El Paso County, CO
Public Health

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

ENGINEERED ON-SITE WASTEWATER TREATMENT SYSTEM
FINAL INSPECTION FORM

P

On-site ID: ON0049831 | Tax schedule(APN) #: 4331003016 | Permit Type: New
Environmental Health Specialist: Neil Mayes | Final Inspection Date: 11.18.2019 | Approved: Yes

Residential Property Information:

Owner: Mark and Denise Waskosky Address: 3195 Hoofprint Rd, Peyton CO 80831 Approved No. Bedrooms: 5
Water supply: Well Well Installation verified: 11.18.2019 Well Location GPS: 38°52.614'N -104°35.731'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:

High Rock Content: N/A **Soil (in-situ) Type:** 4A **LTAR (In-situ soil):** 0.15 **Limiting Layer:** Groundwater: NONE Bedrock: NONE
OWTS Tank: Capacity (gallons): 1500 **OWTS Pump Tank:** Capacity (gallons): 500
Soil Treatment Area (STA): Sq. Ft. (10-1): N/A Sq. Ft. (10-2): N/A Sq. Ft. (10-3): N/A Sq. Ft. (with Diverter Valve): N/A
NDDS (STA): Sq. Ft. (10-1): 4000 NDDS Factor: 1.5 Sq. Ft. (NDDS adjustment): 6000
Mound (STA): LTAR (imported soil): N/A Chamber adjustment: N/A Distribution Area: N/A Basal Area: N/A

Engineering:

Design Engineer: Geoquest, LLC **Engineer design #:** 18 - 0339
Date engineer record drawing/certification letter recieved: 2.5.2020
Tier II Licensesd Installer: Murray Excavating, Inc

Final system installation:

Treatment Level: 1PD
Annual Operation and Maintenance Inspection: Required
OWTS Tank: GPS Location: 38°52.583'N -104°35.731'W
Tank Type: New Concrete Capacity (gallon): 1500
OWTS Pump Tank:
Tank Type: New concrete - single comp Capacity (gallon): 500 Audio/Visual Alarm: Yes
OWTS Pump: Zoeller 151
Gal/dose: 200 Flow(gpm): 25 Total Dynamic Head: 17 FT
Soil Treatment Area (STA): GPS Location: 38°52.578'N -104°35.718'W Total Sq. Ft installed: 6000
Configuration: Bed
Distribution Media: NDDS
Distribution Area Length: 100'
Basal Area Length: N/A
Media Type: Laterals: Schedule 40 pipe
Distribution: Low Pressure Drip
Inflitrative Surface Depth: 12 – 30"
Distribution Area Width: 60'
Basal Area Width: N/A
Total installed: 6 zones (5 laterals each) = 30 laterals

Notes:

ON0049831
4331003016
11·18·2019

29 January 2020

GEOQUEST, LLC
6825 Silver Ponds Heights #101
Colorado Springs, CO 80908
(719) 481-4560

El Paso County Health Department
1675 West Garden of the Gods Road
Colorado Springs, Colorado 80907

Re: Septic System Inspection, GQ #18-0339
Lot #6, Filing #1,
The Reserve at Corral Bluffs,
3195 Hoofprint Road,
El Paso County, Colorado

Dear Sir or Madam,

We inspected the installation of the engineered septic system at the above address at several points during its construction as well as the finished product. It has been installed in accordance with our engineered plans and specification. This includes having the correct size septic tanks, the proper grade on all pipes and sections of the absorption field, the correct depth, size and configuration of the absorption field, and the backfill around and over the field.

The field should be seeded in the future to allow for vegetation growth next spring. Additional grading may be required in the future to repair any minor erosion areas until the grass seed takes hold. You should ensure that no vehicles are allowed to park on any portion of the system.

The system is ready for final certification from the El Paso County Health Department. **A Certificate of Occupancy (CO) will not be issued by PPRBD until El Paso County Health Department has received this letter and the Record Drawing.** Please call me if you have any questions.

