE OF EXPIRATION

J. Bruce, M.D.
DIRECTOR, DEPARTMENT OF HEALTH AND ENVIRONMENT

D. Wedlowski for D. Kruse
ENVIRONMENTALIST

NOTE: LEAVE ENTIRE SEWAGE-DISPOSAL SYSTEM UNCOVERED FOR FINAL INSPECTION. 48 HOUR ADVANCE NOTICE REQUIRED.

SEPTIC TANK:	TRENCH SYSTEM:	BED SYSTEM:	SEEPAGE PIT SYSTEM:
EXISTING gallons	total square feet *764 ft. of trench inches wide ft. of trench inches wide	total square feet	total square feet rings or diam.x w/d

NOTES: UTILIZE EXISTING LEACH AS BACKUP IF POSSIBLE. MEET DISTANCE REQUIREMENT STAY IN PERC TEST LOCATION. *RECOMMEND ADDITIONAL 60 PER CENT.

The Health Office shall assume no responsibility in case of failure or inadequacy of a sewage-disposal system, beyond consulting in good faith with the property owner or representative. Free access to the property shall be authorized at reasonable time for the purpose of making such inspections as are necessary to determine compliance with requirements of this law.

EL PASO COUNTY DEPARTMENT OF HEALTH AND ENVIRONMENT
301 South Union Boulevard
Colorado Springs, CO 80910-3123

Ripon

APPLICATION FOR A PERMIT TO CONSTRUCT, REMODEL, OR INSTALL A SEWAGE DISPOSAL SYSTEM

Name of Owner Ben Cruise Daytime Phone _____

Address of Property 15220 Leather Chap Rise Date 10/12/94

Legal Description of Property Lot 39 Chaparral Hills

Tax Schedule Number _____ Septic Contractor/Phone SUN Const. Inc 520-9994

Type of House Construction Frame Source of Water Well

Size of Lot 5 Acre Basement (Y or N) Percolation Test Attached (Y or N)

MAXIMUM POTENTIAL NUMBER OF BEDROOMS three

I have supplied a plot plan as described on the back of this form. I acknowledge the completeness of the application is conditional upon such further mandatory & additional tests & reports as may be required by the Department to be made & furnished by the applicant for purposes of evaluating the application, & issuance of the permit is subject to such terms & conditions as deemed necessary to ensure compliance with rules & regulations adopted pursuant to C.R.S. 1973, 10-25-101 et. seq. I hereby certify all statements made, information and reports submitted by me are or will be represented to be true & correct to the best of my knowledge & belief, & are designed to be relied on by the El Paso County Department of Health in evaluating the same for purposes of issuing the permit applied for herein. I further understand any falsification or misrepresentation may result in the denial of the application or revocation of any permit granted based upon said application & in legal action for perjury as provided by law.

OWNER'S SIGNATURE Ben Cruise

****

DEPARTMENT OF HEALTH USE ONLY

Absorption Area *764* Tank Capacity EXISTING Date/Site Inspection ✓

Remarks: UTILIZE EXISTING LEACH AS BACKUP IF POSSIBLE
MEET DISTANCE REQUIREMENTS, STAY IN PERC. TEST LOCATION
* RECOMMEND ADDITIONAL 60% (REPAIR)

Application is (+ approved ( ) denied

Environmentalist Lauryn Date 5/25/94

****

Permit # 8134 Receipt # None Date to Planning Dept N/A

PHS 10/93

PROPERTY AND PERC HOLES MUST BE CLEARLY MARKED/POSTED

The following information must be on your plot plan.
Please check ( ) the items that apply.

( ) Property Lines
( ) Property Dimensions
( ) Proposed Septic System Site
( ) Well(s)
( ) Adjacent Well(s)
( ) Building(s)
( ) Proposed Building(s)
( ) Water Line
( ) Cistern
( ) Subsoil Drain(s)

Are any of these within 100 feet of your proposed septic system (including adjoining property)? Also draw on the plot plan.

Spring(s) N/A
Lake(s) N/A
Pond(s) N/A
Stream(s) N/A
Dry Gulch(s) N/A
Natural Drainage Course(s) _____

Give complete directions to the property from a main highway.

I-25 To Baptist Rd East → South to Leather Chap Drive

EXCAVATION & SEPTIC SERVICES, INC.
3220 N. Nevada Ave.
Colorado Springs, CO 80907
719-475-2252

15220 Leather Chap
7136Ø02ØØ4

E
6-9-94

SOIL PERCOLATION DATA SHEET

DATE: May 19, 1994

Client Name: Mr. Ben Cruise
Client Address: 15220 Leather Chap, Colorado Springs, CO 80921 **Telephone: 719-481-253**
County: ElPaso **Location Of Test: SAM**

No. Acres: 5 **Water Supply: Well**

PERCOLATION RATE MEASUREMENT RESULTS

ITEM NO.	Hole Depth	TIME: 6:10	DEPTH TIME: 6:25	TO TIME: 6:40	WATER TIME: 6:55	Last Drop	Min Per Inch:
#1	36"	20 1/4	20 11/16	21 1/8	21 9/16	9/16	34.28
#2	36"	21 1/2	21 15/16	22 3/8	22 13/16	7/16	34.28
#3	36"	22 5/8	23 3/16	23 3/4	24 5/16	9/16	26.66

AVERAGE:31.7

PROFILE:

#4 DEPTH	SOIL DESCRIPTION	Ground Water: N
0" to 13"	Topsoil	Bedrock: Non
13" to 27"	Fine Course Sand w/Some Clay	Grade of Site: 3% DN to
27" to 58"	Lite Brown Fine Sand w/Trace Clay	
58" to 102"	Fine Silty Sand w/Moderate Clay - Damp Hard Pack	

REMARKS: N.T.S. DIAGRAM