



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

0N0049894

On-site ID: ~~0N00498494~~ Tax schedule (APN) #: 5232401020 Permit Type: New Major Minor
Environmental Health Specialist: Bex Petro Final Inspection Date: 4/5/2019 Approved: YES NO

Residential Property Information:

Owner: ALBINO FLETES Address: 9225, BEN TIRAN CT, COLORADO SPRINGS, CO, 80908 Approved No. Bedrooms: 6
Water supply: Municipal Well Cistern Date well installation verified: Date GPS of Well: Capacity
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 Type: 2A LTAR: 0.5 Limiting Layer: Groundwater 72" in PP1 & PP2 Bedrock

OWTS Tank: Capacity (gallons): 1250
Soil Treatment Area (STA): Sq. Ft. (10-1): 1350 Sq. Ft. (10-2): 1485 Sq. Ft. (10-3): 1039.5 Sq. Ft. (with Diverter Valve): (10-2)/(2)

Final system installation:

Licenses Installer: Tier 1 Tier 2: Homeowner: Installer: Daniel with Leach Civil INC.

OWTS Tank: Construction Material: Concrete Capacity (gallon): 2250 Existing New
GPS Location of tank: 38° 57.683' N, 104° 46.967' W

OWTS Pump Tank: YES NO Capacity (gallon): 500 Audio/visual Alarm: YES NO
Pump (Gal/dose): _ Dose: _ Total Dynamic Head: _ Elevation difference: _

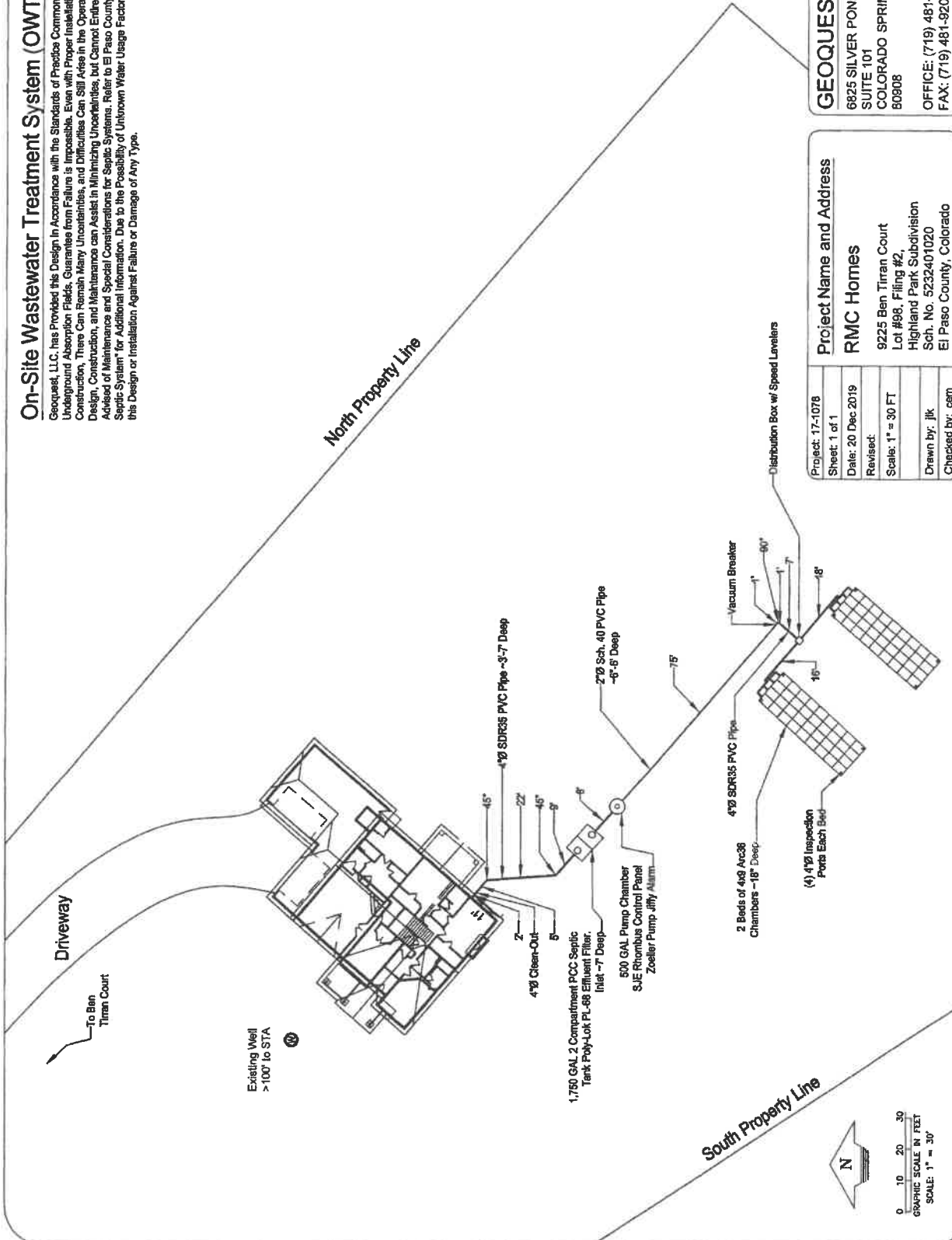
Soil Treatment Area (STA): GPS Location: 38° 57.533' N, 104° 41.117' W Total Sq. Ft installed: 1080
Configuration: Trench Bed Distribution: Gravity Pump to Gravity
 Rock and Pipe: Width: __ Total Length: __ Installation Depth: __
Depth of Rock(under pipe): __ Type of cover on Rock: __
 Chambers: Type: Arc 36 Sq. Ft/chamber: 15 No. Chambers: 72 Installation Depth (range): 12"-24"

Record Drawing:

*See next page
for drawing.*

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 Brochures, "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.