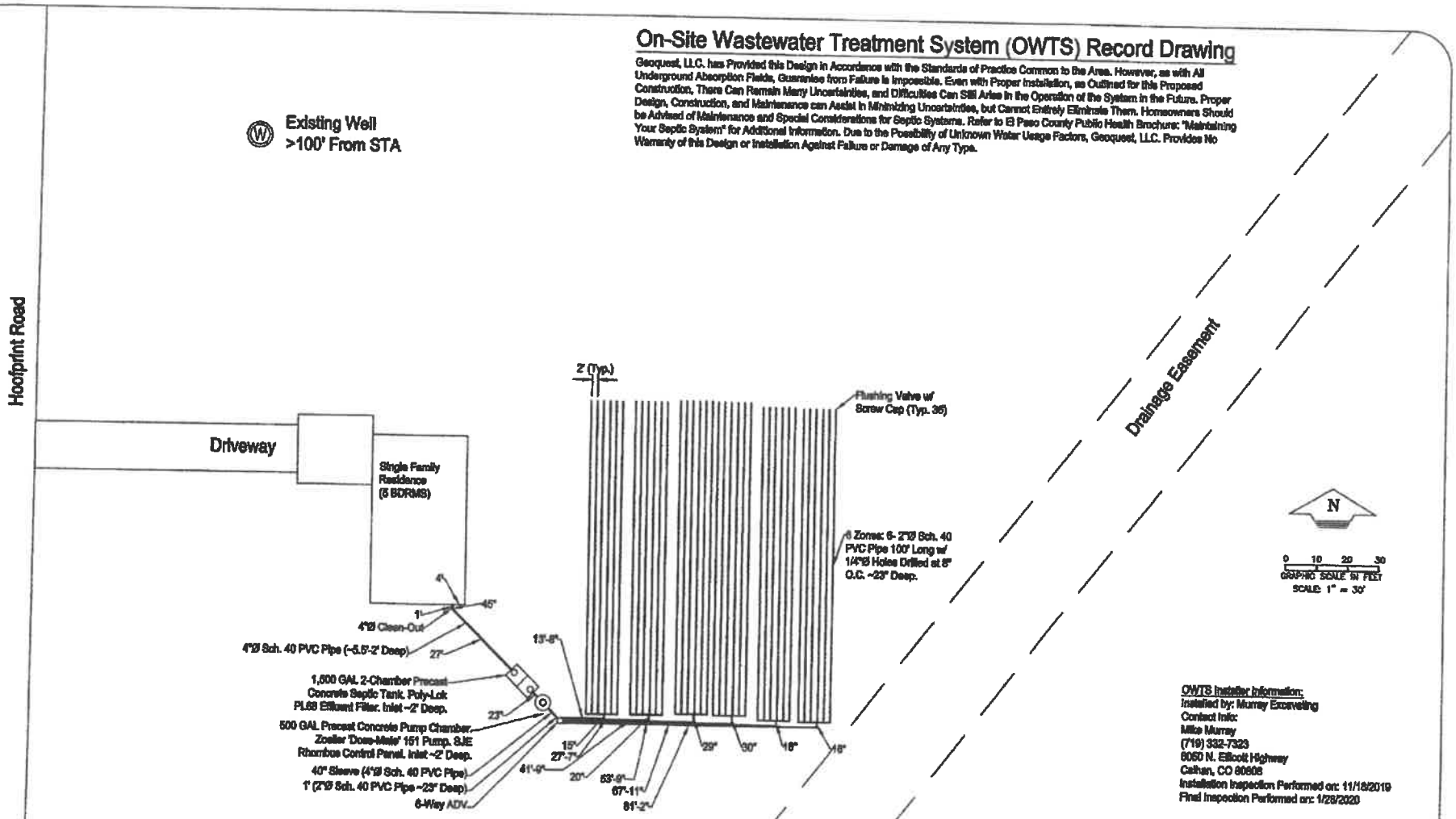
Sincerely,

COLORADO LICENSED
CHARLES E. MILLIGAN
34608
29 Jan 20
PROFESSIONAL ENGINEER

Charles E. Milligan
Civil Engineer

On-Site Wastewater Treatment System (OWTS) Record Drawing

Geoquest, LLC. has Provided this Design in Accordance with the Standards of Practice Common to the Area. However, as with All Underground Absorption Fields, Guarantee from Failure is Impossible. Even with Proper Installation, as Outlined for this Proposed Construction, There Can Remain Many Uncertainties, and Difficulties 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. Homeowners Should be Advised of Maintenance and Special Considerations for Septic Systems. Refer to El Paso County Public Health Brochure: "Maintaining Your Septic System" for Additional Information. Due to the Possibility of Unknown Water Usage Factors, Geoquest, LLC. Provides No Warranty of this Design or Installation Against Failure or Damage of Any Type.



OWTS Installer Information:
Installed by: Murray Excavating
Contact Info:
Mike Murray
(719) 332-7323
8050 N. Ellicott Highway
Calhan, CO 80808
Installation Inspection Performed on: 11/18/2019
Final Inspection Performed on: 1/28/2020

Project: 18-0339	Project Name and Address
Sheet: 1 of 1	Mark Waskosky
Date: 28 Jan 2020	3195 Hoofprint Road
Revised:	Lot #6, Filing #1,
Scale: 1" = 30 FT	The Reserve at Corral Bluffs
	Sch. No. 4331003016
Drawn by: jtk	El Paso County, Colorado
Checked by: cem	

GEOQUEST, LLC.
6825 SILVER PONDS HEIGHTS
SUITE 101
COLORADO SPRINGS, CO
80908

OFFICE: (719) 481-4560
FAX: (719) 481-9204

COLORADO LICENSED
CHARLES E. MILLIGAN
34608
27 Jan 20
PROFESSIONAL ENGINEER

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.

Attn: MARK AND DENISE WASKOSKY
3195 HOOFPRINT RD
PEYTON, CO 80831

El Paso County, CO
Public Health
Prevent • Promote • Protect

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 11/15/2019 To 11/15/2020

PERMITEE : MARK AND DENISE WASKOSKY
3195 HOOFPRINT RD
PEYTON, CO 80831

OWNER NAME : MARK AND DENISE WASKOSKY

Onsite ID: ON0049831
Tax Schedule # : 4331003016
Permit Issue Date: 11/15/2019
Dwelling Type: RESIDENTIAL
# of Bedrooms (if Res): 5
Proposed Use (if Comm):
Designed Gallons/Day:
Water Source: PRIVATE WELL

System Installation Requirements:

- An Engineered OWTS system to be installed on site due to encountering soil type 4A, requiring a Tier II licensed installer.
- TIER II LICENSED INSTALLER MUST BE NAMED AND VERIFIED PRIOR TO FINAL APPROVAL OF SYSTEM.
- System installation to include NDDS 6 zones @ 5 laterals/zone measuring 60'x100', max installation depth of 30". Minimum tank requirements 1500 gallon, 500 gallon pump tank and 6000 sq ft of soil treatment area.
- The system must be installed per approved GeoQuest design document #18-0339 stamped and dated 9.27.2018, changes to the approved design document must be submitted and approved by both the engineer and 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. Must maintain 100' set back to all wells on property or neighboring property in addition to 25' to drainage on property.
- Engineered systems require the as built drawing and certification letter from the engineer be submitted to Public Health prior to final approval and Regional Building sign off
- Ensure that all work is completed prior to contacting and requesting final line for inspection, otherwise additional fees may be incurred.
- Installation of an OWTS system with higher level treatment now requires an annual Operation and Maintenance inspection. See EPCPH OWTS regulations for more details.

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.

Attn: MARK AND DENISE WASKOSKY
3195 HOOFPRINT RD
PEYTON, CO 80831

El Paso County, CO
Public Health
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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

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.

Authorized By: Environmental Health Specialist

El Paso County, CO
Public Health
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Environmental Health Division

1675 W. Garden of the Gods Rd., Suite 2044
Colorado Springs, CO 80907
(719) 578-3199 *phone*
(719) 578-3188 *fax*
www.elpasocountyhealth.org

ST20010429 AR20014501 ON20049831

APPLICATION FOR AN ON-SITE WASTEWATER TREATMENT SYSTEM PERMIT

Property Information:

Property Address: 3195 Hoof Print Rd City and Zip: Peyton 80831
Legal Description: Lot 6 The Reserve at Corral Bluffs Filing #1 El Paso CO
Tax Schedule #: 4331O-03-016 Lot size:
Is the property gated: ☐ Yes ☒ No Please provide a gate code if necessary:
Site Located Inside City Limits: ☐ Yes ☒ No Proposed Use: ☒ Residential ☐ Commercial
Water Supply: ☒ Well ☐ Cistern ☐ Municipal *Potential* Number of Bedrooms: 5
Has a Conditional Acceptance Document been issued for this property: ☐ Yes ☐ No ☒ Unsure

Owner Information: ☒ Primary Contact

Owner: Mark + Denise Waskosky Daytime Phone: 719-331-6139
Owners Mailing Address: 3145 Navigation Dr Colorado Springs CO 80920
Email Address: EnergyVision@Live.com Fax #:
General Contractor: Owner Phone/Email:

OWTS Installer Information: ☐ Primary Contact

System Installer: Daytime Phone:
Email Address: Licensed installer: ☐ Tier 1 ☐ Tier 2

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

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**
☐ **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.**

Build New Walkout Rancher - install well - install Driveway
Install Septic System Per Engineering

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 back side 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 On-site 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.

Applicant Signature: Mark Waskosky Date: 10/12/18

Reviewed 2018 approved fee (12/04/2017)

kat

- 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.

From Hwy 24 at Falcon go South on Maridian Rd to blainy Rd then go East To Hoofprint Rd then go South 1/2 mile To 3195 Hoofprint Rd

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

Requires annual OdM

Permit #: _____ Site Inspection date: 10/18/18

Date Approvals Rcvd: Development Services: 10/12/18 Floodplain/enumerations: 10/16/18

Design: ☐ Conventional ☒ Engineer Design Engineer: GeoQuest

Engineer Job #: 18-0339 Engineer Date Stamped: 9.27.18

LTAR/Soil Type: 0.15 / 4A Groundwater: none PP1/none PP2 Bedrock: none PP1/none PP2

Minimum Requirements: Tank Capacity: 1500 / 500 Soil Treatment Area: 16000

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

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

Additional Comments: 1600/0.15 = 4000(1.5) = 16000 6 zones @ 5 lats/zone 100'

200gal/dose 25 gpm @ 17 TDH 25' to drainge - no deeper than 30" / NDDS doc

E.H. Specialist: _____ Date: 10/22/18 ☒ Approved ☐ Denied

GEOQUEST, LLC
6825 Silver Ponds Heights #101
Colorado Springs, CO 80908
(719) 481-4560

