



Prevent • Promote • Protect

Environmental Health Division

1675 W. Garden of the Gods Rd., Suite 2044
Colorado Springs, CO 80907
(719) 578-3199 *phone*
(719) 575-8664 *fax*
www.elpasocountyhealth.org

**CONVENTIONAL ON-SITE WASTEWATER TREATMENT SYSTEM
FINAL INSPECTION FORM**

P

On-site ID: ON0050297

Tax schedule(APN) #: 4403005002

Permit Type: New

Environmental Health Specialist: Kevin Bolinsky

Final Inspection Date: 03.26.2020

Approved: Yes

Residential Property Information:

Owner: Kevin Dickerson

Address: 1765 Teri Lee Dr Peyton, CO 80831

Approved No. Bedrooms: 6

Water supply: Well

Well Installation verified: 03.26.2020

Well Location GPS: 38° 51' 27" N, 104° 32' 13" W

Approval will be revoked if in the future any well is found to be within 50 feet of the septic tank and/or 100 feet of the soil treatment area.

Minimum System Requirements:

Soil (in-situ) Type: 2

LTAR (In-situ soil): 0.6

Limiting Layer:

Groundwater: None

Bedrock: None

OWTS Tank:

Capacity (gallons): 1750

OWTS Pump Tank:

Capacity (gallons): N/A

Soil Treatment Area (STA):

Sq. Ft. (10-1): 1125

Sq. Ft. (10-2): 1125

Sq. Ft. (10-3): 788

Sq. Ft. (with Diverter Valve): NA

Final system installation:

Licensed Installer: Tier II

Installer: Mid Colorado Construction

Treatment Level: 1

OWTS Tank: GPS Location: 38° 51' 24" N, 104° 32' 11" W

Tank Type: New Poly

Capacity (gallon): 1500 & 1000 in series (2500)

OWTS Pump Tank:

Tank Type: NA

Capacity (gallon): N/A

Audio/Visual Alarm: NA

OWTS Pump: N/A

Soil Treatment Area (STA):

GPS Location: 38° 51' 24" N, 104° 32' 10" W

Total Sq. Ft installed: 792

Configuration: Trench

Distribution: Gravity

Distribution Media: Chambers

Infiltrative Surface Depth: 24-38"

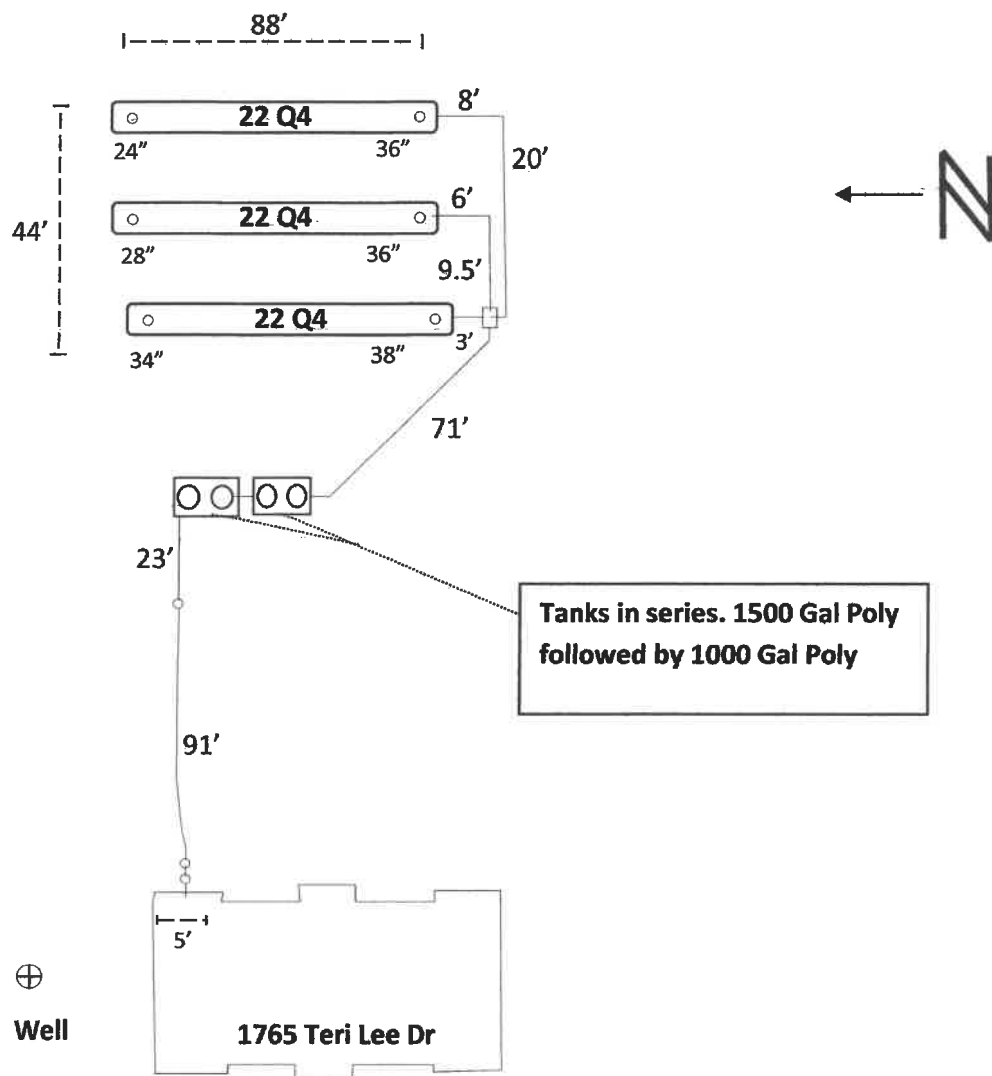
Distribution Area Length: 88'

Distribution Area Width: 41'

Media Type: Q4 Chambers (12 sq/ft)

Total installed: 66

Notes: Not to scale. Sch 40 pipe, *Record* drawing on next page.



Attn: KEVIN DICKERSON
1765 TERRI LEE DR
PEYTON, CO 80831

Notify Environmental Health of any change of ownership, type of business activity, business name, or billing address by calling (719) 578-3199. Failure to notify Environmental Health may result in late penalties, Permit/License denial or revocation, and business closure. PERMITS/LICENSES TO OPERATE AND ANNUAL FEE PAYMENTS ARE NOT TRANSFERABLE. Permits become void on change of ownership. New owners must apply and pay for a new Permit(s)/License(s) prior to beginning operation.