North Property Line

South Property Line

Driveway

To Ben Tiran Court

Existing Well
>100' to STA

1,790 GAL 2 Compartment PCC Septic Tank
Tank Poly-Lok PL-68 Effluent Filter
Inlet - 7' Deep

4\"/>

4\"/>

2\"/>

4\"/>

Vacuum Breaker

2 Beds of 4x8 Arc38 Chambers - 18\"/>

(4) 4\"/>

Distribution Box w/ Speed Levelers

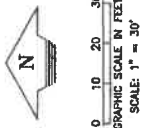
Project:	17-1078
Sheet:	1 of 1
Date:	20 Dec 2019
Revised:	
Scale:	1" = 30 FT
Drawn by:	JK
Checked by:	cem

Project Name and Address
RMC Homes
 9225 Ben Tiran Court
 Lot #98, Filing #2,
 Highland Park Subdivision
 Sch. No. 5232401020
 El Paso County, Colorado

GEOQUEST, LLC.
 6825 SILVER PONDS HEIGHTS
 SUITE 101
 COLORADO SPRINGS, CO
 80908
 OFFICE: (719) 481-4580
 FAX: (719) 481-9204



OWTS Installer Information:
 Installed by: RMC Homes
 Contact Info:
 Ron Malesyn
 (719) 489-4000
 2455 Brenton Drive
 Colorado Springs, CO 80918
 Installation Inspection Performed on: 7/11/18
 Final Inspection Performed on: 12/20/19



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: ALBINO FLETES
9225 BEN TIRRAAN CT
COLORADO SPRINGS, CO 80908



**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 1/10/2019 To 1/10/2020

PERMITEE : **ALBINO FLETES**
9225 BEN TIRRAAN CT
COLORADO SPRINGS, CO 80908

Onsite ID: ON0049894

Tax Schedule # : 5232401020

Permit Issue Date: 01/10/2019

Dwelling Type: RESIDENTIAL

of Bedrooms (if Res): 6

Proposed Use (if Comm):

Designed Gallons/Day:

Water Source: PRIVATE WELL

OWNER NAME : **ALBINO FLETES**

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 Pump to gravity system (Zoeller "Dose Mate" 153, Orenco PF3005, Design flow rate= Min 32.9 GPM with a total dynamic head of approximately 24.7 ft, Residual head 5 ft, dose volume of 115 gallon dose) with a d-box to chamber in one bed and one trench, max installation depth of 24" due to groundwater evidence at 72". Minimum tank requirements 1750 gallon and 1040 sq ft of soil treatment area (87 Q4 / 70 Arc 36 chambers required).
- The system must be installed per approved (GeoQuest LLC non-engineered design document #15-0280) signed and dated 12.3.2018, 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.
- Ensure that all work is completed prior to contacting and requesting final line for inspection, otherwise additional fees may be incurred.

For questions, call Bex: 352-1846

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Attn: ALBINO FLETES
9225 BEN TIRAN CT
COLORADO SPRINGS, CO 80908



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ENVIRONMENTAL HEALTH DIVISION
1675 W. GARDEN OF THE GODS ROAD, SUITE 2044
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PHONE: (719) 578-3199 FAX: (719) 578-3188
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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

Por Box P.



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SP0010798 AR0014833 ON0049894

APPLICATION FOR AN ON-SITE WASTEWATER TREATMENT SYSTEM PERMIT

Property Information:

Property Address: 9225 Ben Tivnan Ct City and Zip: Colorado Springs CO, 80908

Legal Description: Lot 98 Highland Park Subdivision Filing 2

Tax Schedule #: 5232401020 Lot size: 5 Acres

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: 6

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

Owner Information: Primary Contact

Owner: ALBINO Fletes Daytime Phone: (719) 491-3811

Owners Mailing Address: 7527 MANISTIQUE CTS, CO 80923-7541

Email Address: ALBINO3578@Gmail.com Fax #: _____

General Contractor: Ron Homes Inc/DBA Ron Mak's Construction Phone/Email (719) 499-4000

OWTS Installer Information: Primary Contact ATMAKSYN@MSN.com

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.

Constructing New Home, Driveway, Garage and Detached
garage. ~~Excavation~~ Excavation for New Foundation Brick
Job of Foundation Install Septic Leach Field, final
Grade to New Home & Detached garage
concrete porch & patio

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: _____ Date: 12-18-18

Box

- 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.

WOODMAN TO BLACK FOREST NORTH TO VOLLMER TURN RIGHT
 VOLLMER TO LOCHWINNOCH LN. LEFT TO BEN TIRMAN CT.
 LEFT TO THE END OF THE CULDESSAC LOT'S ON THE SOUTH EAST
 SIDE.

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

Permit #: 0N0049894 Site Inspection date: 12/19/18
 Date Approvals Rcvd: Development Services: _____ Floodplain/enumerations: 12/19
 Design: Conventional Engineer Design Engineer: Geoquest, LLC
 Engineer Job #: 15-0200 Engineer Date Stamped: 12.3.18
 LTAR/Soil Type: 0.5/2A Groundwater: 72" PP1/72" PP2 Bedrock: PP1/PP2
 Minimum Requirements: Tank Capacity: 1750 Soil Treatment Area: 1040
 System Feed: Gravity Pump to Gravity Pressure Dosed Other: _____
 System Media: Chambers Rock and Pipe Other Soil Treatment Area: Trenches Bed
 Additional Comments: $675/0.5 = 1350(1.1) = 1485(0.7) = 1039.5$
(8704, 70 Arc 36)
No deeper than ~~24"~~ 24"
 E.H. Specialist: Bex Pate Date: 12/20/18 Approved Denied