PROFILE PIT EVALUATION

FOR

MARK WASKOSKY

JOB #18-0339

Lot #6, Filing #1,
The Reserve at Corral Bluffs Subdivision,
3195 Hoofprint Road,
El Paso County,
Colorado

Sincerely,

Charles E. Milligan, P.E.
Civil Engineer

COLORADO REGISTERED
CHARLES E. MILLIGAN
34608
PROFESSIONAL ENGINEER

PROFILE PIT FINDINGS

Enclosed are the results of the profile pit for the septic system to be installed at **Lot #6, Filing #1, The Reserve at Corral Bluffs Subdivision, 3195 Hoofprint Road, El Paso County, Colorado.** The location of the test pit was determined by Mark Waskosky. The residence will not be on a public water system. The number of bedrooms in the design for the residence is unknown. Due to the natural slope of the property, the entire system will feed to the east at approximately 7% at least 20 feet. All applicable portions of the El Paso County Health Department Onsite Wastewater Treatment System Regulations (OWTS) must be complied with for the installation of the treatment system.

The inspection was performed on June 5, 2018, in accordance with Table 10-1 of the **E.P.C.P.H. OWTS Regulations.**

Soil Profile #1:

0 to 8" - Topsoil- loam, organic composition.

8" to 8' - USDA soil texture clay, soil type 4A, structure shape blocky, structure grade 1, non-cemented, LTAR 0.15, dark yellowish brown in color, 10 YR 4/4.

Soil Profile #2:

0 to 8" - Topsoil- loam, organic composition.

8" to 8' - USDA soil texture clay, soil type 4A, structure shape blocky, structure grade 1, non-cemented, LTAR 0.15, dark yellowish brown in color, 10 YR 4/4.

No water was encountered during the inspection. Bedrock was not encountered during the inspection. No known wells were observed within 100 feet of the proposed system. **All setbacks shall conform to county regulations.**

Due to encountering USDA soil type 4A, the septic system to be installed on this site shall be designed by a Colorado Licensed Engineer. Based on the observed conditions, we feel a design based on an LTAR of 0.15, GPD/SF (USDA 4A, treatment soil, treatment level 1) is reasonable. A Non-Pressurized Drip Disposal System (NDDS) is recommended for this site. Maximum depth of the installation shall be not deeper than 48 30" inches below existing grade.

If during construction of the field itself, subsurface conditions change considerably or if the location of the proposed field changes, this office shall be notified to determine whether the conditions are adequate for the system as designed or whether a new system needs to be designed.

Weather conditions at the time of the test consisted of partly cloudy skies with hot temperatures.

10/22/18

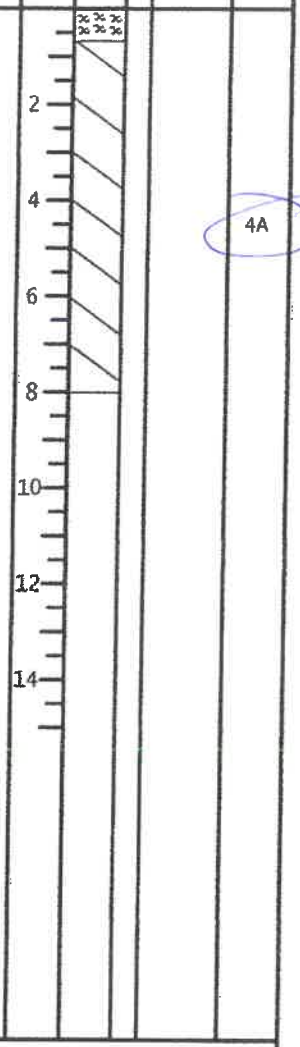
PROFILE PIT LOG - Profile Pit #1

JOB#: 18-0339
DATE EVALUATED: 05 June 2018
EQUIPMENT USED: MINI-EXCAVATOR

0"-8" **TOPSOIL**
Loam
Organic Composition

8"- 8' **Clay**
Fine-medium Grained
Moderate-high Density
Low-moderate Moisture Content
Moderate-high Clay Content
Moderate Cohesion
Moderate Plasticity
Dark Yellowish Brown Color
10YR 4/4

USDA Soil Texture: Clay
USDA Soil Type: 4A
USDA Structure Shape: Blocky
USDA Structure Grade: 1
Cementation Class: Non-cemented
Long Term Acceptance Rate (LTAR, Treatment Level 1): 0.15



LTAR to be Used for OWTS Sizing: **0.15GPD/SF (USDA Type 4A, Treatment soil, Treatment Level 1)**
Depth to Groundwater (Permanent or Seasonal): Not Encountered
Depth to Bedrock and Type: Not Encountered
Depth to Proposed Infiltrative Surface from Ground Surface: Unknown (Maximum 4 ft Below Existing Ground Surface)
Soil Treatment Area Slope and Direction: East @ 7%

10/22/18

Note: See El Paso County Board of Health Regulation Chapter 8: On-Site Wastewater Treatments Systems (OWTS) Regulations for Additional Information. Refer to Table 10-1 for Corresponding LTAR if Treatment Level 2, 2N, 3, or 3N will be Implemented in the Design of the OWTS. System Sizing Depends on a Number of Factors (i.e. LTAR, # of Bedrooms, Type of Soil Treatment Area (STA), Method of Transfer to the STA (Gravity, Dosed, or Pressure Dosed), and Type of Storage / Distribution Media Used in the STA)

Project: 18-0339
Sheet: 1 of 2
Date: 13 Jun 2018
Scale: 1/4" = 1'
Drawn by: tjh
Checked by: cem

Project Name and Address

Mark Waskosky

3195 Hoofprint Rd
Lot 6, Filing 1,
The Reserve At Corral Bluffs
Sch. No. 4331003016
El Paso County, Colorado

GEOQUEST, LLC.
6825 SILVER PONDS HEIGHTS
SUITE 101
COLORADO SPRINGS, CO
80908

OFFICE: (719) 481-4560
FAX: (719) 481-9204

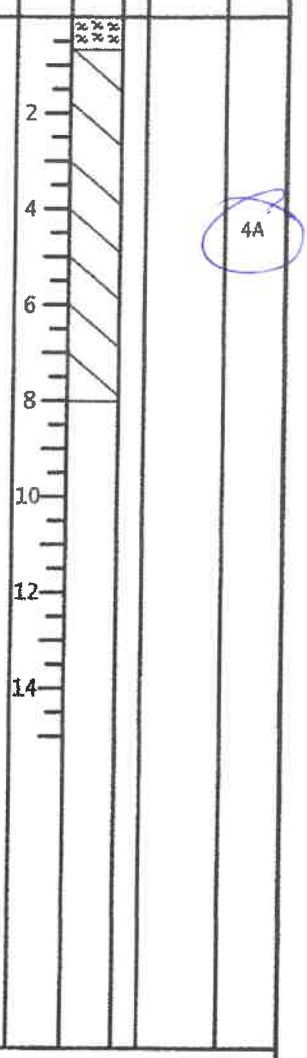
PROFILE PIT LOG - Profile Pit #2

JOB#: 18-0339
DATE EVALUATED: 05 June 2018
EQUIPMENT USED: MINI-EXCAVATOR

0"-8" **TOPSOIL**
Loam
Organic Composition

8"- 8' **Clay**
Fine-medium Grained
Moderate-high Density
Low-moderate Moisture Content
Moderate-high Clay Content
Moderate Cohesion
Moderate Plasticity
Dark Yellowish Brown Color
10YR 4/4