**EL PASO COUNTY PUBLIC HEALTH
ENVIRONMENTAL HEALTH DIVISION**
1675 W. GARDEN OF THE GODS ROAD, SUITE 2044
COLORADO SPRINGS, CO 80907
PHONE: (719) 578-3199 FAX: (719) 578-3188
www.elpasocountyhealth.org

NEW SYSTEM PERMIT - OWTS

Valid From 1/10/2020 To 1/10/2021

PERMITEE :

KEVIN DICKERSON
1765 TERRI LEE DR
PEYTON, CO 80831

Onsite ID: ON0050297

Tax Schedule #: 4403005002

Permit Issue Date: 01/10/2020

Dwelling Type: RESIDENTIAL

OWNER NAME :

KEVIN DICKERSON

of Bedrooms (if Res): 6

Proposed Use (if Comm):

Designed Gallons/Day:

Water Source: PRIVATE WELL

System Installation Requirements:

- A Conventional non-engineered OWTS system to be installed on site, requiring a minimum of Tier I licensed installer to be named prior to final approval.
- System installation includes gravity fed system with d-box to chamber in trenches. Minimum tank requirements 1750 gallon and 788 sq ft of soil treatment area (66 Q4 / 53 Arc 36 chambers required).
- The system must be installed per approved RMG non-engineered design document #171876 signed and dated 10.24.2019, changes to the approved design document must be submitted and approved by Public Health prior to installation.
- All horizontal setbacks must be maintained through system installation. In addition, system must remain completely uncovered, including the tank size, for final inspection.
- The well must be installed at time of final inspection, or final approval will not be given until well installation is verified.

This permit is issued in accordance with 25-10-106 Colorado Revised Statutes. The PERMIT EXPIRES upon completion/installation of the Onsite Wastewater Treatment System, or at the end of twelve (12) months from date of issue, whichever occurs first. If both a Building Permit and an Onsite Wastewater Treatment System Permit are issued for the same property and construction has not commenced prior to the expiration date of the Building Permit, the Onsite Wastewater Permit shall expire at the same time as the Building Permit. This permit is revocable if all stated requirements are not met. The Onsite Wastewater Treatment System must be installed by an El Paso County Licensed System Contractor, or the property owner.

The Health Officer shall assume no responsibility in case of failure or inadequacy of an Onsite Wastewater Treatment System, beyond consulting in good faith with the property owner or representative. Access to the property shall be authorized at reasonable time for the purpose of making such inspections as are necessary to determine compliance with the requirements of this law (permit).

Inspection request line: Call (719) 575-8699 before 3:30 p.m. the business day prior to the requested inspection date.

Attn: KEVIN DICKERSON
1765 TERRI LEE DR
PEYTON, CO 80831

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COLORADO SPRINGS, CO 80907
PHONE: (719) 578-3199 FAX: (719) 578-3188
www.elpasocountyhealth.org

Authorized By: Environmental Health Specialist

530014658 A30017081 0N0050297

APPLICATION FOR AN ON-SITE WASTEWATER TREATMENT SYSTEM PERMIT

Property Information:

Property Address: 1765 Terri Lee Dr City and Zip: Peyton, 80831

Legal Description: LOTS DAVIS RANCH SUB ETL NO. 2

Tax Schedule #: 4403005002 Lot size: _____

Is the property gated: ☐ Yes ☒ No Please provide a gate code if necessary: n/a

Site Located Inside City Limits: ☐ Yes ☒ No Proposed Use: ☒ Residential ☐ Commercial

Water Supply: ☒ Well ☐ Cistern ☐ Municipal Potential Number of Bedrooms: 6

Has a Conditional Acceptance Document been issued for this property: ☐ Yes ☐ No ☐ Unsure

Owner Information: ☒ Primary Contact

Owner: Kevin Dickerson Daytime Phone: 719-313-7033

Owners Mailing Address: PO Box 388, Fountain, CO 80817-0388

Email Address: Kevin.Kd80817@gmail.com Fax #: N/A

General Contractor: Colorado Real Estate Kevin Phone/Email: 719-650-2647

OWTS Installer Information: ☒ Primary Contact Zap coloradomanagement@live.com

System Installer: K&A Mechanical Daytime Phone: 719-492-4020

Email Address: Gary.k@kanda.ws Licensed installer: ☐ Tier 1 ☒ Tier 2

All engineer-design systems must be installed by a Tier 2 licensed installer

email
Permit

Zoning: RR-5

CURRENT FEES AS APPROVED BY THE EL PASO COUNTY BOARD OF HEALTH

All Payments are due at the time of application submittal; by cash, check or major credit card (Visa / MC)

☒ **New Permit:** \$750.00 (EPCPH Charge) + \$147.00 (EPC Planning Dept. Surcharge) + \$23.00 (CDPHE Surcharge) = **\$920.00**

☐ **Modification Permit:** \$675.00 (EPCPH Charge) + \$23.00 (CDPHE Surcharge) = **\$698.00**

☐ **Major Repair Permit:** \$535.00 (EPCPH Charge) + \$23.00 (CDPHE Surcharge) = **\$558.00**

☐ **Minor Repair Permit:** \$245.00 (EPCPH Charge) + \$23.00 (CDPHE Surcharge) = **\$268.00**

Permits expire one year from date of issuance, unless otherwise noted

REQUIRED: Provide a complete written scope of work to be performed on the property.

Install New OWTS as per plans by RMG
Engineering. See Attached OWTS Drawings
RMG JOB # 171896

The following documents **MUST** be included with your application.

- A soils report: including at least 1 soil profile excavation pit, in accordance with section 8.5 A-F of OWTS regulations
- A clear and legible design document: including the proposed and alternate locations, as well as system layout, labeled with all setbacks to pertinent structures and features in table 7-1.
- Provide directions to property, from a main highway, on the backside of application.

Failure to provide the above listed documents may result in denial of the permit application

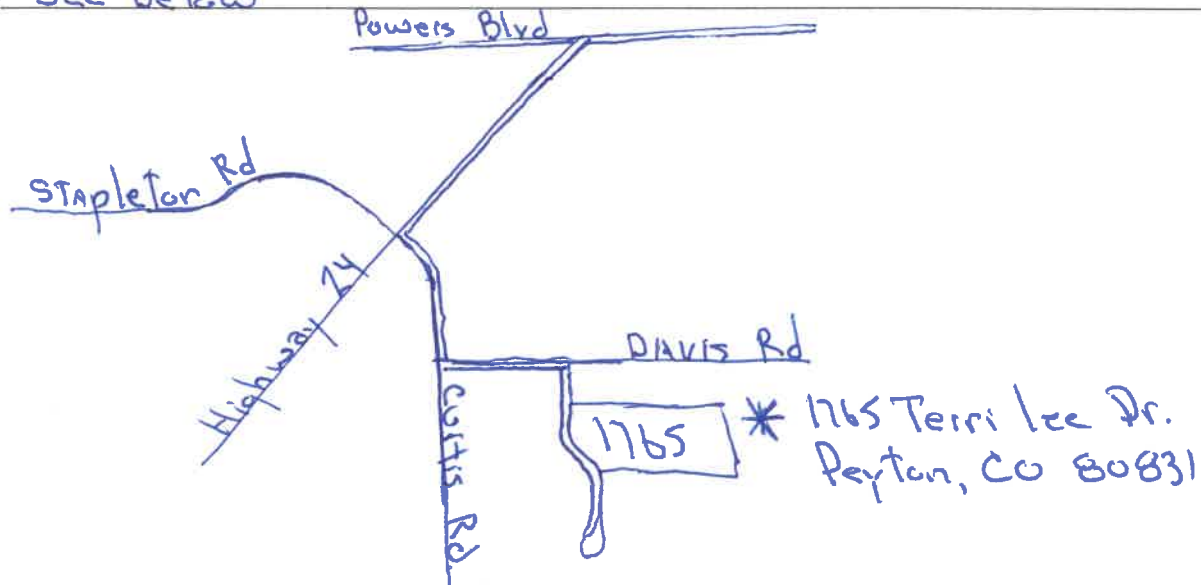
I certify that the information provided on this application is in compliance with Section 8.3, Chapter 8 of the Onsite Wastewater System (OWS) Regulations of the El Paso County Board of Health. I also authorize the assigned representative of El Paso County Public Health to enter onto this property in order to obtain information necessary for the issuance of a permit.

