

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: MARTIN DAVID  
32215 BIG SPRINGS RD  
YODER, CO 80864



**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 2/13/2019 To 2/13/2020

PERMITEE :

**MARTIN DAVID  
32215 BIG SPRINGS RD  
YODER, CO 80864**

Onsite ID: ON0048917

Tax Schedule #: 1300000346

Permit Issue Date: 02/13/2019

Dwelling Type: RESIDENTIAL

OWNER NAME :

**MARTIN DAVID**

# of Bedrooms (if Res): 3

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 USDA Soil Type 4A, requiring a Tier II licensed installer.
- System installation to include a Low Pressure Drip(NDDS) system, max installation depth of 30". Minimum tank requirements 1000 gallon and 5000 sq ft of soil treatment area (5 zones with 5 laterals each, 100 ft x 50 ft required).
- The system must be installed per approved Geoquest, LLC design document #18-0661 stamped and dated 8.22.2018, 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.
- 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.

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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.**

A handwritten signature in cursive script, appearing to read 'Neil Meyer', written over a horizontal line.

Authorized By: Environmental Health Specialist

**Cover Page**

**COLORADO:**

Proposed Septic Family Residence with 3 Bedrooms

LTRR = 0.18 Gallons per Day per Square Foot  
(GPCD/SF), USDA Soil Type SA per Profile PG 71102010.

Q = 3 BDRM(150 GPD)

Q = 450.0 Gallons per Day (GPD)

Non-Pressurized Drip Disposal System (NDDS)

$A = \frac{Q}{LTRR} = \frac{450.0 \text{ GPD}}{0.18 \text{ GPCD/SF}} = 2,500 \text{ SF}$

A = 4,500.0 SF Required (Use 5,000 SF)

**PLUMBING REQUIREMENTS:**

Number of Latrines:

5,000 SF / 200 SF per Latrine = 25 Latrines ✓

(500 LF per Zone)(5 Zones) = 2,500 LF of Pipe

Distribution Pipe: Use 2" Ø Sd 35 Sdn, 40 PVC

Soil Treatment Area (STA) Pipe: Use 2" Ø Sdn, 40 PVC 1/4" Ø Holes @ 8' O.C.

Pieces of Holes at 8' O'Clock (i.e. Down)

**TANK SIZES:**

Main Tank Size = 150, 1,000 Gallons (Two-Compartment) ✓

Pump Chamber = Min. 500 Gallons (Use 500 Gallon 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).

**INSPECTING AND INSPECTION AREAS FOLLOW:**

- 1.) Engineer Will Inspect the Installation of All CWTS Components (i.e. All Functioning Tanks, Pump Chamber, STA, etc.) Prior to Excavation.
- 2.) Engineer to Inspect the Soil Treatment Area After Backfill to Insure the Cover and Proper Drainage Away from Soil Treatment Area.

Gequest, LLC, has provided this Design in Accordance with the Standards of Practice Common to the Area. However, as with All Underground Absorption Fields, Quantities from Failure is impossible. Even with Proper Installation, an Outline 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 Uncertainties and Special Considerations for Septic Systems. Refer to El Paso County Public Health Brochure, "Minimizing Your Septic System" for Additional Information. Due to the Possibility of Unknown Water Usage Factors, Gequest, LLC, Provides No Warranty of the Design or Installation Against Failure or Damage of Any Type.

**NON-RESIDENTIAL REPAIRS/CONSTRUCTION:**

- Rodden Zones (See Note Below)
  - Have OWTS Inspected Annually
  - Clean Siphon Filter
  - Flush Latrines
  - Function Test Valve Assemblies
  - Check Water Levels in Inspection Ports
  - Have Septic Tank Pump Every 3-5 Years (or As Needed, Contact Licensed Pumpers)
  - Post Notice Signs Over STA
  - No Pumps with Back or that Require Injection)
  - Don't Throw Trash in Toilet
  - (Maintain Toilet Paper Containment)
  - Use of Garbage Disposal is Discouraged
  - Conserve Water and Repair Leaking Fixtures
- This is NOT a Complete List (Consult Local Health Department and EPA List of Septic "Do's and Don'ts")

**REG. CYCLE NOTE:**

Research Indicates Allowing a Septic Field to "Rest" for Several Months Increases its Long Term Utility.