USDA Soil Texture: Clay
USDA Soil Type: 4A
USDA Structure Shape: Blocky
USDA Structure Grade: 1
Cementation Class: Non-cemented
Long Term Acceptance Rate (LTAR, Treatment Level 1): 0.15



LTAR to be Used for OWTS Sizing: **0.15GPD/SF (USDA Type 4A, Treatment soil, Treatment Level 1)**
Depth to Groundwater (Permanent or Seasonal): Not Encountered
Depth to Bedrock and Type: Not Encountered
Depth to Proposed Infiltrative Surface from Ground Surface: Unknown (Maximum 4 ft Below Existing Ground Surface)
Soil Treatment Area Slope and Direction: East @ 7%

10/22/18

Note: See El Paso County Board of Health Regulation Chapter 8: On-Site Wastewater Treatments Systems (OWTS) Regulations for Additional Information. Refer to Table 10-1 for Corresponding LTAR if Treatment Level 2, 2N, 3, or 3N will be Implemented in the Design of the OWTS. System Sizing Depends on a Number of Factors (i.e. LTAR, # of Bedrooms, Type of Soil Treatment Area (STA), Method of Transfer to the STA (Gravity, Dosed, or Pressure Dosed), and Type of Storage / Distribution Media Used in the STA)

Project: 18-0339
Sheet: 2 of 2
Date: 13 Jun 2018
Scale: 1/4" = 1'
Drawn by: tjh
Checked by: cem

Project Name and Address

Mark Waskosky

3195 Hoofprint Rd
Lot 6, Filing 1,
The Reserve At Corral Bluffs
Sch. No. 4331003016
El Paso County, Colorado

GEOQUEST, LLC.
6825 SILVER PONDS HEIGHTS
SUITE 101
COLORADO SPRINGS, CO
80908

OFFICE: (719) 481-4560
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Cover Page

CALCULATIONS (New OWTS):
Proposed Single Family Residence with 5 Bedrooms

LTAR = 0.15 Gallons per Day per Square Foot (GPD/SF). USDA Soil Type 4A per Profile Pit 6/5/2018.

Q = (3 BDRM)(150 GPD) + (2 BDRM)(75 GPD)

Q = 600.0 Gallons per Day (GPD)

Non-Pressurized Drip Dispersal System (NDDS)

$$A = \frac{Q}{LTAR} * 1.5 = \frac{600.0\ GPD}{0.15\ GPD/SF} * 1.5$$

A = 6,000.0 SF Required (Use 6,000 SF)

PLUMBING DESIGN:
Number of Laterals:
6,000 SF / 200 SF per Lateral = 30 Laterals
(500 LF per Zone)(6 Zones) = 3,000 LF of Pipe

Distribution Pipe: Use 2" Ø Solid Sch. 40 PVC
Soil Treatment Area (STA) Pipe: Use 2" Ø
Sch. 40 PVC 1/4" Ø Holes @ 8" O.C.
Place at Holes at 6 O'Clock (i.e. Down)

TANK SIZES:
Main Tank Size = Min. 1,500 Gallons (Two-Compartment)
Pump Chamber = Min. 500 Gallons Use 5'Ø Circular Pump Chamber (Use of Two-Compartment 1,000 Gal. Septic Tank w/ Pump in Second Compartment is an Acceptable Alternative for the Pump Chamber. See Pump Chamber Detail on Page 4 for Additional Information).

HOMEOWNER RESPONSIBILITY:
- Rotate Zones (See Note Below)
- Have OWTS Inspected Annually
  - -Clean Effluent Filter
  - -Flush Laterals
  - -Function Test Valve Assemblies
  - -Check Water Levels in Inspection Ports
- Have Septic Tank Pump Every 3-5 Years (or As Needed, Contact Licensed Pumper)
- Plant Native Grass Over STA (No Plants with Roots or that Require Irrigation)
- Don't Pour Chemicals Down Drain
- Don't Throw Trash In Toilet (Minimize Toilet Paper Consumption)
- Use of Garbage Disposal is Discouraged
- Conserve Water and Repair Leaking Fixtures

This is NOT a Complete List (Contact Local Health Department and EPA List of Septic "Do's and Don'ts"

REST CYCLE NOTE:
Research Indicates Allowing a Septic Field to "Rest" for Several Months Increases Its Long term Utility.

Geoquest, LLC. Recommends Resting Each Zone for Three to Six Months, Systematically Cycling Through Each Zone Sequentially such that Each Zone of the System is Idled for a Period Every One or Two Years.

GENERAL NOTES:
All Work per El Paso County Board of Health Regulations Chapter 8: On-Site Wastewater Treatment Systems (OWTS) Criteria.

All Setbacks Shall Conform to El Paso County Regulations (See Table 7-1 in the Regulations for Additional Information). Contractor/Homeowner Must Verify All Setbacks and Obtain Utility Clearances Prior to Construction.

Contractor/Homeowner is Responsible for Permit. Contractor/Homeowner Must Obtain Approval of Engineered OWTS from the El Paso County Health Department.

All Bends Limited to 45 Degree Ells or Long Sweep Quarter Bends. Areas Under Driveways Shall Be Protected as Per El Paso County Health Department Regulations.

Building Sewer Clean-Outs Shall Be Installed within 5 FT of the Structure and at Intervals Not to Exceed 100 FT in Straight Runs, Upstream at Each Change of Direction Greater Than 45°, and at Any Combination of Bends Greater Than 45° within a 40 FT Section of Building Sewer.

Grade Surrounding Area to Drain Away from the Soil Treatment Area (STA).

Paving, Planting of Trees/Shrubs, Irrigation and Vehicular Traffic or Hoofed Animal Traffic of Any Kind Over the STA may Cause Premature Failure and is Prohibited.

Refer to Sheet 2, 3, and 4 for Additional Details and Information.

INSPECTIONS REQUIRED ARE AS FOLLOWS:
1.) Engineer Will Inspect the Installation of All OWTS Components (i.e. All Plumbing, Tanks, Pump Chamber, STA, etc.) Prior to Backfill.
2.) Engineer to Inspect the Soil Treatment Area After Backfill to Insure Min. Cover and Proper Drainage Away from Soil Treatment Area.
Please Notify this Office Min. 24 Hours Prior to Inspection.

10/22/18

GEOQUEST, LLC.
6825 SILVER PONDS HEIGHTS
SUITE 101
COLORADO SPRINGS, CO
80908

OFFICE: (719) 481-4560
FAX: (719) 481-9204

COLORADO REGISTERED
CHARLES E. MILLIGAN
34608
PE
10/26/18

Geoquest, LLC. has Provided this Design in Accordance with the Standards of Practice Common to the Area. However, as with All Underground Absorption Fields, Guarantee from Failure is Impossible. Even with Proper Installation, as Outlined for this Proposed Construction, There Can Remain Many Uncertainties, and Difficulties 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. Homeowners Should be Advised of Maintenance and Special Considerations for Septic Systems. Refer to El Paso County Public Health Brochure: "Maintaining Your Septic System" for Additional Information. Due to the Possibility of Unknown Water Usage Factors, Geoquest, LLC. Provides No Warranty of this Design or Installation Against Failure or Damage of Any Type.