Applicants Signature: _____ Date: 12-21-2019

Phil

- Property address or lot number must be clearly marked and visible from the road.
- Profile excavation test pit and/or soil profile holes must be clearly marked
- Proposed and alternate soil treatment areas must be protected from compaction and disturbance
- Locked gates require the gate code or lock combination be provided on front of application
- Please provide directions to the property from a main highway, by text or picture, below.

- 1765 Terri Lee Dr. Peyton, CO 80831
- Excavation test pits to be clearly marked
- Proposed Soil Treatment area to be protected from Comp & Dist
- No locked Gates on site - Open Area
- See below



Failure to comply with the above information may result in an additional charge for a return trip.

Permit #: _____ Site Inspection date: 12-30-19

Date Approvals Rcvd: Development Services: 12-27-19 Floodplain/enumerations: 12-30-19

Design: ☒ Conventional ☐ Engineer Design Engineer: N/A

Engineer Job #: N/A Engineer Date Stamped: 1-2-20

LTAR/Soil Type: 0.6 / TYPE 2 Groundwater: N/A PP1/N/A PP2 Bedrock: N/A PP1/N/A PP2

Minimum Requirements: Tank Capacity: 1,750 Soil Treatment Area: 788

System Feed: ☒ Gravity ☐ Pump to Gravity ☐ Pressure Dosed ☐ Other: _____

System Media: ☒ Chambers ☐ Rock and Pipe ☐ Other Soil Treatment Area: ☒ Trenches ☐ Bed

Pump specs: Tank capacity: _____ gal Gal/dose: _____ Flow: ✓ gpm Total Dynamic Head: ✓

Additional Comments: $675 / 0.60 = 1,125(1.0) = 1,125(0.7) = 788$

166 Q4 / 53 ACC 36

E.H. Specialist: [Signature] Date: 1-2-20 ☒ Approved ☐ Denied

PHIL CARLITA

E

ON: 0050297
TAX: 4403005002
Exp: 5/26/2020



ROCKY MOUNTAIN GROUP

Job No. 171876

October 24, 2019

Kevin & Jenny Dickerson
PO Box 388
Fountain, CO 80817

Re: Onsite Wastewater Treatment System Evaluation
1765 Terri Lee Dr
Lot 5, Davis Ranch Subdivision, Filing No. 2
El Paso County, CO

Dear Kevin and Jenny Dickerson:

As requested, personnel of RMG – Rocky Mountain Group have performed a preliminary investigation, reconnaissance, and site evaluation at the above referenced address. The purpose of this preliminary investigation and the site evaluation is to provide recommendations for an Onsite Wastewater Treatment System (OWTS). During the inspection, a total of two 8-foot deep test pits (TP) were excavated in the vicinity of the proposed treatment area and as indicated on the site plan of the OWTS design document.

PRELIMINARY INVESTIGATION:

The purpose of our preliminary investigation was to review publically available and documented information related to the site. RMG has reviewed the above referenced site plan, identified the soil conditions anticipated to be encountered during construction of the proposed OWTS, and a review of documented National Resources Conservation Service (NRCS) data provided by websoilsurvey.nrcs.usda.gov.

It is our understanding that a 6 bedroom single family residence and detached barn are proposed at this site.

Based on the information provided by the client, the proposed treatment area is to be located to the east of the proposed residence, as indicated on sheet S(2) of the OWTS design document.

The soil conditions as indicated by the NRCS data referenced above are anticipated to consist of Truckton sandy loam. The Truckton sandy loam designation has a typical profile of sandy loam from 0 to 24 inches overlying coarse sandy loam from 24 to 60 inches below the existing ground surface.

A review of FEMA Map No. 08041C0785G indicates that the proposed treatment area is not located within an identified flood plain.

Southern Colorado
Colorado Springs, CO
719.548.0600

Central Colorado
Englewood, CO
303.688.9174

Northern Colorado
Greeley, CO
970.330.1671

Packline: 719.548.7750

Woodland Park: 719.587.6077

Midtown: 719.488.2147

Fort Collins: 970.516.4304

OK
11/8/2020

1-2-20
JK

1765 Terri Lee Dr
Lot 5, Davis Ranch Subdivision, Filing No. 2
El Paso County, CO

Based on the preliminary information available for review, an estimated treatment size of 1,125 square feet is anticipated. This estimate was used in locating the field and profile pit excavations only and should not be considered part of the final design. Refer to the OWTS Design document for treatment area, size, and location.

Site conditions exposed during the Reconnaissance Visit and Detailed Soil Evaluation may vary from the preliminary investigation.

RECONNAISSANCE VISIT:

Personnel of RMG performed a reconnaissance visit on September 12, 2019. The purpose of this reconnaissance visit was to evaluate the site surface characteristics including landscape position, topography, vegetation, natural and cultural features, and current and historic land uses.

The site surface characteristics were observed to consist of low lying grasses and weeds across the entire site. From the west side of the proposed residence, the site general slopes down to the south and west at approximately 1 to 3 percent. From the east side of the proposed residence, the site generally slopes down to the south and east at approximately 4 to 6 percent. The proposed treatment area is to be located approximately 190 feet to the east of the proposed residence.

No significant drainage swales, man-made cuts, streams, or waterways were observed in the immediate vicinity of the treatment area.

The stake for the proposed well was located approximately 40 feet to the north of the staked house location and is indicated on sheet S(3). The treatment area is to be located a minimum distance of 100 feet from the well location. If this distance cannot be maintained, contact RMG prior to proceeding. No existing wells were observed within 100 feet of the proposed treatment area.

DETAILED SOIL EVALUATION:

Personnel of RMG performed a detailed soil evaluation of two 8-foot deep test pit excavations on September 12, 2019 (Test Pits TP-1 and TP-2), utilizing the visual and tactile method for the evaluation of the site soils. The soil profiles observed in the test pits are presented in the attached Figure No. 1. The locations of the test pit excavations are shown on sheet S(2) of the OWTS design document.

Neither groundwater nor bedrock were encountered in the test pits. A minimum separation of 4 feet shall be maintained from groundwater and bedrock, if encountered, to the infiltrative surface. If groundwater and/or bedrock are encountered at shallower depths during construction of the OWTS, RMG should be contacted prior to proceeding.

Redoximorphic features indicating the fluctuation of groundwater or higher ground water levels were not observed in the test pits.

The depth of the infiltrative surface is provided in the recommendations section of this report.