Gequest, LLC, Recommends Rotating Each Zone for Three to Six Months, Systemically Opening Through Each Zone Separately such that Each Zone of the System is Used 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 Subcontractors Shall Conform to El Paso County Regulations (See Texts 7-1 in the Regulations for Additional Information).  
Contractor/Homeowner Must Verify All Subcontractors and Obtain Utility Quantities 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 Berms Limited to 45 Degree Slope or Long Swamp Quarter Berms. Areas Under Downspouts 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 Interval Not to Exceed 100 FT in Straight Runs, Upstream at Each Change of Direction Greater Than 45°, and at Any Combination of Berms Greater Than 45° within a 40 FT Section of Building Sewer.

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

Prohibit Parking of Tractors/Trucks, Irrigation and Watertrailer Trucks or Heeled Wheel Tires of Any Kind Over the STA any Causes Penetration Failure and is Prohibited.

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

**GEOQUEST, LLC.**  
8825 SILVER PONDS HEIGHTS  
SUITE 101  
COLORADO SPRINGS, CO  
80908  
OFFICE: (719) 451-4500  
FAK: (719) 451-8204



Project: 16-0611	Project Name and Address
Sheet: 1 of 4	David M. Klein
Date: 20 Aug 2018	32216 Big Springs Road,
Drawn: [Signature]	Sdn, No. 1300000346
Checked by: [Signature]	El Paso County, Colorado

*David Klein 2/13/19*

**CALL OUTS:**  
Proposed Single Family Residence with 3 Bedrooms

LTRAR = 0.15 Gallons per Day per Square Foot (GPD/SF) USDA Soil Type 4a per Profile PI 710201A.

Q = (3 BDRM)(150 GPD) ✓

Q = 450.0 Gallons per Day (GPD) ✓

Non-Pressurized Drip Disposal System (NDDS)

$A = \frac{Q}{LTRAR} = \frac{450.0 \text{ GPD}}{0.15 \text{ GPD/SF}} = 3,000 \text{ SF}$

$A = 4,500.0 \text{ SF Required (Use 5,000 SF)}$  ✓

**PLUMBING DESIGN:**

Number of Latrines:  
5,000 SF / 200 SF per Latrine = 25 Latrines  
(500 LF per Zone)(5 Zones) = 2,500 LF of Pipe

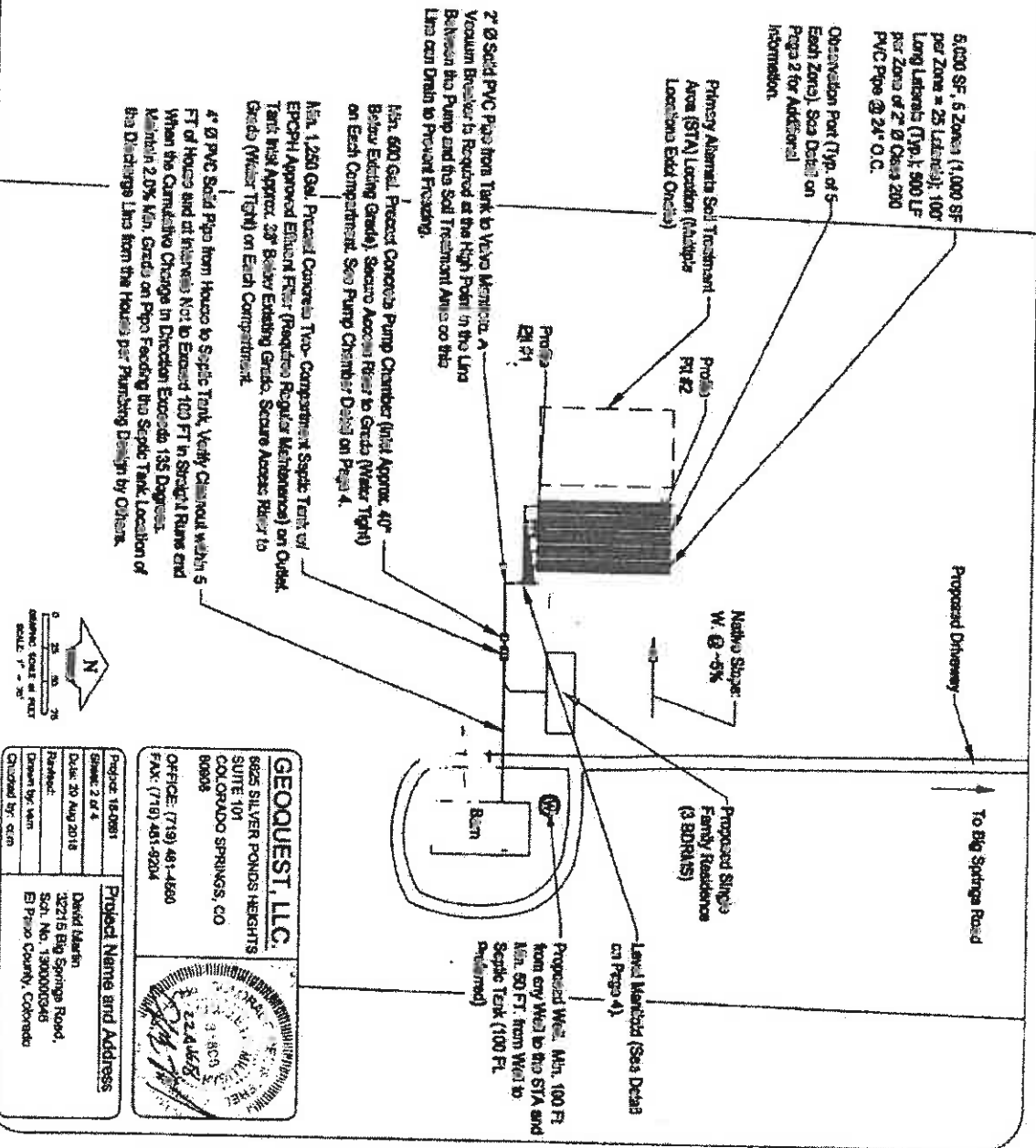
Distribution Pipe: Use 2" Ø Solid Sch. 40 PVC  
Sewer Treatment Area (STA) Pipe: Use 2" Ø  
Sch. 40 PVC 1/4" Ø Hole @ 8" O.C.  
Pieces of Hole of 8" O.C. (1a, Perm)