Project: 18-0339	Project Name and Address
Sheet: 1 of 4	Mark Waskosky
Date: 25 Sept 2018	3195 Hoofprint Road,
Revised:	Lot #6, Filing #1,
Drawn by: vsm	Sch. No. 4331003016
Checked by: cem	El Paso County, Colorado

CALCULATIONS:

Proposed Single Family Residence with 5 Bedrooms

LTAR = 0.15 Gallons per Day per Square Foot (GPD/SF). USDA Soil Type 4A per Profile Pit 6/5/2018.

Q = (3 BDRM)(150 GPD) + (2 BDRM)(75 GPD)

Q = 600.0 Gallons per Day (GPD)

Non-Pressurized Drip Dispersal System (NDDS)

$$A = \frac{Q}{LTAR} * 1.5 = \frac{600.0\ GPD}{0.15\ GPD/SF} * 1.5$$

A = 6,000.0 SF Required (Use 6,000 SF)

PLUMBING DESIGN:

Number of Laterals:
6,000 SF / 200 SF per Lateral = 30 Laterals
(500 LF per Zone)(6 Zones) = 3,000 LF of Pipe

Distribution Pipe: Use 2" Ø Solid Sch. 40 PVC
Soil Treatment Area (STA) Pipe: Use 2" Ø Sch. 40 PVC 1/4" Ø Holes @ 8" O.C.
Place at Holes at 6 O'Clock (i.e. Down)

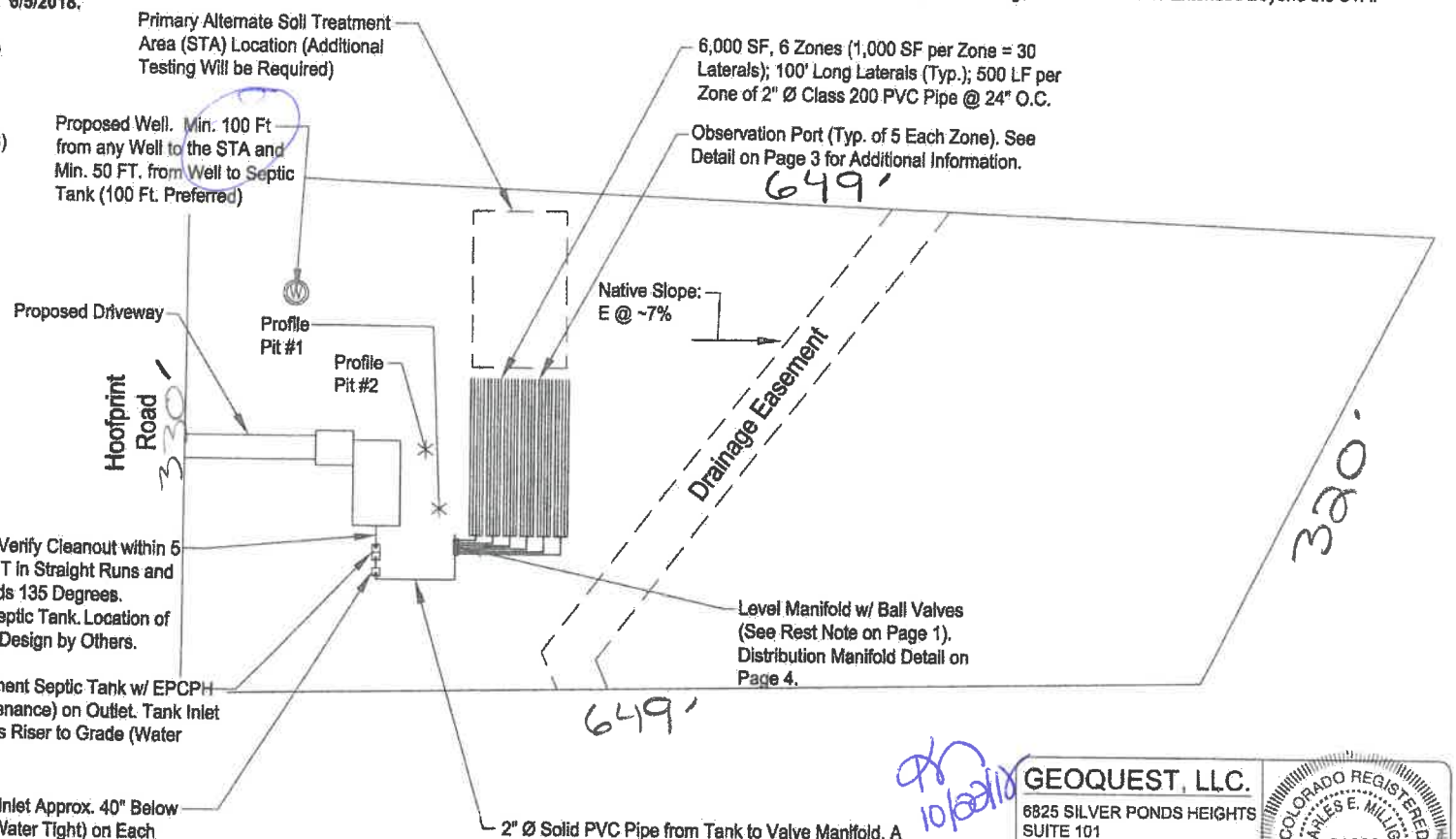
4" Ø PVC Solid Pipe from House to Septic Tank, Verify Cleanout within 5 FT of House and at Intervals Not to Exceed 100 FT in Straight Runs and When the Cumulative Change in Direction Exceeds 135 Degrees. Maintain 2.0% Min. Grade on Pipe Feeding the Septic Tank. Location of the Discharge Line from the House per Plumbing Design by Others.

Min. 1,500 Gal. Precast Concrete Two- Compartment Septic Tank w/ EPCPH Approved Effluent Filter (Requires Regular Maintenance) on Outlet. Tank Inlet Approx. 36" Below Existing Grade. Secure Access Riser to Grade (Water Tight) on Each Compartment.

Min. 500 Gal. Precast Concrete Pump Chamber (Inlet Approx. 40" Below Existing Grade). Secure Access Riser to Grade (Water Tight) on Each Compartment. See Pump Chamber Detail on Page 4.

OWTS to be Roped Off (Caution Tape or Temporary Construction Fencing is Acceptable) During Construction to Prevent Construction Traffic from Compacting Surface Soils and Protect the STA from Traffic After Installation.

Install Drainage Swale on All Uphill Sides to Ensure Surface Runoff is Diverted Around the STA. Downspouts near the STA Shall Discharge into the Swale or Extended Beyond the STA.



* Indicates Geoquest, LLC. Test Locations
Location from Northwest Lot Corner to Profile Pit #1: N. 54° E. - 202'
Location from Profile Pit #1 to Profile Pit #2: N. 13° W. - 38'
GPS Coordinates:
Profile Pit #1: N. 38° 52' 35.31" , W. 104° 35' 43.70"
Profile Pit #2: N. 38° 52' 35.66" , W. 104° 35' 43.79"

10/22/18

GEOQUEST, LLC.
6825 SILVER PONDS HEIGHTS
SUITE 101
COLORADO SPRINGS, CO
80908

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COLORADO REGISTERED PROFESSIONAL ENGINEER
CHARLES E. MILLIGAN
34608
10/22/18

N
0 25 50 75
GRAPHIC SCALE IN FEET
SCALE: 1" = 75'

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NOTES:
All Work per El Paso County Health Department Criteria.