9/12/2019
1-2-23
pe

1765 Terri Lee Dr
Lot 5, Davis Ranch Subdivision, Filing No. 2
El Paso County, CO

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

RECOMMENDATIONS:

It is recommended that the treatment area be located in the vicinity of the test pits. Based on our observations, a long-term acceptance rate (LTAR) of 0.6 shall be used for the design of a Treatment Level 1 OWTS. The infiltrative surface shall be placed no deeper than 4 feet below the existing grade. There shall be a minimum cover of 1 foot (12 inches) over all OWTS components. If the minimum or maximum depth to infiltrative surface cannot be maintained, the contractor/owner shall contact this office for revised recommendations prior to proceeding with the construction of the OWTS. Reference manufacturer's installation instructions for all components specified in the engineer designed OWTS Design document.

LIMITATIONS:

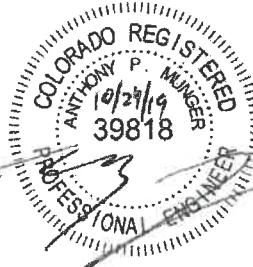
This report is only valid in conjunction with the OWTS Design document engineered by RMG. The recommendations provided in this report are based upon the subsurface conditions observed in the profile pit excavations and accepted engineering procedures. The subsurface conditions encountered in the excavation for the treatment area may vary from those encountered in the profile pit excavations. Therefore, depth to limiting or restrictive conditions, bedrock, and groundwater may be different from the results reported in this letter. If subsurface conditions encountered in the OWTS treatment area differ from those indicated in this report, or problems arise, RMG should be retained to review the subsurface conditions prior to any work being performed or completed.

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

Cordially,


RMG – Rocky Mountain Group


Tony Munger, P.E.
Geotechnical Project Manager



1/8/2020

1-2-20
R

TEST PIT TP-1			
DATE OBSERVED: 9/12/19			
SOIL DESCRIPTION	DEPTH (FT)	SYMBOL	SOIL TYPE
0.0 FT - 8.0 FT SANDY LOAM (STRUCTURELESS)	2ft		2
	4ft		
	6ft		
	8ft		

TEST PIT TP-2			
DATE OBSERVED: 9/12/19			
SOIL DESCRIPTION	DEPTH (FT)	SYMBOL	SOIL TYPE
0.0 FT - 8.0 FT SANDY LOAM (STRUCTURELESS)	2ft		2
	4ft		
	6ft		
	8ft		

SOIL DESCRIPTIONS



SANDY LOAM
(STRUCTURELESS)



ROCKY MOUNTAIN GROUP

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

PROFILE PIT LOGS

1765 TERRI LEE DR.
LOT 5, DAVIS RANCH SUBDIVISION
FIL NO. 2
EL PASO COUNTY, CO

JOB No. 171876

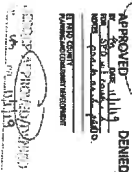
DATE 10/24/2019

FIGURE No. 1

SHEET 1 of 1

11/8/2020

1-2-20



TERRILL DRIVE

765.25 ✓

WELL-KNOWN A WAY OF LIFE
TO GROW UP

Mr. approved
for future bar
for

Drainage
Basin

✓ 320.88.
4-12-5
5/21/1380

[illegible]

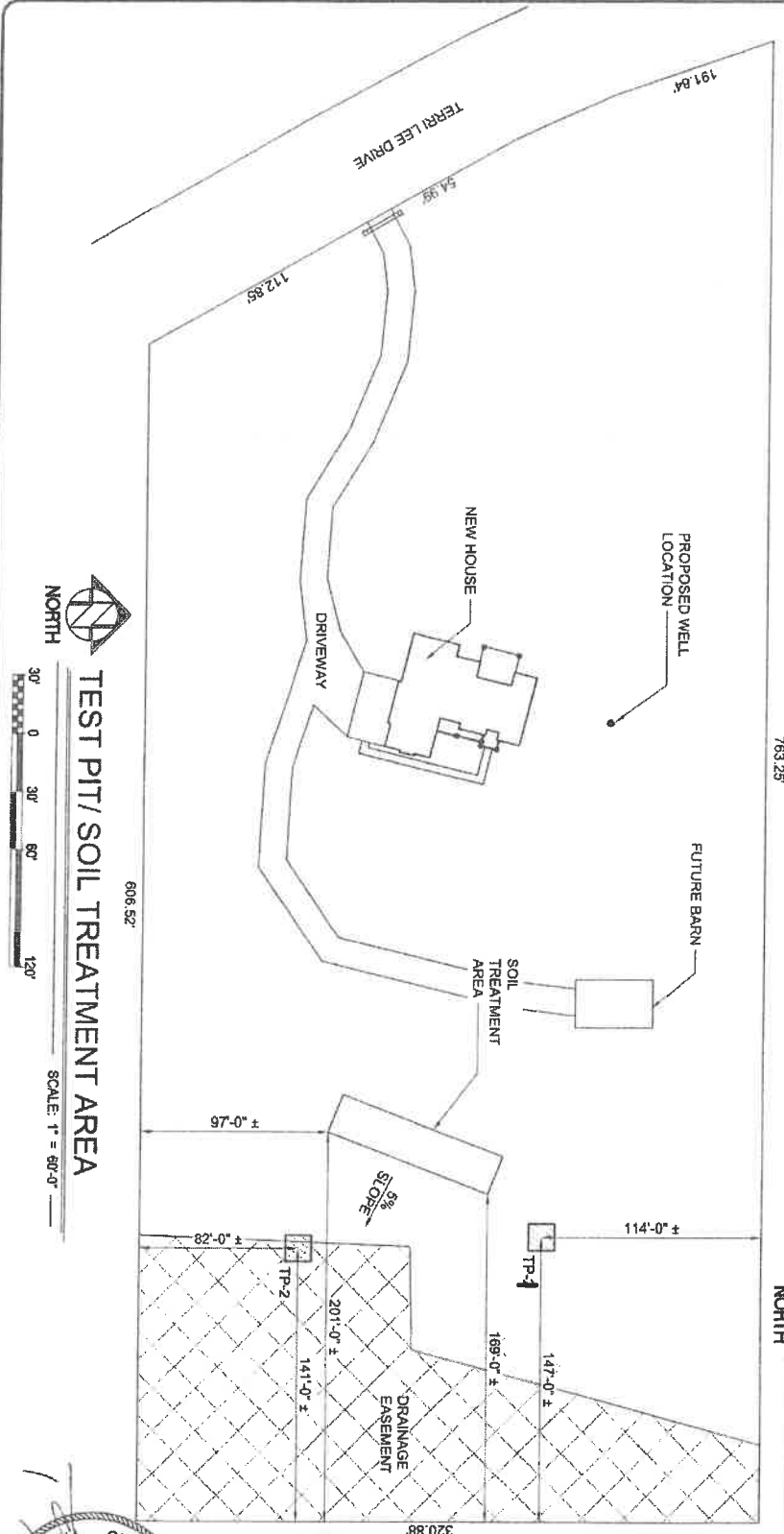
CUSTOM HOME FOR :
MR. AND MRS. DICKERSON

1765 TERRI LEE DRIVE
PEYTON, CO

DAVID WOODY and CO.
CUSTOM HOME DESIGN AND DRAFTING
PO BOX 2541 MONUMENT CO. 80132
(719)531-4018

1-2-20
pu

THE LOCATION OF THE TREATMENT AREA
SHALL NOT BE ADJUSTED WITHOUT PRIOR
APPROVAL FROM THE DESIGN ENGINEER
REFERENCE SHEET S4 FOR GENERAL NOTES,
CALCULATIONS, AND COMPONENT
SPECIFICATIONS AND DESIGNATIONS



TEST PIT/ SOIL TREATMENT AREA

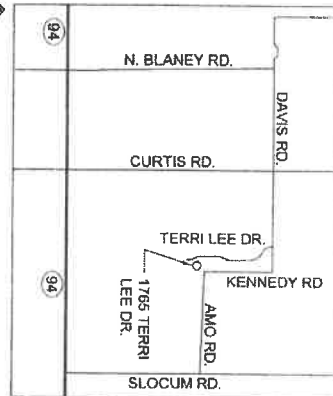


SCALE: 1" = 60'-0"



VICINITY PLAN

SCALE: N.T.S.