01N00498494^E
5232401020
4.5.2019
23 December 2019

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 #17-1078
Lot #98, Filing #2,
Highland Park Subdivision,
9225 Ben Tirran Court,
El Paso County, Colorado

Dear Sir or Madam,

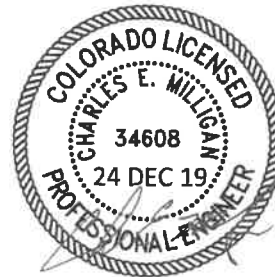
We inspected the installation of the septic system at the above address at several points during its construction as well as the finished product. It has been installed in accordance with our engineered plans and specification. This includes having the correct size septic tanks, the proper grade on all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

Charles E. Milligan
Civil Engineer





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**CONVENTIONAL (NON-ENGINEERED)
ON-SITE WASTEWATER TREATMENT SYSTEM (OWTS) DESIGN WORKSHEET
(MUST BE COMPLETED FOR ALL CONVENTIONAL DESIGNS)**

Wastewater Flow

Total number of bedrooms:	<u>6</u>
Design wastewater flow (gallons/day) from Table 6-1:	<u>675</u>

Septic Tank

Septic tank size (in gallons) from Table 9-1:	<u>1750</u>
Tank burial depth (from top of tank, in inches) <i>(NOTE: Shall not exceed 48 inch depth by regulation)</i>	<u>max 48"</u>
Will groundwater affect tank?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Will an effluent screen be installed?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<i>(Note: Effluent screens are required for all new systems or replacement of the septic tank)</i>	

Soil Treatment Area (STA)

Long Term Acceptance Rate (LTAR) From Table 10-1:	<u>.50</u>
Unadjusted STA size (see 8.10.C.4) -- show calculation: <u>Design flow (gallons per day)</u> LTAR (gallons/day/sq.ft.) =	<u>675/.5=1,350x.7=945x.1.1=1039.5</u> <u>Chambers, pumped-bed</u>
Depth of STA (cannot exceed 48"):	
Trenches are preferred. If bed system is selected, the selection reason must be specified: <u>Ease of excavation with sandy soils collapsing trench walls</u>	
Type of STA (check which applies): <input type="checkbox"/> Trench <input checked="" type="checkbox"/> Bed	FOR REPAIRS ONLY (check which applies): <input type="checkbox"/> Wide Bed (more than 12 feet wide) <input type="checkbox"/> Deep Gravel Trenches <input type="checkbox"/> Seepage Pit <input type="checkbox"/> None of the Above

Bp 12/20

Method of Septic Tank Effluent Application (check which applies):

- Gravity
- Pump to gravity
- Dispersed by siphon

Type of Distribution Media (check which applies):

- Rock
- Tire chips
- Chambers
- Other _____ Other type _____

Adjusted STA size, using factors from Table 10-2 & 10-3 (show calculation, with adjustment factors utilized):

675/.5=1,350x.7=945x.9=1039.5 / 15 (Arc 36) 69.3. 70 Chambers

Chambers, pumped-bed

A scale drawing *shall* be provided with each design document (see attached example design documents), showing:

- Layout of entire OWTS, including the STA configuration (trench, bed, etc.)
- Dimensions of the trench(s) or the bed(s)
- Location of all OWTS components and distances to all applicable physical features in Table 7-1
- Depths of all components (or elevations relative to a designated benchmark)
- Location of the soil profile test pit excavation(s), or percolation test holes, if required
- Location of the alternate STA site
- North direction arrow
- Graphic scale (1"= 20', 1"= 30', etc.)
- Contours, OR slope direction and % slope

Note: It is recommended that the design document is completed by a professional in the OWTS industry. EPCPH does not complete, or alter design documents. Contact EPCPH with any questions.

The proposed STA sites must be protected from disturbance, compaction, or other damage by staking, fencing, posting or other effective methods.

Certification

Daniel Leach
Signature
Daniel Leach
Print Name
12/17/18
Date
9225 Ben Tirran Ct. CS, CO.
Property Address

Leach Civil Inc.
Company Name
5930 N. Log Rd. Calhan, CO. 80808
Address
719-246-2633
Phone
dan@leachcivil.com
Email

(See attached Tables and Design Document examples)

Bp 12/20

96'

50'-6" (Approx. Length of Each Chamber Bed, Not Including End Caps)

Inspection Port / Vent (Typ. Each Corner of Each Bed, 4 Total, See Detail Below)

1-1/2" Ø Sch. 40 PVC Solid Pipe Level Manifold (Typ. Each Zone)

STA Native Slope: 1 @ 3%

1-1/2" Ø Pipe from Pump Chamber to Level Zone Manifold. Install Vacuum Breaker at Highest Point per Manufacturers Recommendations. Slope the Line Back to the Pump Chamber from the Vacuum Breaker (0.5% Min.).

See STA Cross-Section Detail on Page 4 for Additional Information and Clarification.

~~Flushing Valve (Typ. Each Lateral, See Detail Below)~~

12'-0" (Min. / Max. Width of Chamber Bed)

ARC 36

~~Quick 4 Plus Low-Profile Chambers Modules: 24" x 48" x 36" (Typ.) 16 Each Zone (Typ. of 1); 4 Rows of Chambers (56 Total) 1 row of 6~~

Note: Use of Alternative Chambers is Acceptable. For ARC 36 Low-Profile Chambers (15.0 SF / Chamber, Min. 42 Chambers) Model 4 Zoned, Range of 44 Chambers (Total). Contact Engineer for Clarification.