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

Install Drainage Swales on All Upland Sides to Ensure Surface Runoff is Directed Around the STA. Disconnect near the STA Sheet Pile Drainage into the Swale or Extended Beyond the STA.

**\* Indicate Geographic, LLC Test Locations**

- Location from Northwest Lot Corner to Profile PI #1:  
S. 18° E. - 87.2'
- Location from Profile PI #1 to Profile PI #2:  
N. 11° W. - 83'
- GPS Coordinates:  
Profile PI #1: N. 38° 52' 51.35", W. 104° 13' 54.02"  
Profile PI #2: N. 38° 52' 52.19", W. 104° 13' 54.28"



**GEOQUEST, LLC.**  
5825 SILVER PONDS HEIGHTS  
SUITE 101  
COLORADO SPRINGS, CO  
80906

OFFICE: (719) 487-4560  
FAX: (719) 487-9204

Project: 18-0981  
Sheet: 2 of 4  
Date: 20 Aug 2018  
Drawn by: ven  
Checked by: csm

Project Name and Address  
David Martin  
32218 Big Springs Road,  
Box No. 1300000046  
El Paso County, Colorado

2/13/19

**NOTES:**  
 All Notes per El Paso County Health Department Criteria.  
 Soil Treatment Area (STA) shall be Covered and Covered with a Minimum of 6" of  
 Solid Topsoil to Provide a Buffer for Good Vegetation Cover.

Contract Soil Conservation Service or County Extension Agent for Vegetation Best  
 Management Practices shall be followed and followed to prevent formation of  
 Erosion Channels. Do Not Pave Over the STA.

Provide 2.0% Min. Grade on Pave to Slope Tank Provide 0.5% Min. Grade on Pave  
 to the STA (per Design).  
 Provide Driveway Slope Around Upper Side of the STA.

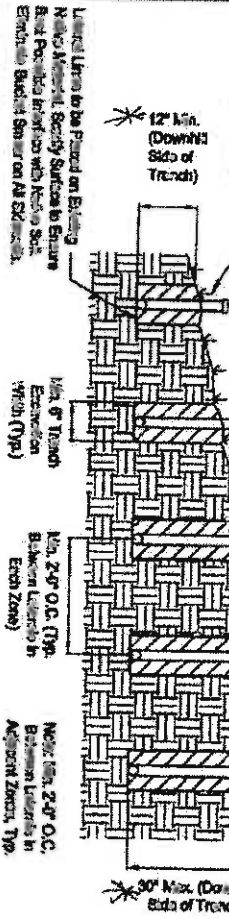
Best Practice: Research indicates that a Single Field is "Better" for Ground Water Recharge to Long  
 Term Utility.