Soil Treatment Area (STA) Shall Be Crowned and Covered with a Minimum of 6" of Select Topsoil to Provide a Base for Good Vegetative Cover.

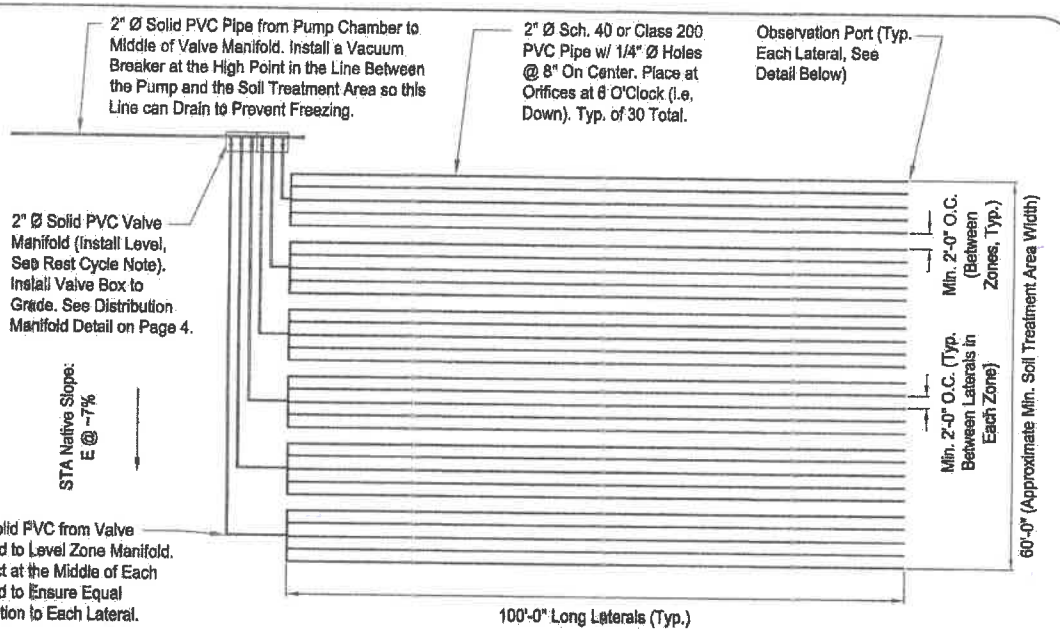
Contact Soil Conservation Service or County Extension Agent for Vegetation Best Suited for the Area. Grasses are Best. Trees and Shrubs May Damage/Block Pipes. Vegetation Shall Be Maintained and Mowed to Prevent Formation of Bio-Matting. Do Not Pave Over the STA.

Provide 2.0% Min. Grade on Pipe to Septic Tank. Provide 0.5% Min. Grade on Pipe to the STA (for Drainage).

Provide Drainage Swale Around Uphill Side of the STA.

Rest Cycle Note:
Research Indicates Allowing a Septic Field to "Rest" for Several Months Increases its Long term Utility.

Geoquest, LLC. Recommends Resting Each Zone for Three to Six Months, Systematically Cycling Through Each Zone Sequentially such that Each Zone of the System is Idled for a Period Every One or Two Years.

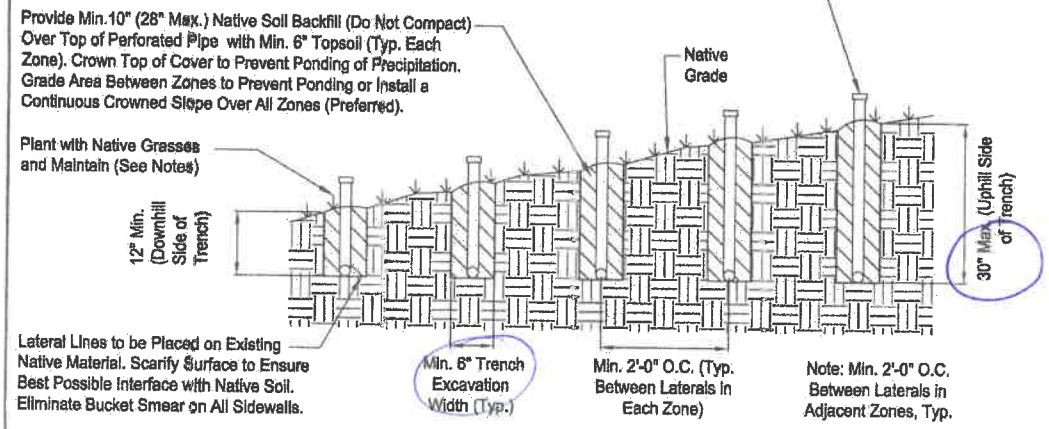


STA Layout Illustrates the General Design Layout. Minor Rotation (ie. Less Than 15°) or Curvature of the Soil Treatment Area (STA) Trenches to Best Fit the Site Topography is Acceptable (i.e. Install Each STA Zone Parallel to Site Contours to Maintain Even Depth on Each Trench Excavation). STA shall Maintain the Approximate Orientation Shown on Page 1 with Respect to Buildings and Lot Lines. Zones May Be Spaced Out as Desired to Minimize the Loss of Trees. Contact Engineer for Clarification.

Soil Treatment Area (STA) Layout (NDDS)

Not to Scale

Observation Port at End Opposite of Manifold (Typ. Each Lateral) May be Placed in Small Valve Box if Desired. This Will Provide Access to Flush Each Lateral, Allowing for Removal of the Build-Up of Organics (System Maintenance). Drill a 1/4" Ø Hole in 1 Flushing Valve per Zone (Above Grade) to Allow Ventilation. See Detail at Right.

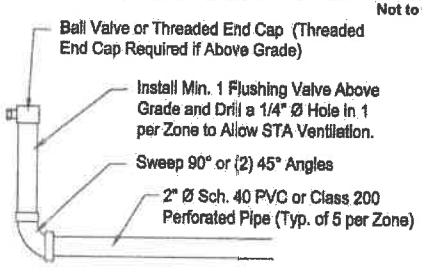


All Laterals within Zone to be Level; Zones May be at Different Elevations. Each Zone to be Parallel to Existing Site Contours.

Special Note: Provide Positive Drainage Swale on All Uphill Sides of the STA to Divert Runoff Around the Soil Treatment Area (Min. 2% Grade)

Typical Zone Cross-Section (Trencher Install)

Not to Scale



Min. 6" Above Finish Grade or May be Placed in Small Valve Box if Desired (Except Min. 1 per Zone Required Above Grade). This Will Provide Access to Flush Each Lateral, Allowing for Removal of the Build-Up of Organics (System Maintenance).