OWTS DESIGN

1765 TERRI LEE DR.
LOT 5, DAVIS RANCH SUBDIVISION, FILING NO. 2
EL PASO COUNTY, COLORADO
KEVIN & JENNY DICKERSON

ROCKY MOUNTAIN GROUP

Architectural
Structural
Forensics



Geotechnical
Materials, Testing
Civil, Planning

SOUTHERN COLORADO
2910 AUSTIN BLUFFS PKWY, SUITE 100, COLORADO SPRINGS, CO 80918
(719) 548-0600 ~ WWW.RMGENGINEERS.COM
SOUTHERN COLORADO, DENVER METRO, NORTHERN COLORADO

ARCHENG:	AT
DRAWN:	PHZ
CHECKED:	TRM
DATE	10-24-19
# REVISION	DATE
JOB NO.	171876
SHEET NAME	TEST PIT AND SOIL TREATMENT LOCATION AREA
SHEET NO.	S2 of 5

1-2-20
PC

GENERAL NOTES

1. **APPLICABLE CODES**
 - A. These general notes apply to all OWTS drawings. This project is designed in accordance with the El Paso County Environmental Health Department and The State of Colorado most current codes and standards.
 - B. All materials and workmanship shall be in accordance with applicable provisions of the codes specified above.
2. **COORDINATION**
 - A. **DO NOT SCALE.** The design is based on the Onsite Wastewater Treatment System Evaluation report by RMG - Rocky Mountain Group for 1765 Terri Lee Dr., Job No. 171876, last dated October 24, 2019 and Initial Site Inspection performed on September 12, 2019. All changes to the design and layout are required to be approved by the Engineer / Designer for inclusion into these plans. Any discrepancies shall be brought to the attention of the Engineer / Designer immediately.
 - B. Builders/owners shall review covenants to verify setback or land-clearing restrictions and requirements that might affect the system installation PRIOR to construction.
 - C. RMG has provided this design in accordance with the standards of general construction practices. However, as with all underground absorption fields, guarantee against failure is impossible. With proper installation, as outlined for this proposed construction, there remain many uncertainties, and difficulties that can still arise in the operation of the system in the future. Proper design, construction, and maintenance can assist in minimizing uncertainties, but cannot entirely eliminate them. RMG provides no warranty of this design or installation.
3. **INSPECTIONS**
 - A. The Engineer / Designer inspections are separate from that which is required by the County Health Department. The homeowner/contractor must ensure all COUNTY and ENGINEER / DESIGNER inspections are completed.
 - B. Contact Engineer / Designer a minimum of 48 hours prior to schedule required inspections.
 - C. The Engineer / Designer shall be as follows:
 1. The Engineer / Designer shall inspect the installation of all components of the septic system before backfill.
 2. The Engineer / Designer shall inspect the components of the septic system, after backfill, to insure min cover, crowned top of field components, & proper drainage away from field.
4. **OWTS**
 - A. Maintain a minimum 2.0% and maximum 3.0% grade on pipe leading septic tank and on pipe from field back to sump pit or pump station.
 - B. The homeowner/contractor is responsible for permit. The contractor must obtain approval of the engineered / designed system from the County Health Department. The homeowner/contractor must verify all setbacks and obtain utility clearances prior to construction.
 - C. Vehicular and/or hooded animal traffic of any kind over any part of system may cause premature failure and is prohibited. The use of so-called "septic remedies" can result in severe damage to the system. We specifically recommend against their use.
 - D. Septic and pump tanks must be a CDPHE approved tank. Septic and pump tanks shall be concrete.
 - E. Septic tanks shall have a minimum of two (2) compartments unless noted otherwise.
 - F. Provide a drainage swale or berm on the uphill slope of the treatment area.
 - G. Do not locate the absorption field or treatment area within 100ft of ANY well.
 - H. The field laterals may be angled or turned to fit land contours with a maximum of 45 degree bends or less.
 - I. The field laterals may be curved to fit land contours. The maximum radius shall not exceed 100ft.
 - J. Maintain all minimum setbacks and distances stated in this design and county codes and standards.
 - K. Refer to all manufacturer specification prior to ordering and installation of components.
 - L. Cover material shall not contain particles or fragments larger than 3 inches in diameter.
 - M. Components placed within the house to effect discharge to the OWTS are the responsibility of the installer. Recommendations for such components are not included herein.

CALCULATIONS FOR TREATMENT AREA

TREATMENT LEVEL 1

DESIGN PARAMETERS

NO. OF BEDROOMS (NBD):

LTAR:

Q (GPD):

CHAMBER AREA (CHAM):

0.6
675 GPD
12 SQ. FT.

ADJUSTMENTS

CHAMBERS (CH):

0.7

REQUIRED AREA (A)

FORMULA

A =

(Q/CH)
LTAR

CALCULATION

A =

(675/0.7)
0.6

TOTAL

A = MIN 787.5 SQ. FT.

REQUIRED CHAMBERS

FORMULA/CALCULATION

NO. OF CHAMBERS =

(A)
(CHAM)

NO. OF CHAMBERS =

(787.5)
12 SQ. FT. = 65.625

TOTAL

CHAMBERS: USE (66) CHAMBERS

REQUIRED FIELD SIZE

A SOIL TREATMENT AREA CONSISTING OF THREE (3) 3FT WIDE BY 88 FT LONG TRENCHES, EACH CONTAINING 22 CHAMBERS, RESULTING IN 66 CHAMBERS, TOTALING 792 SQ. FT. OF TREATMENT AREA.