Geotechnical, LLC. Recommendations: Reinstall Each Zone for Three to Six Months, Systematically  
 Opening Through Each Zone Sequentially until the Each Zone of the System is Held for a  
 Period Every One or Two Years.

Observation Point at End Opposite of Handled (Typ. Each Lateral) May be Placed at Street  
 Valve Box if Desired. This Will Provide Access to Flush Each Lateral, Allowing for Removal  
 of the Build-Up of Organics (Sediment Accumulation) and a 1/4" of Heads in 1 Flushing Valve  
 per Zone (above Ground) to Allow Ventilation. See Detail at Right.

Provide 1/4" (or 2" Max.) Nylon Net Material (Do Not Compact)  
 Over Top of Perforated Pipe with Max. of Topsoil (Typ. Each  
 Zone). Crown Top of Cover to Prevent Flooding of Process Area.  
 Grade Area Between Zones to Prevent Flooding or Inlet to  
 Contaminated Groundwater Over All Zones (Preferred).

Flush with Nitrogen Oxide  
 and Methanol (See Notes)



**Typical Zone Cross-Section (Trencher Install)**  
 Not to Scale

All Lateral within Zone to be Lateral Zones May  
 be at Different Elevations. Each Zone to be  
 Provided to Exceed 5% Slope.

Special Note: Provide Penetration Damages Study  
 on All Lateral Sides of the STA to Check for  
 Areas to be Re-Installed (Per 7% Grade)

2" Ø Solid PVC Pipe from Pump Chamber to  
 Middle of Valve Box, install a Vacuum  
 Breaker at the High Point in the Line Between  
 the Pump and the 200' Treatment Area so the  
 Line can Drain to Prevent Freezing

2" Ø Solid PVC Valve  
 Manual (Steel Level  
 Steel Rod Cycle Head)  
 Inlet Valve Box to  
 Ground. See Distribution  
 Manual Detail on Page 4

STA Nitro Slope:  
 W 6%

2" Ø Solid PVC from Valve  
 Handled to Lateral Zone Handled.  
 Connected at the Middle of Each  
 Handled to Ensure Equal  
 Distribution to Each Lateral.

Observation Port (Typ.)  
 Each Lateral Side  
 Detail Below

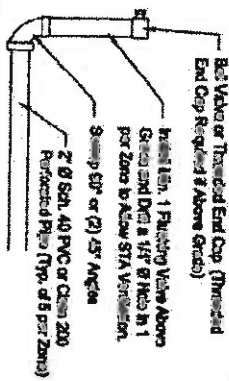
2" Ø 80% 40' or Clean 200  
 PVC Pipe w/ 1/4" Ø Holes  
 @ 1' On Center. Pico at  
 Outside of 6' Orifice (4  
 Down). Typ. of 25' Total.

Min. 2'-0" O.C. (Typ. Between Laterals in Each Zone)  
 Min. 2'-0" O.C. (Between Zones, Typ.)

107'-0" (Approximate Min. Soil Treatment Area Width)

**Soil Treatment Area (STA) Layout (NDDS)**  
 Not to Scale

107' Ø Long Laterals (Typ.)  
 STA Layout illustrates the General Design Layout. Linear Revisions (to Less  
 Than 1%) or Corrections of the Soil Treatment Area (STA) Treatment to Best  
 Fit the Site Topography to Absorption (i.e., Install Each STA Zone Parallel  
 to Site Contours to Minimize Erosion Depth on Each Trench Excavation).  
 STA detail illustrates the appropriate Observation Station per Page 1 with  
 Response to Burdick and List Lines. Zones May Be Spaced Out as  
 Desired to Illustrate the Loss of Trees. Contact Engineer for Clarification.



Min. 6" Above Trench Grade or May be Placed in Street 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 (Sediment Accumulation).

**Observation Port Detail**  
 Not to Scale

<b>GEOQUEST, LLC</b> 8825 SILVER PONDS HEIGHTS SUITE 101 COLONADO SPRINGS, CO 80908 OFFICE: (719) 491-4550 FAX: (719) 491-9204		
Project Name and Address Project: 16-0201 Sheet: 3 of 4 Date: 20 Aug 2016 Designer: David Martin Drawn by: am Checked by: am El Paso County, Colorado		

*David Martin*  
 2/13/19