~~Full Length 1-1/2" Ø Sch. 40 PVC Pipe (Typ. Each Lateral); Suspend from Top of Chamber per Manufacturers Recommendations. Drill 1/8" Ø Holes @ 36" O.C. (Top of Pipe Typ. and Every Third on Bottom).~~

Soil Treatment Area (STA) Layout (Uniformly Pressure Dosed Chamber Beds)

SCALE: 1" = 10'

Vacuum Breaker

Slope the Line Back to the Pump Chamber from the Vacuum Breaker (0.5% Min.).

Vacuum Breaker Detail

Not to Scale

4" Ø Solid Pipe w/ Removable Cap (Min. 6" Above Finish Grade). Drill Min. (4) 1/8" Ø Holes Above Grade to Allow System to Vent. Install per Chamber Manufacturers Recommendations.

End Cap

Infiltrative Surface

Inspection Port / Vent Detail

Not to Scale

~~PVC Ball Valve or Threaded End Cap (Threaded End Cap Required if Above Grade)~~

~~Sweep 90° or (2) 45° Angles~~

~~1-1/2" Ø PVC Pipe Lateral (Typ. of 4, Each Zone)~~

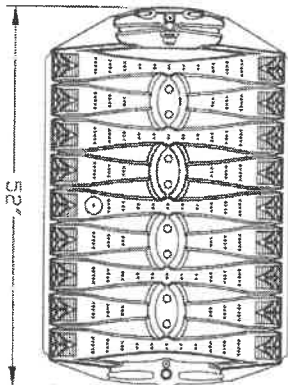
~~Quick 4 Plus Chambers (Typ.)~~

~~Min. 6" Above Finish Grade or 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).~~

Flushing Valve Detail

Not to Scale

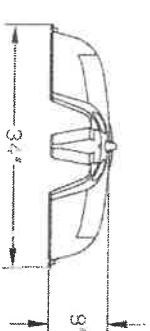
TOP VIEW



FRONT VIEW



SIDE VIEW



Quick 4 Plus Low-Profile Details

Not to Scale

~~GEORQUEST, LLC.
8825 SILVER PONDS HEIGHTS
SUITE 101
COLORADO SPRINGS, CO
80908
OFFICE: (719) 481-4860
FAX: (719) 481-8204~~

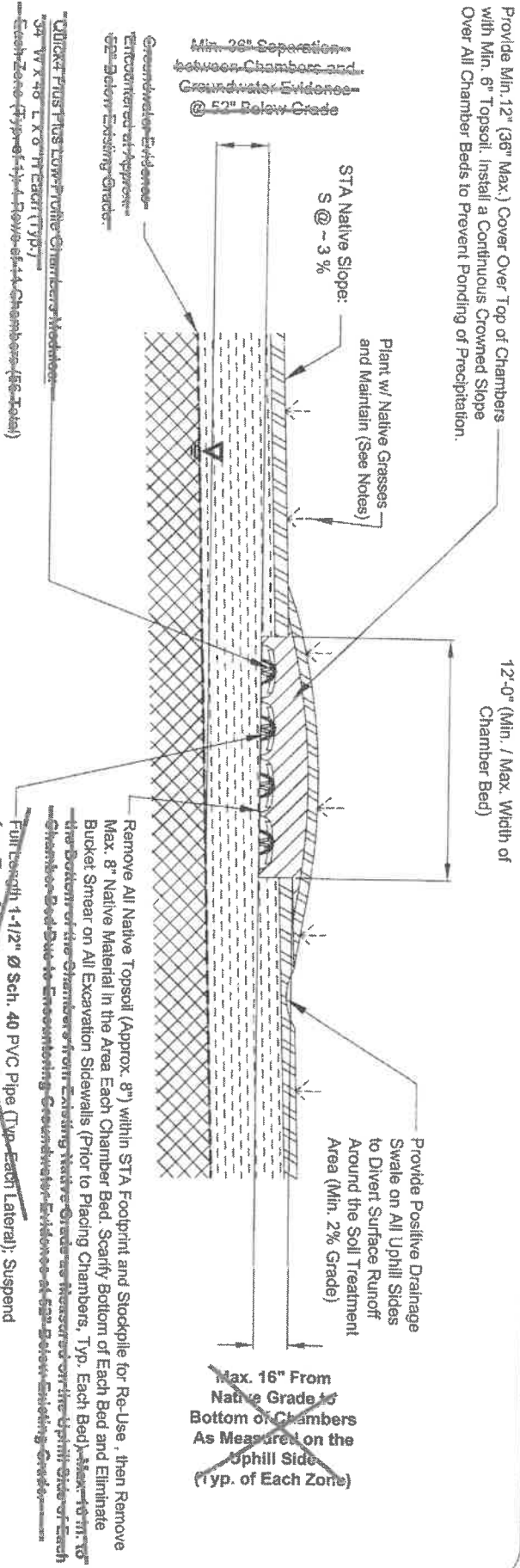


~~Project: 15-0280
Sheet: 3 of 5
Date: 3 Dec 2008
Revised:
Drawn/DCR: dip
Approved by: ceem~~

~~Project Name and Address
Clear Flies
RMC Homes
12460 Falcon Highway
Sch. No. 430000289
El Paso County, Colorado~~

12/20





Provide Min. 12" (36" Max.) Cover Over Top of Chambers with Min. 6" Topsoil. Install a Continuous Crowned Slope Over All Chamber Beds to Prevent Ponding of Precipitation.



Note: Use of Alternative Chambers is Acceptable. For ARC 36 Low-Profile Chambers (15.0 SF / Chamber, Min. 4.1 Chambers), Install 1 Zone: 4 Rows of 11 Chambers (44 Total), Contact Engineer for Clarification.