Observation Port Detail

Not to Scale

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COLORADO REGISTERED PROFESSIONAL ENGINEER CHARLES E. MILLIGAN 34608 27 SEPT 18

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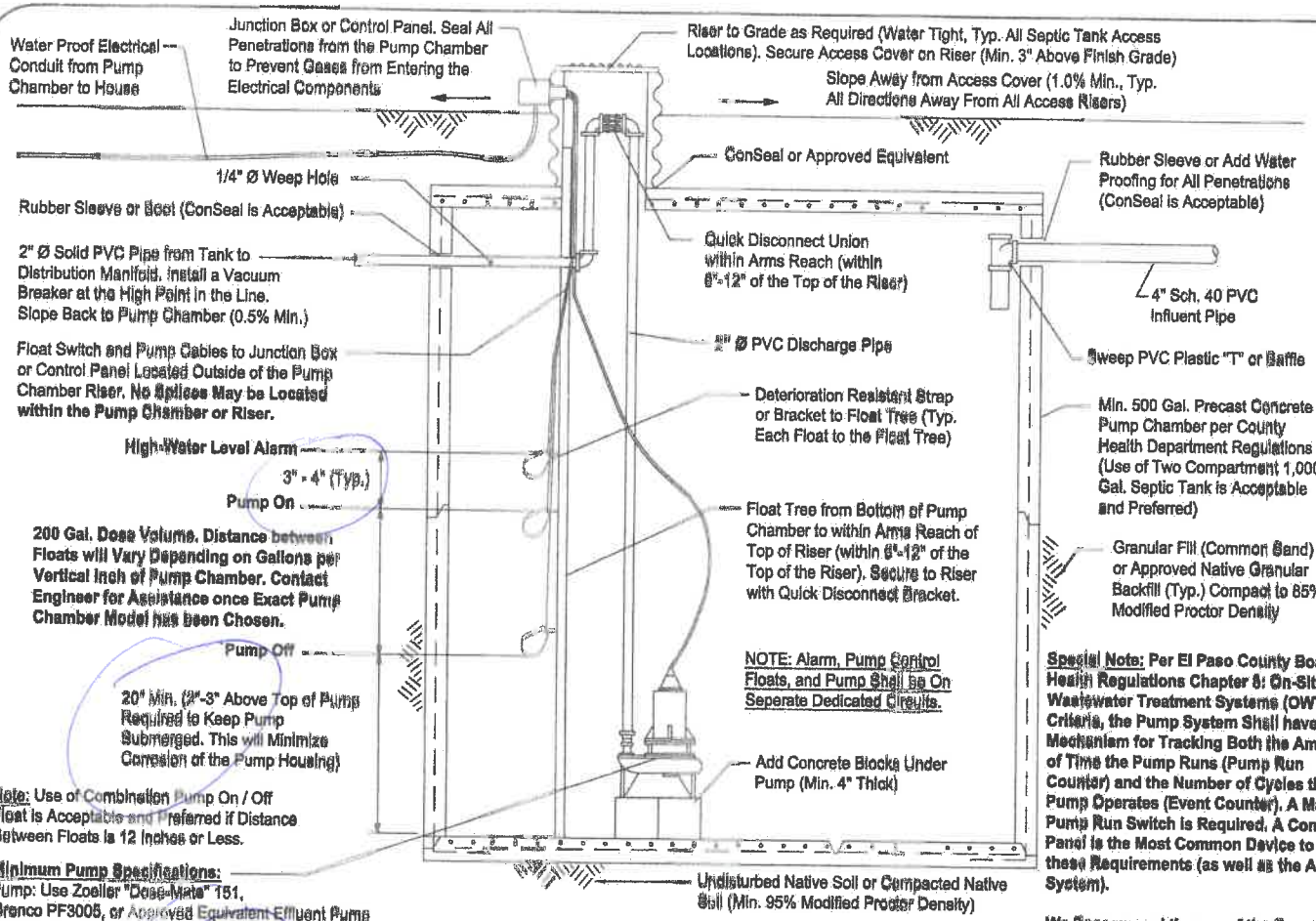
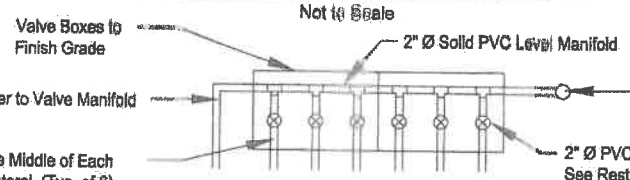


Note: Use of Combination Pump On / Off Float is Acceptable and Preferred if Distance Between Floats is 12 Inches or Less.

Minimum Pump Specifications:
Pump: Use Zoeller "Dose-Mate" 151, Orenco PF3005, or Approved Equivalent Effluent Pump Prior to Installation (May be Revised Once System has Been Plumbed and Exact Site Conditions are Verified)
Design Flow Rate = Min. 26.0 GPM
Total Dynamic Head (TDH) = Approx. 17.0 ft
Dose Volume = 200 Gallon Dose Required

Pump Chamber Cross Section

Not to Scale



2" Ø Solid PVC to Level Zone Manifold. Connect at the Middle of Each Zone Manifold to Ensure Equal Distribution to Each Lateral. (Typ. of 6)

Note: Use 2" Ø PVC 90° Elbows and Tees (Typ.)

Distribution Manifold Detail

Not to Scale

Special Note: Use of an Automatic Distribution Valve (ADV) is Acceptable. Contact Engineer for Additional Detail and Clarification if an ADV is Desired.

Special Note: Per El Paso County Board of Health Regulations Chapter 8: On-Site Wastewater Treatment Systems (OWTS) Criteria, the Pump System Shall have a Mechanism for Tracking Both the Amount of Time the Pump Runs (Pump Run Counter) and the Number of Cycles the Pump Operates (Event Counter). A Manual Pump Run Switch is Required. A Control Panel is the Most Common Device to Fulfill these Requirements (as well as the Alarm System).

We Recommend the use of the Orenco MVP, Aquaworkx IPC, SJE-Rhombus or Approved Equivalent Control Panel Equipped with a Manual Pump Run Switch, Pump Run Counter, and Event Counter. Engineer to Approve Prior to Installation.

Electrical Code Requirements: All Electrical Work, Equipment, and Material Shall Comply with the Requirements of the Currently Applicable National Electrical Code as Designated by the State Electrical Board Rules and Regulations (3 CCR 710-1) on the Date of the Permit. The Electrical Installer Shall Contact the Electrical Inspector for the Location where the OWTS is Constructed. All Electrical Components Shall be Protected from Moisture and Corrosive Gases. Special Care Shall be Taken to Ensure the Electrical Requirements of Each Component Meet Manufacturer Specifications (i.e. Voltage and Amperage).

1. All Wire Splices Shall be Enclosed in a National Electrical Manufacturers Association (NEMA) 4x Splice Box OR Control Panel. The Splice Box or Control Panel Shall be Placed in an Accessible Location Positioned Outside of the Tank Riser.
2. All Wires Shall be Spliced with Corrosion-Resistant, Watertight Connectors. **NO WIRE SPLICES ARE ALLOWED WITHIN THE PUMP CHAMBER OR RISER.**
3. Conduits Shall be Sealed to Prevent Gases from Entering the Splice Box or the Control Panel (if System is so Equipped) and Electrical panel.
4. A Means to Disconnect the House Power Supply to OWTS Components Shall be Provided at the Splice Box or at the Pump Control Panel (if System is so Equipped).
5. The Branch Circuit Wire from the Building to the Splice Box or Control Panel Shall be a Minimum of 24" Below the Ground Surface. Lines Buried Less than 24" are Allowed, but Will be Required to be in Conduit or have Ground Fault Protection on the Circuit. Conduit from the Splice Box or Control Panel to the House is Strongly Recommended for All Wiring.
6. Conduit Risers for Physical Protection Must Extend Min. 18" Below Finish Grade.