COMPONENTS LIST

A. TANK(S):

1. SEPTIC TANK(S):

SEPTIC TANK SIZE ADJUSTED TO ACCOUNT FOR TURBULENCE PRODUCED BY LIFT STATION PUMP

2. EFFLUENT FILTER REQUIRED AT OUTLET OF SEPTIC TANK

B. FIELD:

1. CHAMBERS : INFILTRATOR QUICK4 STANDARD (OR EQUIVALENT)

2. TOTAL CHAMBERS:

3. TOTAL TRENCHES:

4. TRENCH LENGTHS:

5. TRENCH WIDTH:

6. INSPECTION PORTS PER PLAN AND AS REQUIRED

7. DISTRIBUTION BOX (3 OUTLETS SET LEVEL FOR EVEN DISTRIBUTION)

C. PIPE:

1. ALL PIPE SHALL BE SCHEDULE 40 (UNO.)

2. INSTALL CLEAN OUT A MAX OF 5'-0" FROM HOUSE

3. FROM HOUSE TO SEPTIC TANK:

4. FROM SEPTIC TANK TO FIELD: 4in Ø SCHD 40



OWTS DESIGN

1765 TERRI LEE DR.
LOT 5, DAVIS RANCH SUBDIVISION, FILING NO. 2
EL PASO COUNTY, COLORADO

KEVIN & JENNY DICKERSON

ROCKY MOUNTAIN GROUP

Architectural
Structural
ForensicsGeotechnical
Materials, Testing
Civil, Planning

SOUTHERN COLORADO
2910 AUSTIN BLUFFS PKWY, SUITE 100, COLORADO SPRINGS, CO 80918
(719) 548-0600 - WWW.RMGENGINEERS.COM
SOUTHERN COLORADO, DENVER METRO, NORTHERN COLORADO

ARCHING: JLT	DATE: 10-24-19
DRAWN: RYZ	# REVISION: DATE
CHECKED: TPA	
JOB NO. 171876	
SHEET NAME	
GENERAL NOTES, CALCULATIONS, & COMPONENTS LIST	
SHEET NO. S1	of 6

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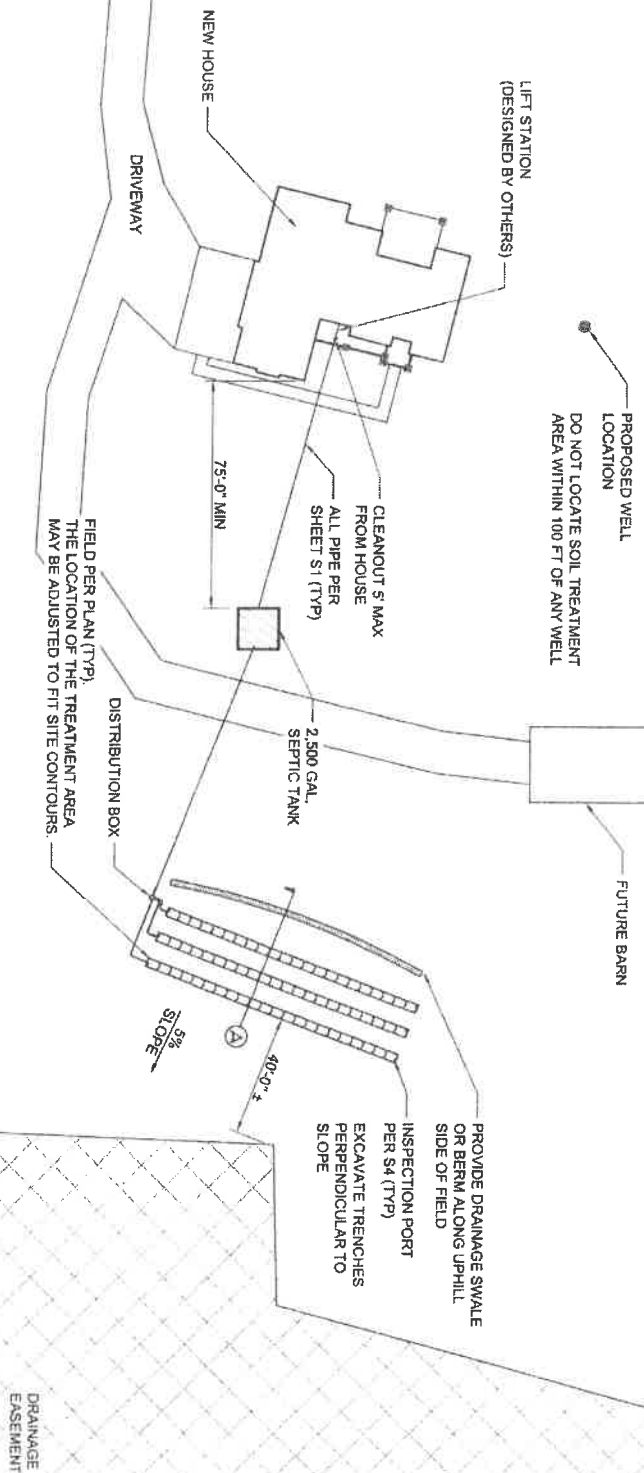
2221

THE LOCATION OF THE TREATMENT AREA
SHALL NOT BE ADJUSTED WITHOUT PRIOR
APPROVAL FROM THE DESIGN ENGINEER
REFERENCE SHEET S1 FOR GENERAL NOTES,
CALCULATIONS, AND COMPONENT
SPECIFICATIONS AND DESIGNATIONS



SITE PLAN

SCALE: 1" = 40'-0"
20' 0 20' 40' 80'



OWTS DESIGN
1765 TERRI LEE DR.
LOT 5, DAVIS RANCH SUBDIVISION, FILING NO. 2
EL PASO COUNTY, COLORADO
KEVIN & JENNY DICKERSON