70

Soil Treatment Area (STA) Cross-Section (Uniformly Pressured Dosed Chamber Beds)

-  Topsoil (Min. 6" on Final Cover), Native Topsoil (Approx. 8"-10", Remove from STA and Stockpile for Re-Use on Final Cover)
-  Approved Granular Material to Provide Cover (with 12", Max. 36" Total, including Topsoil)
-  Native Soil - Loam (USDA 2A) (Approx. 8" - 52" Below Existing Grade)
-  Native Soil - Sandy Loam (USDA 2A, Approx. 52" - 8' Below Existing Grade)

~~Imported Clean Well Graded Sand/Fill Under Chamber Bed per EPCOD Specifications. Below As Necessary to Maintain Min. 36" to Bedrock and Groundwater Evidence Encountered at 52" Below Native Grade. Sand Should Not be Required if STA is Installed Parallel to Site Contours.~~

~~Remove All Native Topsoil (Approx. 8") within STA Footprint and Stockpile for Re-Use, then Remove Max. 8" Native Material in the Area Each Chamber Bed. Scarify Bottom of Each Bed and Eliminate Bucket Shear on All Excavation Sidewalls (Prior to Placing Chambers, Typ. Each Bed). Measure to 1/16" the Bottom of the Chambers from Existing Native Grade as Necessary on the Uphill Side of Each Chamber Bed due to Encountering Groundwater Evidence at 52" Below Existing Grade.~~

~~Fill to 1-1/2" Sch. 40 PVC Pipe (Typ. Each Lateral). Suspend from Top of Chamber per Manufacturers Recommendations: Drill 1/8" Holes @ 36" O.C. Top of Pipe Typ. and Every Third on Bottom). See STA Layout for Additional Information.~~

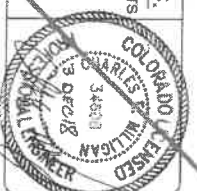
Not to Scale

NOTES:
 All Work per El Paso County Board of Health Regulations Chapter 8: On-Site Wastewater Treatment Systems (OWTS) Criteria.
 Contact Soil Conservation Service or County Extension Agent for Vegetation Best Sited 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 Soil Treatment Area.

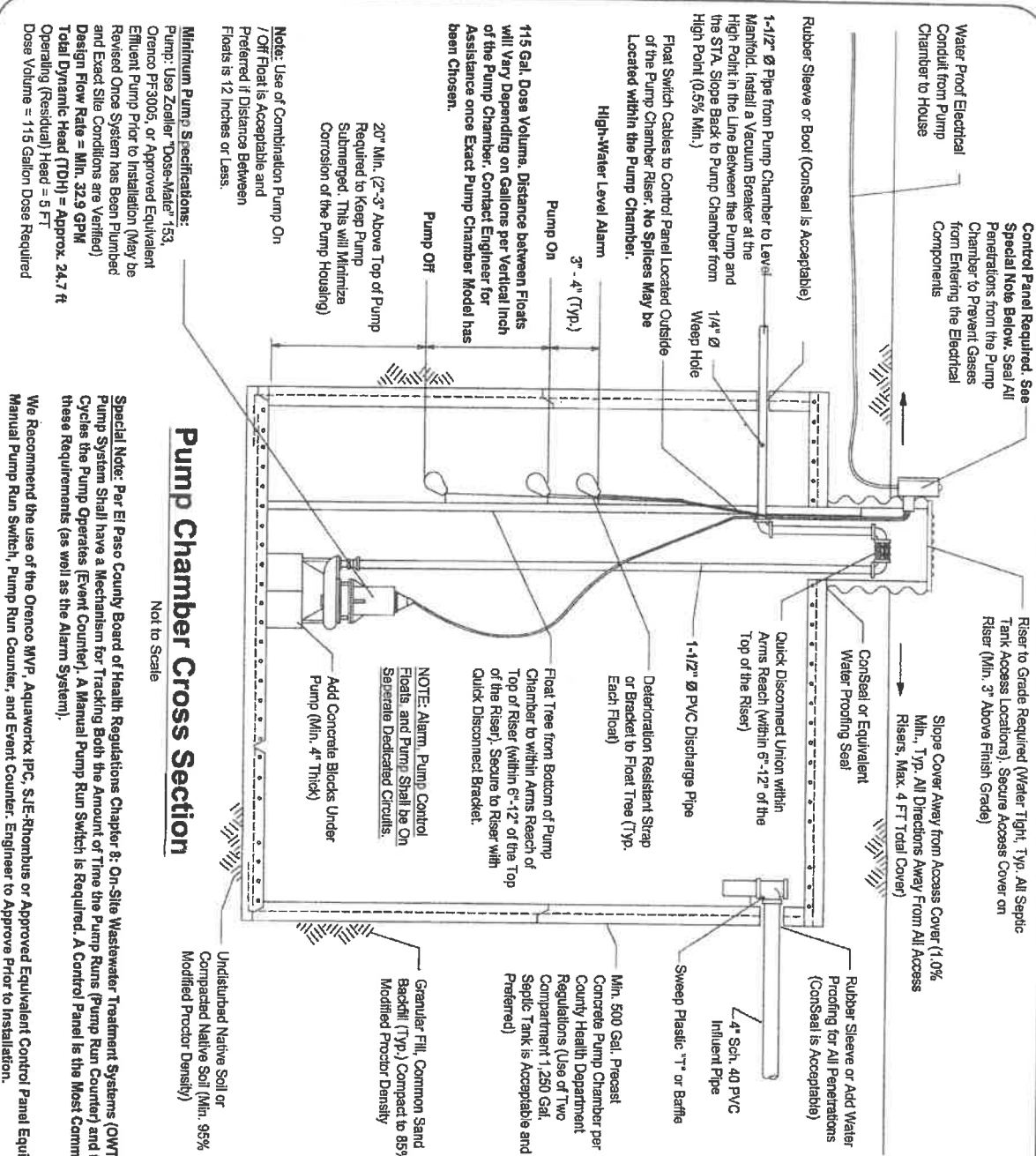
GEOQUEST, LLC.
 6825 S. WYVER PONDS HEIGHTS
 SUITE 10
 COLORADO SPRINGS, CO
 80908
 OFFICE: (719) 481-4560
 FAX: (719) 481-9224