Best Practices Guidelines: The Following "Best Practices" are Intended to Facilitate Maintenance and Servicing of the Electrical Components Associated with Lift Stations, Dosing Systems, and Treatment Units that are Part of an OWTS.

1. The "Quick Disconnect" for the Pump Discharge pipe (i.e. Union) Shall be Located within 6"-12" of the Top of the Riser(s). Electrical Lines at the Septic Tank, Dosing Tank, or Treatment Unit Must be Placed in such a Manner as to Protect them from Damage During Backfill. Conduit from the Splice Box or Control Panel to the House is Strongly Recommended for All Wiring.
2. The Floats Shall be Secured to a Separate Float Tree with Approved Connecting Straps or Brackets that will Remain Secure Underwater and Not Deteriorate. Electrical Tape is Not Acceptable. Top of Float Tree to be within 6" - 12" of the Top of the Lift Station, Dosing System Tank or Treatment Unit Riser.
3. If a Separate Riser is Used, it Shall be Secured to the Tank to Maintain the Riser in an Upright and Plumb Position.
4. Control Panels, if Used, Shall be Placed within "Line of Sight" of the Pump.
5. The Alarm, Pump Control Floats, and Pump Shall be Placed on a Separate Dedicated Circuits

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COLORADO REGISTERED CHARLES E. MILLIGAN 34608 27 SEP PROFESSIONAL ENGINEER

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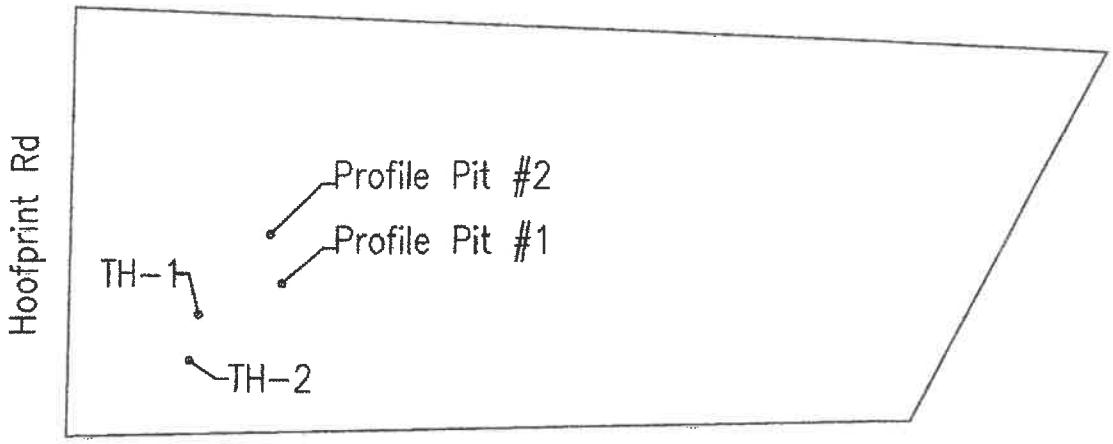
GEOQUEST LLC

SITE MAP

Lot 6, Filing 1
The Reserve At Corral Bluffs
3195 Hoofprint Rd
El Paso County
Colorado
Job #18-0339



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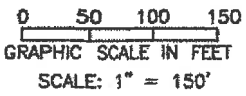

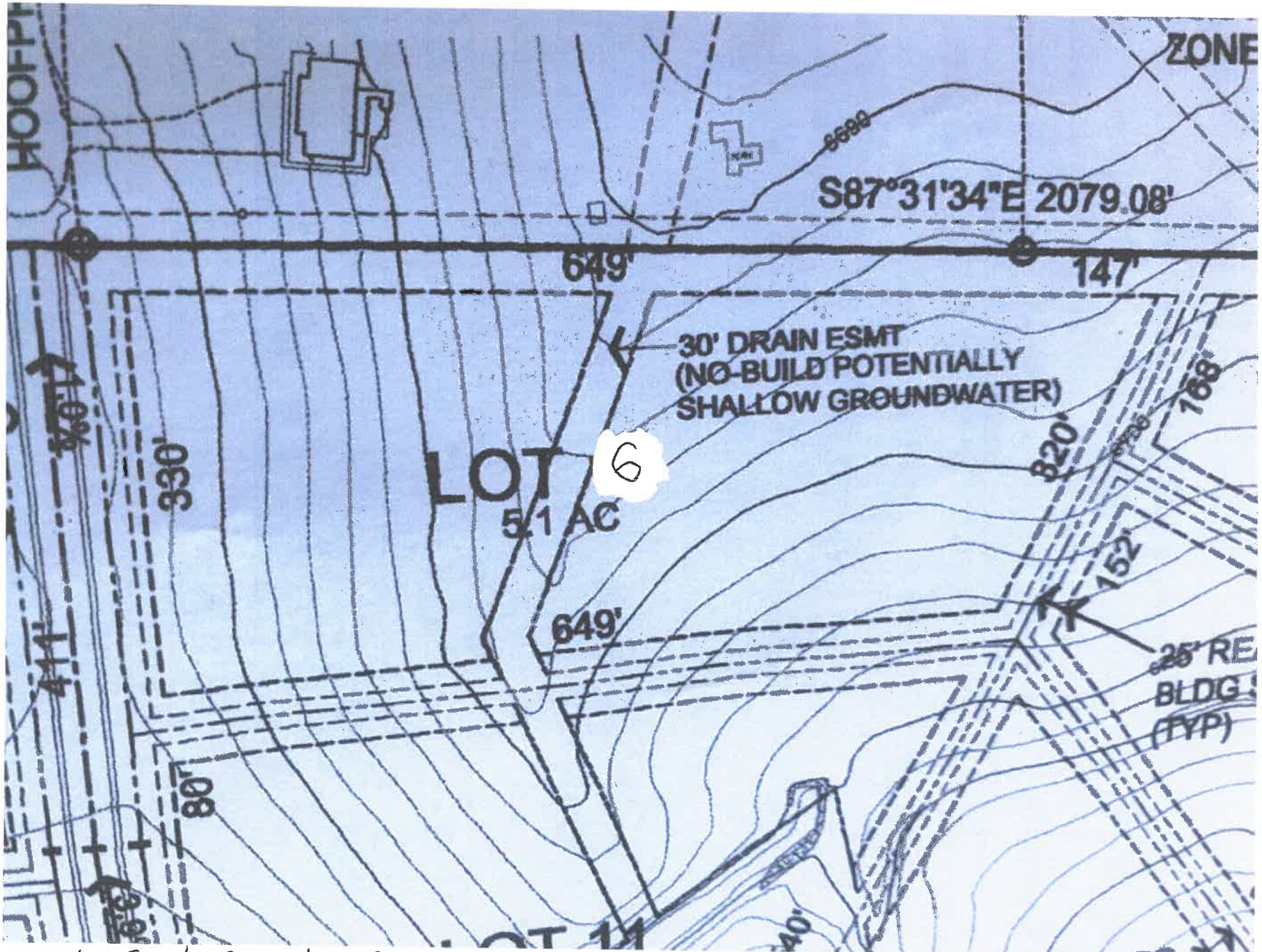

3195 Hoofprint Rd
Peyton CO 80831

Lot 6 the Reserve at Coral Bluff
Filing # 1 El Paso CO