ROCKY MOUNTAIN GROUP

Architectural
Structural
Foundation

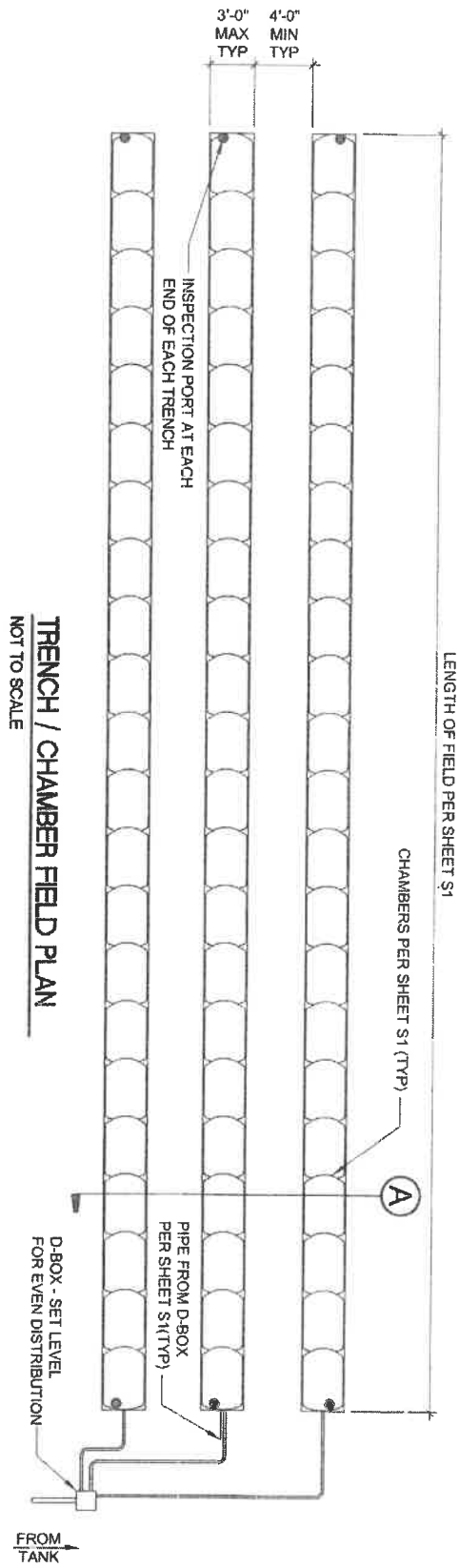


Geotechnical
Materials, Testing
Civil, Planning

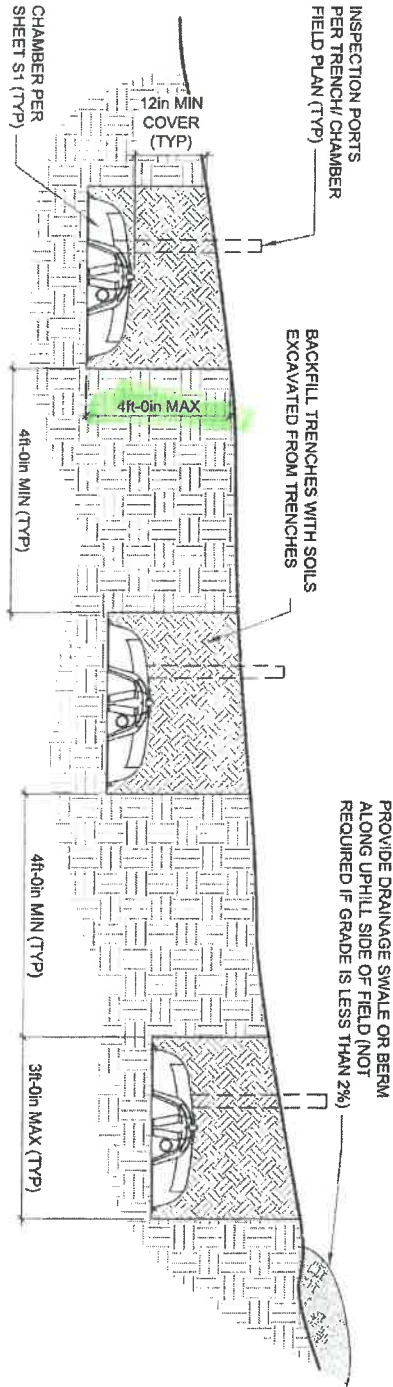
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ARCHENGE.	ALT
DRAWN	PHZ
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DATE	10-24-19
# REVISION	DATE
JOB NO.	171876
SHEET NAME	SITE PLAN
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17-2-20



TRENCH / CHAMBER FIELD PLAN
NOT TO SCALE



TRENCH CROSS SECTION
(CHAMBERS)
NOT TO SCALE

REFERENCE SHEET S1 FOR GENERAL NOTES, CALCULATIONS, AND COMPONENT SPECIFICATIONS AND DESIGNATIONS



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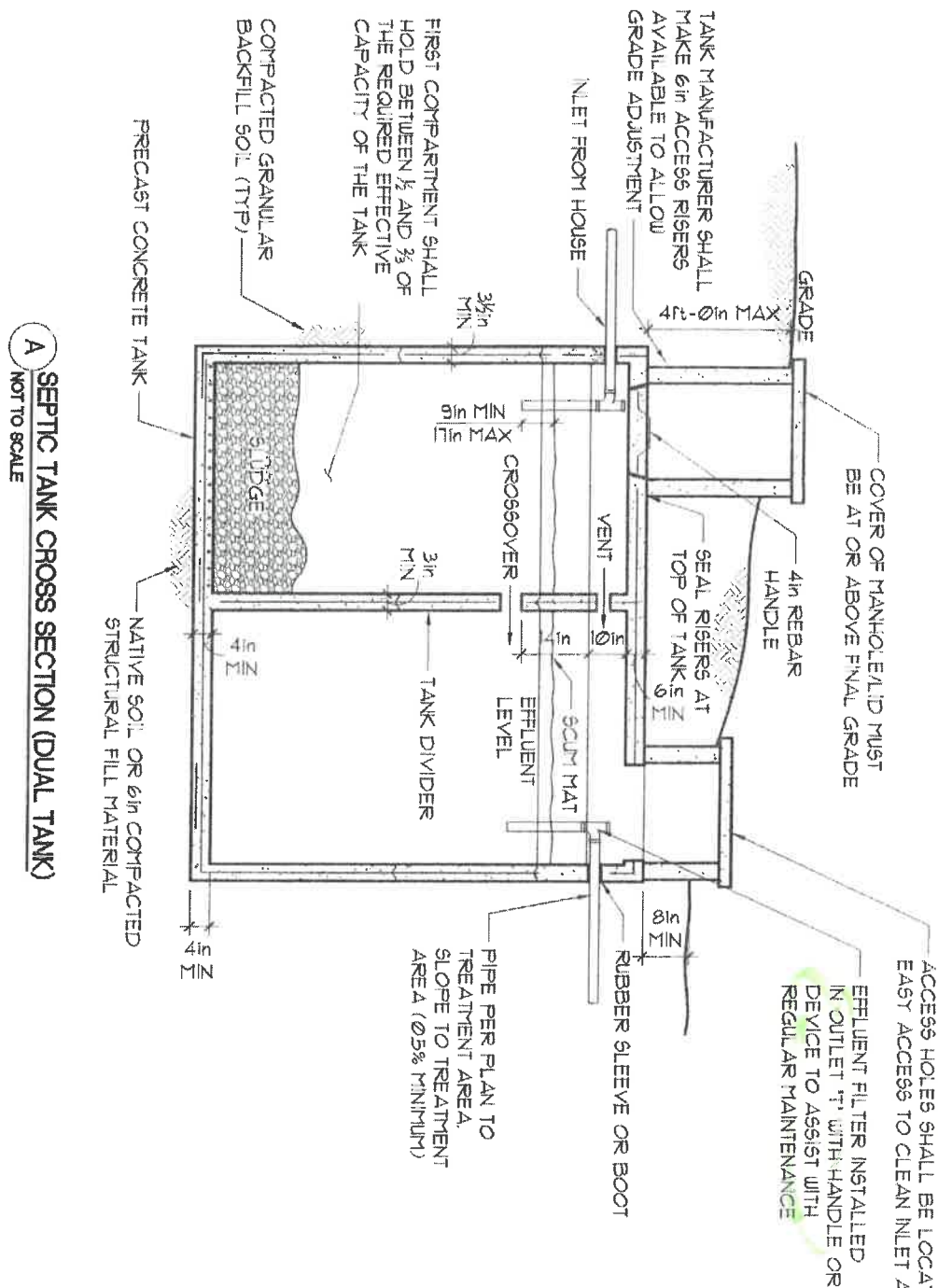


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SHEET NO.	S4
of 6	

020218/18/19

1-2-20
20



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TANK DETAIL	
SHEET NO.	S5 of 6

INTRODUCTION: An On-Site Wastewater Treatment System (OWTS) significantly differs from municipal sewer connections and services. Connections to public utilities, such as municipal sewer systems, provides a virtual guarantee that a facility owner will be able to send a large volume of water or sewage down the municipal sewer system with no particular problem. However, with an On-Site Wastewater Treatment System (OWTS) (formerly known as septic systems), facility owners should be aware that the system is distinctly limited as to the quantity and constituents of water or sewage (also known as effluent) sent. Limiting factors of a system are primarily the size and distribution method of the system and the Long-Term Acceptance Rate (LTAR) of the soils in the soil treatment area (commonly referred to as an absorption or leach field).