Project: 15-0280
 Sheet: 4 of 5
 Date: 2 Dec 2018
 Revised:
 Drawn by: JGP
 Checked by: cam

Project Name and Address
 Caser Flats
 RMC Homes
 12460 Falcon Highway
 Sch. No. 4300000280
 El Paso County, Colorado



BP 12/18



Pump Chamber Cross Section

Not to Scale

Control Panel Required - See Special Note Below. Seal All Penetrations from the Pump Chamber to Prevent Gases from Entering the Electrical Components

Riser to Grade Required (Water Tight, 1/2" Tank Access Locations). Secure Access Cover on Riser (Min. 3" Above Finish Grade)

Slope Cover Away from Access Cover (1.0%, Min., 1/2" All Directions Away From All Access Risers, Max. 4 FT Total Cover)

Conseal or Equivalent Water Proofing Seal

Quick Disconnect Union within Arms Reach (within 6'-12" of the Top of the Riser)

1-1/2" Ø PVC Discharge Pipe

Deterioration Resistant Strap or Bracket to Float Tree (Typ. Each Float)

Float Tree from Bottom of Pump Chamber to within Arms Reach of Top of Riser (within 6'-12" of the Top of the Riser). Secure to Riser with Quick Disconnect Bracket.

NOTE: Alarm, Pump Control Floats and Pump Shall be On Separate Dedicated Circuits.

Add Concrete Blocks Under Pump (Min. 4" Thick)

4" Sch. 40 PVC Influent Pipe

Sweep Plastic "T" or Baffle

Min. 500 Gall. Precast Concrete Pump Chamber per County Health Department Regulations (Use of Two Compartments 1,250 Gall. Septic Tank is Acceptable and Preferred)

Granular Fill, Common Sand Backfill (Typ.) Compact to 85% Modified Proctor Density

Undisturbed Native Soil or Compacted Native Soil (Min. 95% Modified Proctor Density)

High-Water Level Alarm

Pump On

3" - 4" (Typ.)

20" Min. (2"-3" Above Top of Pump Required to Keep Pump Submerged. This will Minimize Corrosion of the Pump Housing)

Pump Off

115 Gal. Dose Volume. Distance between Floats will Vary Depending on Gallons per Vertical Inch of the Pump Chamber. Contact Engineer for Assistance once Exact Pump Chamber Model has been Chosen.

Float Switch Cables to Control Panel Located Outside of the Pump Chamber Riser. No Splices May be Located within the Pump Chamber.

Rubber Sleeve or Boot (Conseal is Acceptable)

1-1/2" Ø Pipe from Pump Chamber to Level Manifold. Install a Vacuum Breaker at the High Point in the Line Between the Pump and the STA. Slope Back to Pump Chamber from High Point (0.5% Min.)

1/4" Ø Weep Hole

Water Proof Electrical Conduit from Pump Chamber to House

Rubber Sleeve or Add Water Proofing for All Penetrations (Conseal is Acceptable)

Minimum Pump Specifications:
 Pump: Use Zoeller "Dose-Mate" 153, Oranco 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. 32.9 GPM
 Total Dynamic Head (TDH) = Approx. 24.7 ft Operating (Residual) Head = 5 FT
 Dose Volume = 115 Gallon Dose Required

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 Oranco MVP, Aquawork JPC, 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.

1. All Wire Splices Shall be Enclosed in the Control Panel. The Control Panel Shall be Placed in an Accessible Location Positioned Outside of the Tank Riser.
 2. All Wires Shall be Spliced with Corrosion-Resistant Waterproof Connectors. **NO WIRE SPLICES ARE ALLOWED WITHIN THE PUMP CHAMBER OR RISER.**
 3. Conduits Shall be Sealed to Prevent Gases from Entering the Control Panel and Electrical Panel.
 4. A Means to Disconnect the House Power Supply to OWTS Components Shall be Provided at the Control Panel.
 5. The Branch Circuit Wires from the Building to the 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 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 (if). Essential 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 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 Taps is Not Acceptable. Top of Float Tree to be within 6' - 12" of the Top of the Riser.
 3. The Risers Shall be Secured to the Tank to Maintain the Riser in an Upright and Plumb Position. Special Care Shall be Taken During Backfill to Ensure Riser Remains Upright and Plumb Position.
 4. Control Panel 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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 8525 SILVER PONDS HEIGHTS
 SUITE 101
 COLORADO SPRINGS, CO
 80908

OFFICE: (719) 481-4500
 FAX: (719) 481-9204

Project Name and Address
 Project: 15-0280
 Sheet: 5 of 5
 Date: 3 Dec 2018
 Designer: djp
 Checked By: cam

Project Name and Address
 Cesar Homes
 RMC Homes
 12480 Falcon Highway
 Sch. No. 430000289
 El Paso County, Colorado

SEAL
 COLORADO LICENSED
 CHARLES C. WILSON
 608
 2822

ALBINO FLORES 0225 Fernway CT
 SA# 5a3a401020 C12 05 X0918
 BP 1/10/19



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

PROFILE PIT EVALUATION

FOR

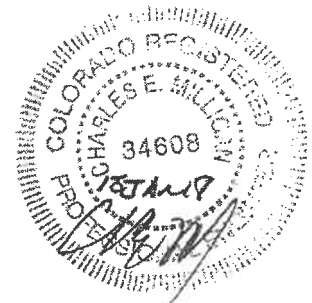
RMC HOMES

JOB #17-1078

Lot #98, Filing #2,
Highland Park Subdivision,
9225 Ben Tirran Court,
El Paso County,
Colorado

Respectfully submitted,

Charles E. Milligan, P.E.
Civil Engineer



B0 12/20

PROFILE PIT FINDINGS

Enclosed are the results of the profile pit for the septic system to be installed at Lot #98, Filing #2, Highland Park Subdivision, 9225 Ben Tirran Court, El Paso County, Colorado. The location of the test pit was determined by RMC Homes. 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 south to southwest at approximately 3% 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 December 12, 2017, in accordance with Table 10-1 of the E.P.C.P.H. OWTS Regulations.

Soil Profile #1:

- 0 to 6" - Topsoil- loam, organic composition.
- 6" to 72" - USDA soil texture sandy loam, soil type 2A, structure shape granular, structure grade 1, non-cemented, LTAR 0.50, dark brown in color, 10 YR 3/3.
- 72" to 8' - USDA soil texture loamy sand, soil type 1, structure shape none, structure grade 0, non-cemented, LTAR 0.80, light brown in color, 7.5 YR 6/4, saturated at 6 feet.

Soil Profile #2:

- 0 to 10" - Topsoil- loam, organic composition.
- 10" to 8' - USDA soil texture loamy sand, soil type 1, structure shape none, structure grade 0, non-cemented, LTAR 0.80, brown in color, 7.5 YR 5/3, high moisture at 6 feet.

Saturated soil was encountered at a depth of 6 feet in Profile Pit #1 and #2 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 USDA soil type 2A encountering USDA Soil Type The septic system to be installed on this site need not be designed by a Colorado Licensed Engineer. A conventional septic system is approved for this site. Based on the observed conditions, we feel a design based on an LTAR of 0.50, GPD/SF (USDA 2A, treatment soil, treatment level 1) is reasonable. Maximum depth of the installation shall be not deeper than 24 inches deep.

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 clear skies with warm temperatures.

Bp 12/20

PROFILE PIT LOG - Profile Pit #1

JOB#: 17-1078
 DATE EVALUATED: 12 Dec 2017
 EQUIPMENT USED: MINI-EXCAVATOR

0"-6" TOPSOIL

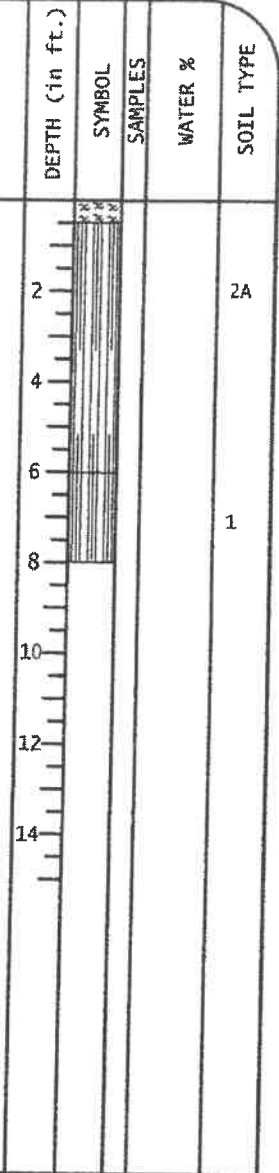
Loam
 Organic Composition

6"- 72" Sand

Fine-coarse Grained	USDA Soil Texture: Sandy Loam
Moderate Density	USDA Soil Type: 2A
Low-moderate Moisture Content	USDA Structure Shape: Granular
Low-moderate Clay Content	USDA Structure Grade: 1
Low Cohesion	Cementation Class: Non-cemented
Low Plasticity	Long Term Acceptance Rate (LTAR, Treatment Level 1):0.50
Dark Brown Color	
10YR 3/3	

72"- 8' Sand

Fine-coarse Grained	USDA Soil Texture: Loamy Sand
Low-moderate Density	USDA Soil Type: 1
Moderate-high Moisture Content	USDA Structure Shape: None
Low Clay Content	USDA Structure Grade: 0
Low Cohesion	Cementation Class: Non-cemented
Low Plasticity	Long Term Acceptance Rate (LTAR, Treatment Level 1):0.80
Light Brown Color	Saturated @ 6'
7.5YR 6/4	



LTAR to be Used for OWTS Sizing: 0.50GPD/SF (USDA Type 2A, Treatment soil, Treatment Level 1)
Depth to Groundwater (Permanent or Seasonal): Saturated @ 72"
Depth to Bedrock and Type: Not Encountered
Depth to Proposed Infiltrative Surface from Ground Surface: Max Depth 24" (Gravity Fed)
Soil Treatment Area Slope and Direction: SSW @ 3%

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: 17-1078	Project Name and Address
Sheet: 1 of 2	
Date: 21 Dec 2017	Albino Fletes 9225 Ben Tirran Ct. Lot 98, Filing 2 Highland Park Sch. No. 5232401020 El Paso County, Colorado
Scale: 1/4" = 1'	
Drawn by: mtj	
Checked by: cem	

GEOQUEST, LLC.
6825 SILVER PONDS HEIGHTS SUITE 101 COLORADO SPRINGS, CO 80908
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PROFILE PIT LOG - Profile Pit #2