INSTALLATION: Proper installation of an OWTS is crucial to developing a successful OWTS. Careful or conservative design and proper operation and maintenance of a system cannot substitute for improper installation or poorly built components and systems. Typically, a licensed or certified installer will be familiar with the current regulations in the area where the OWTS is to be installed. Facility owner installation is not recommended. If the owner desires to perform the installation of the OWTS, they must become familiar with the specific county regulations prior to proceeding with the installation process. Consult with the Health Department for the regulating county prior to beginning installation to obtain the proper information and permits required. An OWTS design does not comprise of a detailed, step-by-step guide to installation and many details relating to proper construction are omitted because they are already required by county regulations. If uncertain, contact an engineer or the regulating Health Department for further clarification. During installation, careful observation of several items will aid in ensuring the OWTS is properly installed. The subgrade below the septic tank should be well and evenly compacted prior to installation to help limit future settling of the tank. Conveyance pipes should only slope uphill if a pump is installed at the bottom of the slope and an air release valve is installed at the top of the slope. The lines in the distribution field should be installed level. If multiple fields or different levels in the field are used, a device that will effectively distribute the effluent shall be installed. The soil comprising the soil treatment area should never be mechanically compacted. After installation of the distribution lines, manholes, and other pertinent components, the covering soil should not be compacted and minimal to no grading should be performed above the soil treatment area. If a mound system is installed, the mound sand should be allowed to consolidate naturally by settling or lightly spraying with water to reduce settlement after the system is placed into operation. The area surrounding the OWTS, especially uphill of the soil treatment area, if applicable, should be graded to divert surface water or runoff away from the system. This can often be accomplished by construction of a berm or a swale around the uphill side and along the sides of the system's components.

GENERAL OPERATION: Implementing water conservation practices will help in preserving the lifespan of an OWTS. Reducing the amount of excess water that is fed to the system will help prevent it from overflowing, backing up to the structure or otherwise disrupting the proper functioning of the system. We recommend that leaking faucets and toilets be repaired immediately, taking long showers should be avoided, and dishwashers or washing machines should be run only when full and at reduced water settings when possible. We also recommend against sending unnecessary materials into the system. Do not dispose of or dump non-biodegradable materials (e.g., greases, plastics, rubber based materials) into the OWTS. These substances will not break down as desired in the septic tank and can lead to clogging or needing to pump the tank more frequently than would be ordinarily necessary. Do not dispose of harmful or caustic chemicals (e.g., pesticides, paint thinner, oil, and antifreeze) into the OWTS. These chemicals can kill the beneficial bacteria that contribute to treating the effluent in the system and also damage the system, shortening the lifespan of the system and causing an increase in required maintenance. We recommend the facility owner limit the use of common cleaning products (e.g., bleaches, disinfectants, and toilet bowl cleaners) that may reach the OWTS, as they can also kill the beneficial bacteria and disrupt the functioning of the system. The proper functioning of an OWTS can also be affected by the presence or introduction of surface water or runoff from outlets from sump pumps and foundation drains. Care and attention should be given to diverting or preventing unnecessary water from reaching the system and ongoing maintenance is essential to preventing future, premature failure of a system.

CAUSES OF FAILURE: Most On-Site Wastewater Treatment Systems can function for years if installed, operated, and maintained appropriately. However, wastewater treatment systems do fail and may fail earlier than anticipated. Because the engineering or design of any OWTS relies on many variables, some of which are uncontrollable, systems may fail unexpectedly and earlier than could have been predicted. There are many factors that may contribute to the failure of an OWTS. Proper installation, operation, and maintenance, as described previously, will help prevent system failure. However, common factors that can contribute to system failure are listed below. We cannot address all causes to system failure and this list should not be considered completely inclusive.

-EXCESS WATER USE: String of On-Site Wastewater Treatment Systems is partially dependent on the design flow approved by the governing county health department. If the amount of wastewater or effluent that is sent to the system exceeds this design flow, it can shorten the lifespan of an OWTS. Frequently exceeding the design flow can add significant stress to a system. Sending large amounts of water in a short time (e.g., draining hot tubs, multiple appliances draining water at once, multiple showers running at once) can also shorten the lifespan of an OWTS. Doing so can disturb the settlement process in septic tanks, flood soil treatment areas, and otherwise damage or overwhelm individual components in the system.

-SURFACE DRAINAGE RUNOFF: Allowing outside water sources (e.g., sprinklers, discharge from downspouts or subsurface drains) to flow into the soil treatment area should be avoided. Surface flows should be directed away from the treatment area. It is important to maintain the surface grading uphill from the treatment area to ensure that surface water is directed away from the treatment area. Any landscaping improvements should also maintain positive drainage away from the treatment area.

-CLOGGING: Soil treatment areas are designed to accommodate liquids only. They are not meant to handle solid or greasy, semi-solid substances. These substances are intended to be separated from the wastewater in the septic tank before it is sent to the soil treatment area. Disrupting this separation process can cause these substances to enter the soil treatment area and settle in or clog the pipes. If the pipe becomes clogged, entire sections can become inoperable and unusable, adding additional stress to the remaining soil treatment area. If clogging occurs, it is often hard to detect and fix. Clogging can be prevented by monitoring the water use, regulating the disposal of inappropriate materials, and regularly having the septic tank pumped by a professional.

-COMPACTON: The effective treatment of wastewater in the soil treatment area also relies on the area's ability to breathe and receive fresh air. This allows the effluent to more effectively be treated and breakdown. Compaction of the soil above the soil treatment area can hamper the soil's ability to treat the effluent by restricting the air flow to the treatment area. Refer to the INSTALLATION guidelines for more information on placement of soils above the components in the treatment area during installation. After installation, care should be taken to prevent additional compaction to the soils above the treatment area. Small animals (such as cats and dogs) and human traffic are unlikely to cause significant additional compaction. However, larger animals, especially hooved animals, can cause sufficient compaction to the soils and should not be allowed on the surface directly above the treatment area. Vehicular traffic will cause additional compaction and can quickly shorten the lifespan of systems. Vehicular traffic can also cause the wastewater treatment system to fail by crushing components. Vehicles should not be allowed on the surface directly above the soil treatment area. We also discourage the installation of light structures (e.g., playgrounds, sheds) above the treatment area, as these structures may cause additional compaction and encourage additional traffic over the treatment area.

SUMMARY: On-Site Wastewater Treatment Systems differ greatly from public sewer systems and require the facility owner to monitor and maintain the condition of the system and the components. On-Site Wastewater Treatment Systems are complex systems that are designed to handle a limited amount of wastewater from a facility and cannot handle many of the materials that often make it into the public sewer systems. It is an installer's responsibility to carefully install the components of a system to both the design's specifications and the governing county health department regulations. It is a facility owner's responsibility to care for and maintain the system. The previously discussed items regarding installation, care and maintenance are not inclusive and do not cover all aspects of an On-Site Wastewater Treatment System. Following the previously discussed recommendations will not guarantee that the system will not fail. These items cover the common sources of failure and can help to preserve the lifespan of the system, but will not prevent all possible sources of failure. We recommend regular inspections by qualified professionals to help monitor the system and prevent premature failure.



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