JOB#: 17-1078
 DATE EVALUATED: 12 Dec 2017
 EQUIPMENT USED: MINI-EXCAVATOR

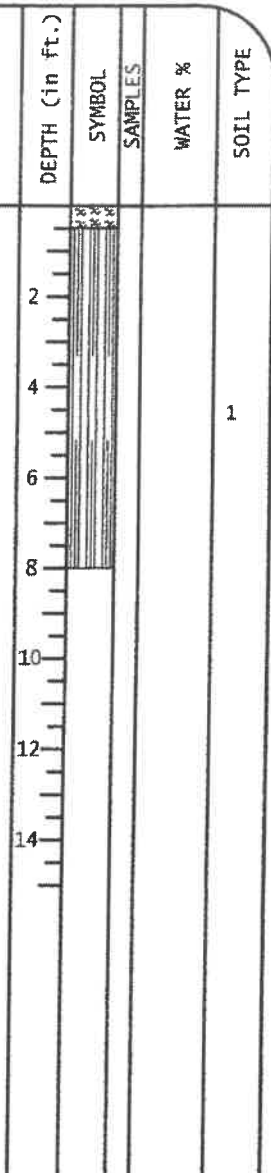
0"-10" TOPSOIL

Loam
 Organic Composition

10"- 8' Sand

Fine-coarse Grained
 Low-moderate Density
 Low-high Moisture Content
 Low Clay Content
 Low Cohesion
 Low Plasticity
 Brown Color
 7.5YR 5/3

USDA Soil Texture: Loamy Sand
 USDA Soil Type: 1
 USDA Structure Shape: None
 USDA Structure Grade: 0
 Cementation Class: Non-cemented
 Long Term Acceptance Rate (LTAR, Treatment Level 1):0.80
 High Moisture @ 6'



LTAR to be Used for OWTS Sizing: 0.50GPD/SF (USDA Type 2A, Treatment soil, Treatment Level 1)
Depth to Groundwater (Permanent or Seasonal): High Moisture @ 72"
Depth to Bedrock and Type: Not Encountered
Depth to Proposed Infiltrative Surface from Ground Surface: Max Depth 24" (Gravity Fed)
Soil Treatment Area Slope and Direction: SSW @ 3%

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: 17-1078
 Sheet: 2 of 2
 Date: 21 Dec 2017
 Scale: 1/4" = 1'
 Drawn by: mtj
 Checked by: cem

Project Name and Address

Albino Fletes

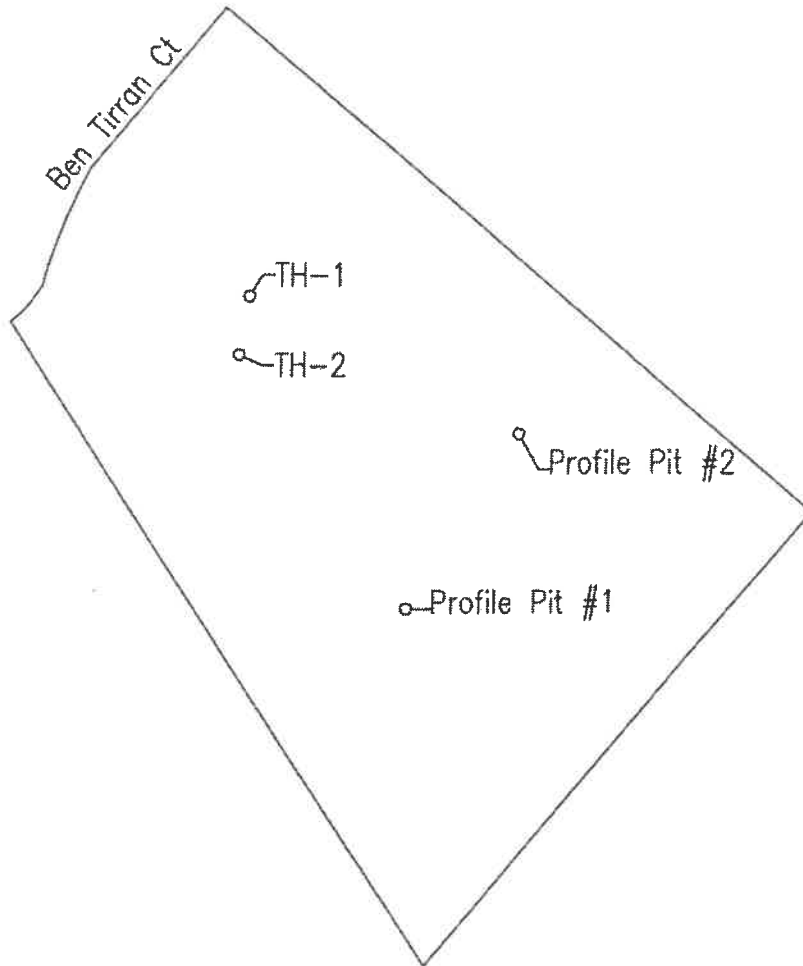
9225 Ben Tirran Ct.
 Lot 98, Filing 2
 Highland Park
 Sch. No. 5232401020
 El Paso County, Colorado

GEOQUEST, LLC.

6825 SILVER PONDS HEIGHTS
 SUITE 101
 COLORADO SPRINGS, CO
 80908

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 FAX: (719) 481-9204

GEOQUEST LLC
SITE MAP
Lot 98, Filing 2
Highland Park
9225 Ben Tirran Ct
El Paso County,
Colorado,
Job #17-1078



Location from Northwest Lot Corner to Profile Pit #1:

S. 54° E. - 266'

Location from Profile Pit #1 to Profile Pit #2:

N. 33° E. - 113'

GPS Coordinates:

Pit 1; N. 38° 57' 31.84" W. 104° 41' 06.77"

Pit 2; N. 38° 57' 32.81" W. 104° 41' 05.99"



0 25 50 75 100
GRAPHIC SCALE IN FEET
SCALE: 1" = 100'